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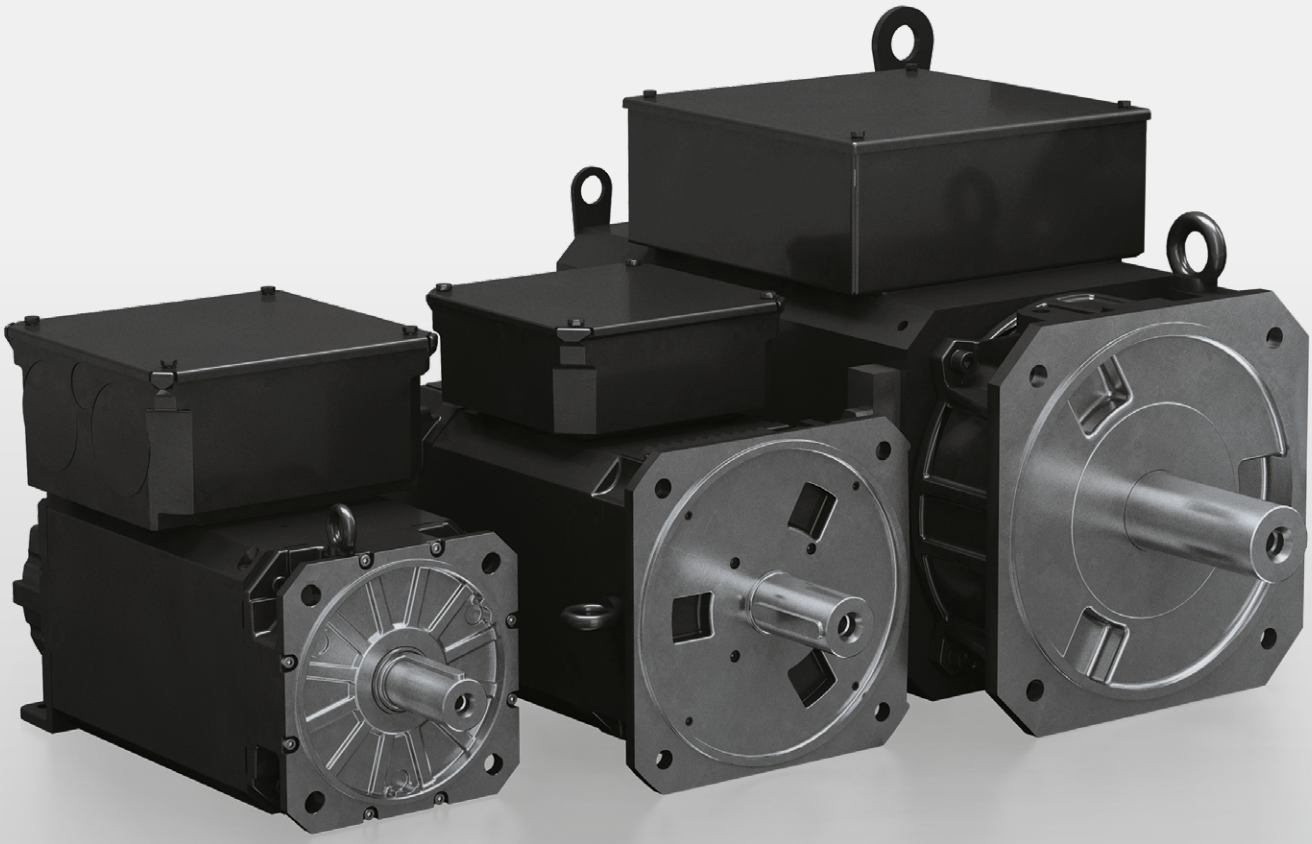

DS2[3]

Technical documentation
Three-phase synchronous motors DS2 100-200, DS2+ 100-132

E | 5.23022.01

Technical data, motor components, declaration of conformity

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Issue: 11/2023

1. Three-phase synchronous motors DS2[3] 100-200

The three-phase synchronous motors from the **DS2[3]** series are air-cooled or water-cooled permanent magnet synchronous motors. The motors are designed with an extremely high-power density, a very high degree of efficiency and high dynamics and are ideal for complex engineering applications due to a high overload capacity. The robust, compact motors are largely maintenance-free and provide a bonus for economical operation. Employing a liquid cooling system reduces the size of the motor and decreases noise emissions considerably.

1.1. General technical data

Version	B3 B5 B35	Frame size 100-200 Frame size 100-200 (not available for all cooling variants) Frame size100-200 (not available for all cooling variants)
Connection	Main connection	U V W (Terminal box)
	Control connection	Speed-Tec socket 12 or 17 pin, 9 pin for EnDat 2.2
	Thermal sensor	In the main connection
	Brake	With axial ventilation: Speed-Tec socket 8 pin With radial ventilation / water cooling: terminal arrangement
Thermal sensor	PT1000	Linear temperature sensor for the analysis in the controller
Temperature rise	$\Delta\vartheta \leq$ 105K	Insulation class F acc. to EN 60034
Environmental conditions for running	Class 3K3/3Z12 as per DIN EN 60721-3-3, however: temperature range 0-40 °C	Represents 0 to 40 °C at 5 % to 85 % rel. humidity and an absolute humidity of 1 g/m³ to 25 g/m³ and an installation height up to approx. 1,400 m.
Environmental conditions for long-term storage	Class 1K2/1M1 DIN EN 60721-3-1, however: temperature range -15-60 °C	Represents -15 to 60 °C at 5 % to 85 % rel. humidity and an absolute humidity of 1 g/m³ to 25 g/m³; at temperatures below 3 °C you should drain the cooling water
Environmental conditions for transport	Class 2K2/2M1 DIN EN 60721-3-2, however: temperature range-15-60 °C	Represents -15 to 60 °C at 5 % to 85 % rel. humidity and an absolute humidity of 1 g/m³ to 25 g/m³; at temperatures below 3 °C you should drain the cooling water
Surface	Black matt	RAL 9005
Bearing	D-side N-side	Standard = ball bearing; option = roller bearing Locating bearing
Service life of bearing	L_{10h} 20,000 h	Standard value, anti-friction bearing with permanent grease lubrication
Vibration class	A B	Standard: according to DIN EN60034-14: 2004-09 Option: Size 100-160, ball bearings only
True running	N R	Standard: Normal DIN SPEC 42955 1981*issue Option: Size 100-160; Reduced according to DIN SPEC 42955 1981 issue (for ball bearings only) *
Vibration-proof up to	radial 3 g / axial 1 g** radial 5 g / axial 1 g	Standard: 10 Hz - 55 Hz according to EN 60068-2-6 on request
Flange	FF flange	as per standard IEC standard
Shaft end	Cylindrical	according to DIN 748 Centering with internal thread according to DIN 332, shape D Option: with key according to DIN 6885
Actual speed encoder	2-pin resolver Sincos/EnDat encoder	Standard – see section 3.2 Options – see section 3.2
Holding brake	Disk brakes manufactured by Baumüller	Option: Mounted on N-side as assembly Other manufacturers on request
Approbation	CE, c UL us, UKCA, CEL	Standard
	CE	DS2-160 with axially integrated blower

*) Here DIN EN 50347:2003-09 is not applicable, as applicable for standard AC motors, only
**) If increased vibration loads are present, measurements on-site are required.

Based on these measurements, design revisions or evaluations are carried out with the company Baumüller

Technical data for air-cooled motors

Type of protection / cooling method	IC 06 / IP23 IC 416 / IP54	Internally ventilated with fan Surface-cooled with fan
External ventilation	Standard fan motor for radial ventilation on the N-side Blower filter	Air direction from N to D IC 06: Lateral air exhaust opening, D-side IC 416: Axial air exhaust opening, D-side Option: Flat or rectangular filter – see section 3.6.3
	Standard fan motor for axial ventilation on the N-side	Air direction from D to N Lateral air exhaust opening N-side
	Axially integrated blower for axial ventilation on the N-side	Air direction from D to N Lateral air exhaust opening N-side
Fan motor connection	Mounted standard motor	Terminal box of standard motor
	Integrated fan motor	6-pin connector
Terminal box	N-side D-side	Position options for external fan on request

Technical data for liquid-cooled motors

Type of protection/cooling method	IC3W7 / IP54	Water-cooled machine
Terminal box	N-side	Top
Coolant input temperature	10°C to 25°C	Maximum 5 K less than ambient temperature
Water connection	D-side	Lateral

1.2. General safety instructions

The standard versions of the motors are unsuitable for operation in salty or aggressive atmospheres and are not suitable for erection outdoors. When using an air-cooled motor and the air is contaminated with dust particles or similar substances that cannot be filtered out by the existing motor filters, consultation with the motor manufacturer is advised.

The reduction of bearing currents requires the consideration of the entire variable speed drive system and the specific installation!
Before commissioning the motor, suitable measures must be taken depending on the application and system to reduce bearing currents. In this case, the motor manufacturer or, in the case of third-party converters, the converter manufacturer must be consulted

By using ring cores, the cause of bearing current damage is reduced, i.e., the amplitude and slope of the common mode voltage at the converter output is reduced. Therefore, the use of cores is a preferred measure. For combinations with mono and axis units of the series b maXX4xxx/5xxx we basically recommend using the following ring cores.

For applications **without** active mains rectifier unit b maXX41xx/51xx:

Motor type	Ring core type	Part number	No. of cores
DS2 160 DS3 160	M113	00432023	2
DS2 200	M114	00432022	3

For applications **with** active mains rectifier unit mains unit b maXX41xx/51xx:

Motor type	Ring core type	Part number	No. of cores
DS2 160 DS3 160	M683	00434203	2
DS2 200	M684	00434204	3

When using the ring cores, the three phases **without shielding** and **without PE** must be led through the cores. The cores must be places nearby the motor connection side-by-side.

Note:
With allocation of the motor in a specific protection class, it is a standardized brief test procedure. This can vary considerably depending on the actual environmental conditions at the site of installation.
Depending on the environmental conditions, such as the chemical consistency of the dust materials or the cooling media being used at the site of installation, evaluation of the suitability of the motor based on the type of protection is only possible to a limited extent (e.g., electrically conducting dust materials or aggressive coolant vapors or coolant fluids). In these cases, the motor must additionally be protected by appropriate measures on the machine side.

1.3. Definitions of power ratings

1.3.1. Definitions of power ratings for air-cooled machines

The power ratings (torques) listed in the table apply to continuous operation (S1) at the rated speed and a maximum ambient temperature of 40 °C, for machines installed below 1,000 m a.m.s.l.
If motors are to be operated at an ambient temperature of more than 40 °C, or altitudes above 1,000 m a.m.s.l., the required list power rating P_L (list torque M_n) is calculated from the quotient of factors k_1 and k_2 (specified in the table below) and the required power rating P (torque M).

Ambient temperature	40 °C	45 °C	50 °C	55 °C	60 °C
Correction factor k_1	1	1.06	1.13	1.22	1.34
Altitude a.m.s.l. up to	1,000 m	2,000 m	3,000 m	4,000 m	5,000 m
Correction factor k_2	1	1.07	1.16	1.27	1.55

Design changes may be necessary in the case of ambient temperatures above 40 °C and installation of motors in an enclosure: For this reason, it is imperative that the manufacturer is contacted.

If, in the case of an increasing site altitude above 1,000 m, the ambient temperature decreases by approx. 10 °C per 1,000 m increase, no power correction is necessary (note the minimum operating temperature).

1.3.2. Definitions of power ratings for water-cooled machines

The power ratings (torques) that appear in the list apply to permanent operation S1 at nominal speed, provided the cooling circuit requirements for water-cooled motors are met!

The reduction factors included in the table below must be considered when operating DSD2 motors with higher coolant inlet temperatures:

Coolant inlet temperature	25 °C	30 °C	35 °C	40 °C	45 °C
Percentage of list performance (torque)	100 %	97 %	95 %	92 %	89 %

1.4. Water cooling

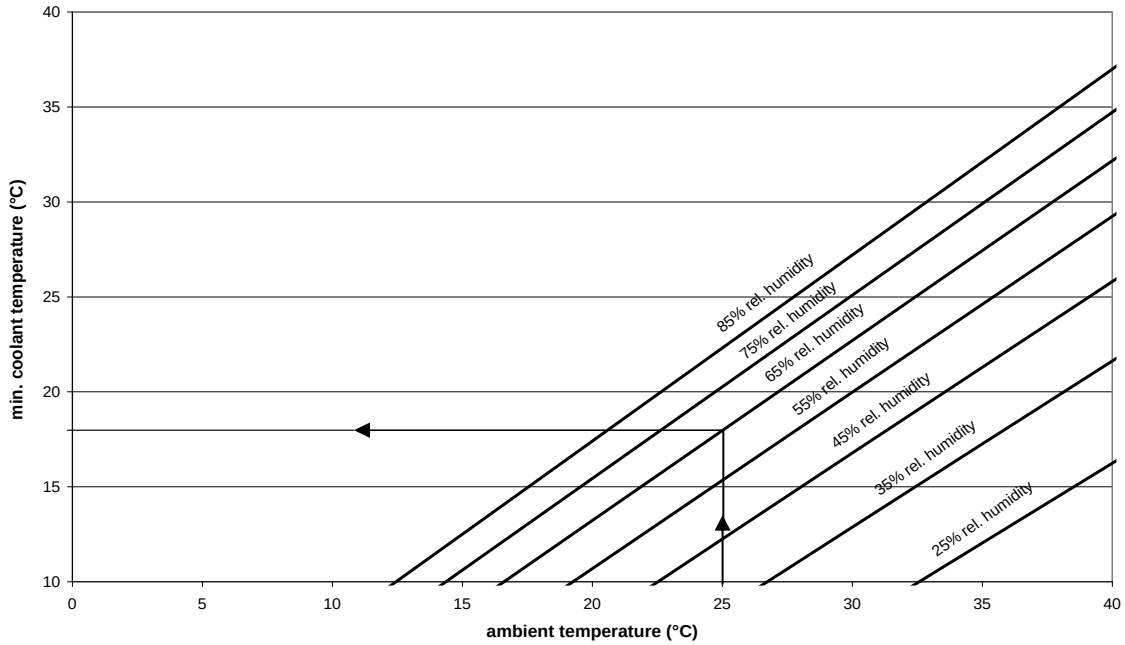
1.4.1. Coolant consistency

Conditions	Unit	Value
Maximum permitted system pressure	bar	6
Temperature of coolant- for motor	° C	10 to 25
pH value (at 20° C)	---	6.5 to 9
Overall hardness	mmol/l	1.43 to 2.5
Chloride - Cl^-	mg/l	< 200
Sulphate - SO_4^{2-}	mg/l	< 200
Oil	mg/l	< 1
Permitted particle size of solid foreign objects, particles (e.g. sand)	mm	< 0.1

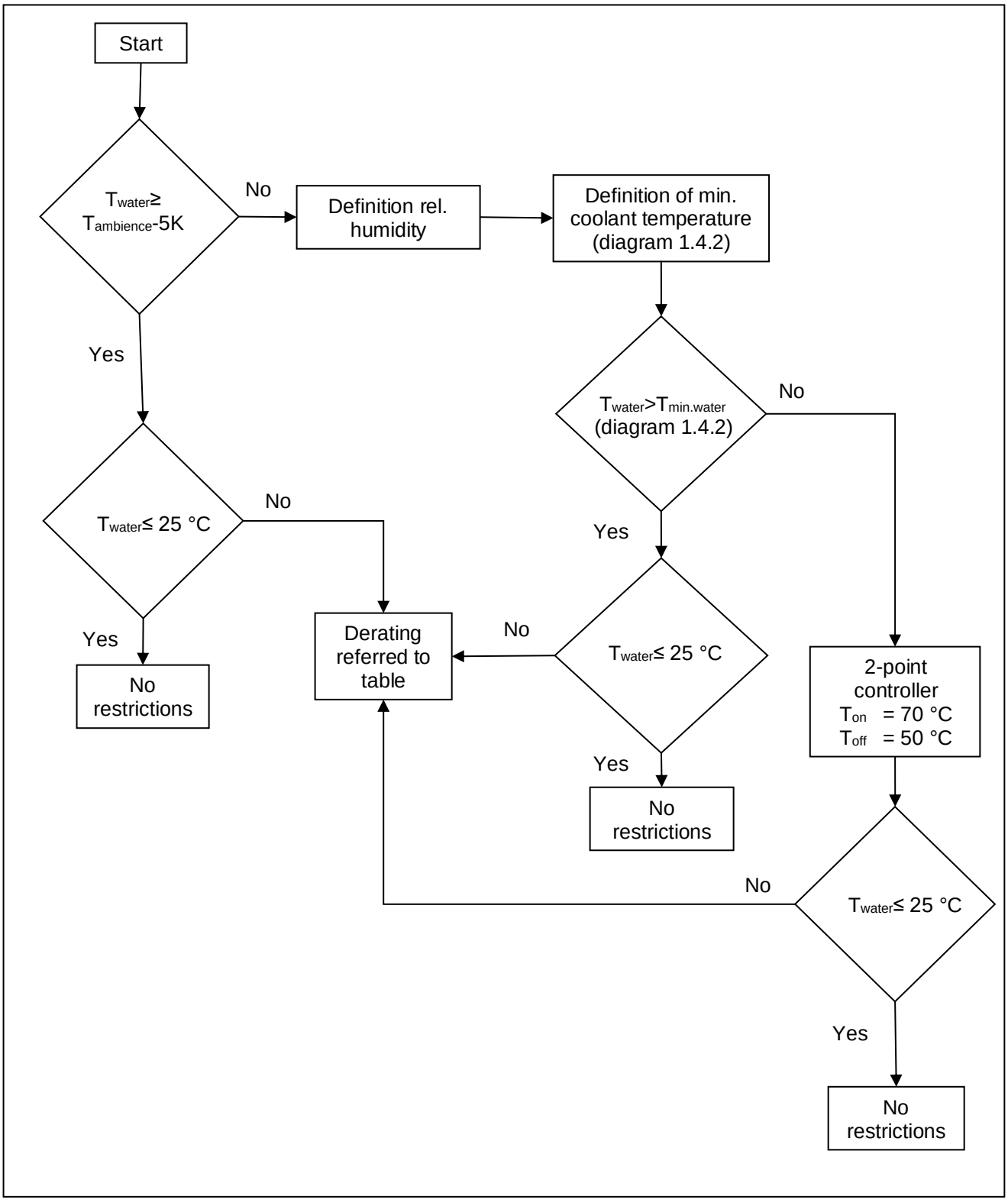
Clean water that is free of dirt and suspended matter must be used as a coolant.
Enough additives for corrosion and germ protection must be mixed in. The additive type and dosage are based on recommendations from the additive manufacturer and the prevailing ambient conditions.

Note:
If the specific heat capacity is reduced by adding glycol for example, in dependence of the mixing ratio is a power reduction in the consequence, which is to be asked for at the manufacturer.
Compared to water cooling in the event of the use of hydraulic oil (HLP 46) a power rating reduction according to the overall length and speed of 5 to 10% arises. The base is an inlet temperature of 35°C at both cooling mediums and an identical volume flow rate. The decrease of pressure is higher if using the hydraulic oil.
Specific power ratings are available on request.

1.4.2. Min. coolant temperature against ambient temperature and humidity



The allowed coolant temperature depends on relative humidity and ambient temperature. For example, with an ambient temperature of 25 °C and a relative humidity of 65% the minimum coolant temperature is 18 °C. Because these are limiting values on practical side a coolant temperature greater than 18 °C should be used. If this minimum coolant temperature will be under run the two- point controller of Baumüller drive must be used to avoid condensation.



Note:
The supply of cooling fluid must be interrupted to prevent condensation when storing for an extended period. In addition, at ambient temperatures < 3°C and if the motor has not run for an extended period, drain the cooling fluid to prevent damage caused by frost. When using anti-freeze, you need to consult the manufacturer.

1.4.3. Details relating to the amounts of coolant required

Motor type	Flow rate [l/min]	Pressure drop ±15% [bar]	Temperature rise [K]	Max. coolant pressure [bar]	Connection (G-internal thread)
DS2-100KO	7	0.4	4	6	2 x G ½“
DS2-100MO	7	0.4	5	6	2 x G ½“
DS2-100LO	7	0.4	6	6	2 x G ½“
DS2-100BO	7	0.4	7	6	2 x G ½“

Motor type	*Flow rate* [l/min]	Pressure drop ±15% [bar]	Temperature rise [K]	Max. coolant pressure [bar]	Connection (G-internal thread)
DS2-132KO	*9*	0.25	4	6	2 x G ½“
DS2-132MO	*9*	0.25	5	6	2 x G ½“
DS2-132LO	*9*	0.25	6	6	2 x G ½“
DS2-132BO	9	0.25	7	6	2 x G ½“

Motor type	Flow rate [l/min]	Pressure drop ±15% [bar]	Temperature rise [K]	Max. coolant pressure [bar]	Connection (G-internal thread)
DS2-160KO	10	0.1	7	6	2 x G ½“
DS2-160MO	10	0.1	8	6	2 x G ½“
DS2-160LO	10	0.1	9	6	2 x G ½“
DS3-160BO	10	0.1	10	6	2 x G ½“

Motor Type	Flow rate [l/min]	Pressure drop ±15% [bar]	Temperature rise [K]	Max. coolant pressure [bar]	Connection (G-internal thread)
DS2-200KO	13	1.3	5	6	4 x G ¼“
DS2-200MO	13	1.45	7	6	4 x G ¼“
DS2-200LO	13	1.6	8	6	4 x G ¼“

Controlling the feed valve individually is possible, depending on the motor temperature measured by the temperature sensor.

Note:
The given cooling volume flows relate to the highest rotary speed of the relevant motor lengths.
It is possible to make an individual cooling unit evaluation based on the motors power loss ($P_V = P_N / \eta_N – P_N$). The cooling unit should be scaled so that its cooling performance matches the motor power loss and so that 100% of the waste heat is diffused by the unit.

1.4.4. Materials in the motor that contact the medium

The following materials that contact the medium are used in the motor:

<u>Size 100-160</u>
Cooling system: Cathodic dip painted aluminum
Connections: Galvanized steel
Seals: NBR seals

<u>Size 200:</u>
Cooling system: Stainless steel
Connections: Brass
Seals: Vulcanized fiber

1.5. Winding insulation

The motors are designed for an operation on converters with DC link voltages of up to 640V.

Higher DC link voltages of up to ≤800V are possible, if voltage spikes on the motor terminals are limited to <1200V by suitable filters in the motor supply line.

1.6. Noise intensity

The ventilated motors do not exceed the limit values specified in EN 60034.

Noise level

Motor frame size	Type of protection IP 23	Type of protection IP 54 surface-cooled	Type of protection IP 54, water-cooled
DS2-100	69± 3 dBA	69± 3 dBA	60± 3 dBA
DS2-132	71± 3 dBA	71± 3 dBA	63± 3 dBA
DS2[3]-160	77 ± 3 dBA	77± 3 dBA	68± 3 dBA
DS2-200	80± 3 dBA	-	73± 3 dBA

Measuring system:
The measuring surface sound pressure level LPA is specified according to the survey method DIN 45635-1, 10ff. Measurement is performed using a sound pressure level meter with A rating (dB(A)), DIN IEC 651.

1.7. Explanation of the motor data

n_N	Rated speed [rpm]
M_0	Nominal torque [Nm] with speeds ≥ 1 [rpm] without time limit
I_0	Nominal current [A] with speeds ≥ 1 [rpm] without time limit, I_0 is the r.m.s. value
$M_{0,max}$	Maximum static torque [Nm] with maximum current [A] and speed = 0, momentarily
$I_{0,max}$	Static current [A] at $M_{o,\,max}$; I_{0max} is the effective value
P_N	Rated output [kW] with M_N and n_N (see Performance definition)
M_N	Rated torque [Nm]
I_N	Rated effective current [A]
$k_{E\,/\,cold}$	Voltage constant (EMF) to [V per 1000 rpm]
f_N	Rated frequency [Hz]
J	Rotor inertia [kgm²]
m	Motor mass [kg]

When the converter is operating, the specified rated outputs and torques at the rated speed are achieved with a clocking frequency of ≥ 4 kHz in the power divider. A clocking frequency of > 6 kHz is recommended.
All converters scheduled for use must have the option of field weakening as a mandatory requirement.

The ***sizemaXX*** drive configurator is available at *www.baumueller.de* for designing the motors and the overall drive system.

1.8. Type key

DS2[3]-[+]XXXXXXXX-XX-X-XXX-X-XXX-XXX-XX-X-XXX	**Type** + for a rated speed of 4000 1/min and 4500 1/min
DS2[3]-**XXX**XXXXX-XX-X-XXX-X-XXX-XXX-XX-X-XXX	**Overall size** 100 132 160 200
DS2[3]-XXX**XX**XXX-XX-X-XXX-X-XXX-XXX-XX-X-XXX	**Overall length** KO MO LO BO
DS2[3]-XXXXX**XX**X-XX-X-XXX-X-XXX-XXX-XX-X-XXX	**Degree of protection** 23 - Degree of protection IP23 54 - Degree of protection IP54
DS2[3]-XXXXXXX**X**-XX-X-XXX-X-XXX-XXX-XX-X-XXX	**Cooling type** A - Axially mounted external fan I - Axially integrated external fan R - Radially mounted external fan W - Water cooling
DS2[3]-XXXXXXXX-**XX**-X-XXX-X-XXX-XXX-XX-X-XXX	**Nominal speed class** 05 – 500 rpm 10 - 1000 rpm 11 - 1100 rpm 12 - 1200 rpm 15 - 1500 rpm 16 - 1600 rpm 17 - 1700 rpm 20 - 2000 rpm 21 - 2100 rpm 25 - 2500 rpm 26 - 2600 rpm 30 - 3000 rpm 40 - 4000 1/min 45 - 4500 1/min
DS2[3]-XXXXXXXX-XX-**X**-XXX-X-XXX-XXX-XX-X-XXX	**Uzk_DC** 5 - 540 V

DS2[3]-XXXXXXXX-XX-X-**X**XX-X-XXX-XXX-XX-X-XXX	**Encoder type** O - Without Encoder A - Resolver D - SRS50 E - SRM50 F - ECN1313 G - EQN1325 H - ECN1325 I - EQN1337 M - Resolver (Safety) N - SRS50-S (Safety) Q - SRM50-S (Safety) X - EQI1331 Y - ECI1319 5 - ECN1325-S (Safety) 6 - EQN1337-S (Safety) p - ECI1319-S (Safety) q - EQI1331-S (Safety) t - SEK37 u - SEL37
DS2[3]-XXXXXXXX-XX-X-X**X**X-X-XXX-XXX-XX-X-XXX	**Brake** O - Without brake B - With spring brake
DS2[3]-XXXXXXXX-XX-X-XX**X**-X-XXX-XXX-XX-X-XXX	**Shaft options** A - Smooth shaft B - With parallel key
DS2[3]-XXXXXXXX-XX-X-XXX-**X**-XXX-XXX-XX-X-XXX	**Design** 1 - IM B3 2 - IM B5 7 - IM B35 8 - IM B35 flange 400 mm (size 132)
DS2[3]-XXXXXXXX-XX-X-XXX-X-**X**XX-XXX-XX-X-XXX	**Main connection type** M – Terminal box (with PT1000), Signal socket Speedtec
DS2[3]-XXXXXXXX-XX-X-XXX-X-X**X**X-XXX-XX-X-XXX	**Position of main connection** T - Top L - Left with a view toward D-side on shaft end R - Right with a view toward D-side on shaft end
DS2-XXXXXXXX-XX-X-XXX-X-XX**X**-XXX-XX-X-XXX	**Main outlet port** T - Top B - Bottom L - Left with a view toward D-side on shaft end R - Right with a view toward D-side on shaft end N - NDE (N-side)
DS2[3]-XXXXXXXX-XX-X-XXX-X-XXX-**X**XX-XX-X-XXX	**Bearing** H - Ball bearing D-side and with optional flow-isolating bearing on the N-side K - Ball Bearing D-side R – Roller bearing D-side S – Roller bearing D-side and with optional flow-isolating bearing on the N-side

DS2[3]-XXXXXXXX-XX-X-XXX-X-XXX-X**X**X-XX-X-XXX	**Vibration level** A - Vibration level A B - Vibration level B
DS2[3]-XXXXXXXX-XX-X-XXX-X-XXX-XX**X**-XX-X-XXX	**True running** N - Normal R - Reduced
DS2[3]-XXXXXXXX-XX-X-XXX-X-XXX-XXX-**X**X-X-XXX	**Position of cooling** O – Without fan T - Top B - Bottom L - Left with a view toward D-side on shaft end R - Right with a view toward D-side on shaft end A - Axial fan C - Right and left with a view toward D-side on shaft end
DS2[3]-XXXXXXXX-XX-X-XXX-X-XXX-XXX-X**X**-X-XXX	**Cooling option** O - No cooling option (for water-cooling) A - No filter (for axial fan) D - Flat filter with fine filter mat G - Rectangular filter with fine filter mat J - Flat filter with coarse filter mat M - Rectangular filter with coarse filter mat Q - No filter R - Flat filter with fine filter mat Version ∆/Y 265-345V / 460-600V S - Flat filter with coarse filter mat Version ∆/Y 265-345V / 460-600V T - Rectangular filter with fine filter mat Version ∆/Y 265-345V / 460-600V U - Rectangular filter with coarse filter mat Version ∆/Y 265-345V / 460-600V
DS2[3]-XXXXXXXX-XX-X-XXX-X-XXX-XXX-XX-**X**-XXX	**Gear box / pump mounting** O -Without transmission mount and without pump
DS2[3]-XXXXXXXX-XX-X-XXX-X-XXX-XXX-XX-X-**XXX**	**Option** 000 - Without option XXX - Option (internal encoding) Special coding is made alphanumeric

2. Technical data

2.1. DS2-100

2.1.1. DS2-100..23R-.. (IP 23 internally ventilated)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E\,/\,COLD}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	V/1000 min^{-1}	Hz	
1000	DS2-100KO23R-10-5	69	16.7	135	38.4	7	67	16.3	273	50	10
	DS2-100MO23R-10-5	100	24.2	205	58	10	97	23.5	273	50	10
	DS2-100LO23R-10-5	130	30.3	275	75	13	125	29.3	280	50	12
	DS2-100BO23R-10-5	155	34.2	340	88	16	150	33	297	50	12
1500	DS2-100KO23R-15-5	69	23.3	135	54	10	66	22.4	196	75	10
	DS2-100MO23R-15-5	100	33.1	205	79	15	96	31.7	199	75	12
	DS2-100LO23R-15-5	130	40.3	275	100	19	120	38.4	210	75	12
	DS2-100BO23R-15-5	155	48.5	340	125	23	145	45.8	210	75	12
2000	DS2-100KO23R-20-5	69	28.4	135	65	14	65	26.9	161	100	12
	DS2-100MO23R-20-5	100	39.3	205	94	20	93	37	168	100	12
	DS2-100LO23R-20-5	130	50	275	125	25	120	47.1	168	100	12
	DS2-100BO23R-20-5	155	60	340	155	30	140	56	169	100	14
2500	DS2-100KO23R-25-5	69	34.4	135	79	17	64	32.2	133	125	12
	DS2-100MO23R-25-5	100	48.4	205	115	24	92	44.9	136	125	12
	DS2-100LO23R-25-5	130	61	275	150	30	115	55	140	125	14
	DS2-100BO23R-25-5	155	73	340	185	36	140	66	140	125	14
3000	DS2-100KO23R-30-5	69	40.8	135	94	20	63	37.7	112	150	12
	DS2-100MO23R-30-5	100	57	205	136	28	90	52	115	150	12
	DS2-100LO23R-30-5	130	73	275	180	36	115	65	116	150	14
	DS2-100BO23R-30-5	155	83	340	215	42	135	73	122	150	14

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-100KO23R	0.010	50
DS2-100MO23R	0.014	59
DS2-100LO23R	0.018	68
DS2-100BO23R	0.022	77

2.1.2. DS2-100..54R-.. (IP 54 surface-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	V/1000 min^{-1}	Hz	
1100	DS2-100KO54R-11-5	48	11.8	120	33.8	5.3	46	11.4	273	55	10
	DS2-100MO54R-11-5	72	17.8	180	51	7.8	68	16.9	273	55	10
	DS2-100LO54R-11-5	96	23.2	240	66	10	89	21.6	280	55	10
	DS2-100BO54R-11-5	120	27.5	295	78	13	110	25.2	297	55	12
1600	DS2-100KO54R-16-5	48	16.5	120	47.1	7.6	45	15.6	196	80	10
	DS2-100MO54R-16-5	72	24.4	180	69	11	66	22.6	199	80	10
	DS2-100LO54R-16-5	96	30.9	240	88	14	86	27.9	210	80	12
	DS2-100BO54R-16-5	120	38.9	295	110	18	105	34.4	210	80	12
2000	DS2-100KO54R-20-5	48	20	120	57	9.4	45	18.8	161	100	10
	DS2-100MO54R-20-5	72	29	180	82	14	65	26.3	168	100	12
	DS2-100LO54R-20-5	96	38.7	240	110	18	84	34	168	100	12
	DS2-100BO54R-20-5	120	48.3	295	136	21	100	41.3	169	100	12
2500	DS2-100KO54R-25-5	48	24.3	120	69	11	44	22.4	133	125	10
	DS2-100MO54R-25-5	72	35.7	180	101	17	63	31.6	136	125	12
	DS2-100LO54R-25-5	96	46.4	240	132	21	81	39.5	140	125	12
	DS2-100BO54R-25-5	120	58	295	165	26	98	47.9	140	125	12
3000	DS2-100KO54R-30-5	48	28.8	120	82	14	43	26.1	112	150	12
	DS2-100MO54R-30-5	72	42.2	180	120	19	62	36.4	115	150	12
	DS2-100LO54R-30-5	96	56	240	160	25	79	45.9	116	150	12
	DS2-100BO54R-30-5	120	67	295	190	29	93	52	122	150	14

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-100KO54R	0.010	52
DS2-100MO54R	0.014	61
DS2-100LO54R	0.018	70
DS2-100BO54R	0.022	79

2.1.3. DS2-100..54W-.. (IP 54 water-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/1000min^{-1}$	Hz	
1000	DS2-100KO54W-10-5	61	15	130	36.5	6.3	60	14.8	273	50	10
	DS2-100MO54W-10-5	94	23.2	195	55	9.7	93	22.9	273	50	10
	DS2-100LO54W-10-5	130	30.9	260	71	13	125	30.7	280	50	12
	DS2-100BO54W-10-5	165	37.4	320	84	17	160	37.2	297	50	12
1500	DS2-100KO54W-15-5	61	20.9	130	51	9.4	60	20.3	196	75	10
	DS2-100MO54W-15-5	94	31.7	195	75	14	92	31	199	75	12
	DS2-100LO54W-15-5	130	41.3	260	95	20	125	40.5	210	75	12
	DS2-100BO54W-15-5	165	53	320	119	25	160	52	210	75	12
2000	DS2-100KO54W-20-5	61	21.6	130	52	11	54	20.7	190	100	12
	DS2-100MO54W-20-5	94	37.7	195	89	19	90	36.4	168	100	12
	DS2-100LO54W-20-5	130	52	260	119	26	125	50	168	100	12
	DS2-100BO54W-20-5	165	66	320	147	33	160	64	169	100	14
2500	DS2-100KO54W-25-5	61	30.8	130	75	15	58	29.2	133	125	12
	DS2-100MO54W-25-5	94	46.3	195	110	23	89	44.1	136	125	12
	DS2-100LO54W-25-5	130	62	260	142	32	120	59	140	125	14
	DS2-100BO54W-25-5	165	79	320	180	41	155	76	140	125	14
3000	DS2-100KO54W-30-5	61	36.6	130	89	18	57	34.1	112	150	12
	DS2-100MO54W-30-5	94	55	195	129	27	87	51	115	150	12
	DS2-100LO54W-30-5	130	74	260	170	37	120	70	116	150	14
	DS2-100BO54W-30-5	165	91	320	205	47	150	86	122	150	14
4000	DS2+100KO54W-40-5	61	46,5	130	115	23	54	42,5	86,2	200	12
	DS2+100MO54W-40-5	94	68	195	165	35	82	62	90,8	200	14
	DS2+100LO54W-40-5	130	101	260	235	48	115	92	83,9	200	16
	DS2+100BO54W-40-5	165	117	325	265	60	140	107	93,2	200	16
4500	DS2+100KO54W-45-5	61	54	130	134	25	54	48,2	74,5	225	12
	DS2+100MO54W-45-5	94	80	195	195	39	82	72	76,9	225	14
	DS2+100LO54W-45-5	130	114	260	265	53	110	101	74,5	225	16
	DS2+100BO54W-45-5	165	133	325	305	66	140	119	81,5	225	16

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-100KO54W	0.010	35
DS2-100MO54W	0.014	45
DS2-100LO54W	0.018	55
DS2-100BO54W	0.022	65

2.2. DS2-132

2.2.1. DS2-132..23R-.. (IP 23 internally ventilated)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. Fre-quency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/1000min^{-1}$	Hz	
1000	DS2-132KO23R-10-5	210	47.7	355	89	21	195	44.4	300	50	20
	DS2-132MO23R-10-5	270	61	475	119	27	255	58	300	50	22
	DS2-132LO23R-10-5	330	68	590	137	32	310	65	325	50	22
	DS2-132BO23R-10-5	375	84	710	180	38	365	82	300	50	22
1500	DS2-132KO23R-15-5	210	68	355	127	30	190	61	210	75	22
	DS2-132MO23R-15-5	270	83	475	160	39	245	76	220	75	22
	DS2-132LO23R-15-5	330	98	590	200	47	300	92	225	75	22
	DS2-132BO23R-15-5	375	121	705	255	57	360	115	210	75	24
2000	DS2-132KO23R-20-5	210	87	355	160	38	185	75	165	100	22
	DS2-132MO23R-20-5	270	106	475	205	50	235	94	173	100	22
	DS2-132LO23R-20-5	330	126	590	255	61	295	115	175	100	24
	DS2-132BO23R-20-5	375	149	705	315	73	350	140	170	100	24
2500	DS2-132KO23R-25-5	210	106	355	200	46	175	89	135	125	22
	DS2-132MO23R-25-5	270	131	475	255	61	230	114	140	125	24
	DS2-132LO23R-25-5	330	155	590	315	75	285	139	141	125	24
	DS2-132BO23R-25-5	375	180	705	380	90	345	170	140	125	26
3000	DS2-132KO23R-30-5	210	119	355	225	53	170	97	120	150	22
	DS2-132MO23R-30-5	270	155	475	295	71	225	129	120	150	24
	DS2-132LO23R-30-5	330	190	590	380	89	285	165	116	150	26
	DS2-132BO23R-30-5	375	210	705	445	105	335	190	120	150	26

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-132KO23R	0.045	110
DS2-132MO23R	0.058	125
DS2-132LO23R	0.071	145
DS2-132BO23R	0.084	165

2.2.2. DS2-132..54(A)R-.. (IP 54 surface-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. Fre-quency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/1000min^{-1}$	Hz	
1100	DS2-132KO54(A)R-11-5	130	29.3	305	76	14	120	27.3	300	55	20
	DS2-132MO54(A)R-11-5	175	39	405	101	18	160	35.7	300	55	20
	DS2-132LO54(A)R-11-5	215	45	505	117	22	195	40.4	325	55	20
	DS2-132BO54(A)R-11-5	260	59	610	150	26	230	52	300	55	22
1600	DS2-132KO54(A)R-16-5	130	41.8	305	108	20	115	37.6	210	80	20
	DS2-132MO54(A)R-16-5	175	53	405	138	25	150	46.5	220	80	22
	DS2-132LO54(A)R-16-5	215	65	505	170	31	185	55	225	80	22
	DS2-132BO54(A)R-16-5	260	84	605	215	36	215	69	210	80	22
2000	DS2-132KO54(A)R-20-5	130	53	305	138	24	115	46.3	165	100	22
	DS2-132MO54(A)R-20-5	175	68	405	175	30	145	57	173	100	22
	DS2-132LO54(A)R-20-5	215	84	505	215	37	175	68	175	100	22
	DS2-132BO54(A)R-20-5	260	103	605	265	43	205	81	170	100	22
2500	DS2-132KO54(A)R-25-5	130	65	305	170	28	110	54	135	125	22
	DS2-132MO54(A)R-25-5	175	84	405	215	36	140	67	140	125	22
	DS2-132LO54(A)R-25-5	215	103	505	265	43	165	79	141	125	22
	DS2-132BO54(A)R-25-5	260	125	605	325	50	190	91	140	125	24
3000	DS2-132KO54(A)R-30-5	130	73	305	190	33	105	58	120	150	22
	DS2-132MO54(A)R-30-5	175	98	405	250	41	130	74	120	150	22
	DS2-132LO54(A)R-30-5	215	125	505	325	49	155	90	116	150	24
	DS2-132BO54(A)R-30-5	260	146	605	380	55	175	99	120	150	24

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-132KO54(A)R	0.045	110
DS2-132MO54(A)R	0.058	125
DS2-132LO54(A)R	0.071	145
DS2-132BO54(A)R	0.084	165

2.2.3. DS2-132..54I-.. (IP 54 surface-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. Fre-quency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/1000min^{-1}$	Hz	
1100	DS2-132KO54I-11-5	130	29.2	305	76	14	120	27.2	300	55	20
	DS2-132MO54I-11-5	170	38.4	400	101	18	155	35.3	300	55	20
	DS2-132LO54I-11-5	210	43.6	500	117	21	185	39.6	325	55	20
	DS2-132BO54I-11-5	240	56	590	150	25	215	49.9	300	55	22
1600	DS2-132KO54I-16-5	130	41.7	305	108	19	115	37.5	210	80	20
	DS2-132MO54I-16-5	170	52	400	138	25	145	46.1	220	80	22
	DS2-132LO54I-16-5	210	63	495	170	29	175	54	225	80	22
	DS2-132BO54I-16-5	240	80	590	215	34	200	67	210	80	22
2000	DS2-132KO54I-20-5	130	53	300	138	23	110	46.2	165	100	22
	DS2-132MO54I-20-5	170	66	400	175	29	140	56	173	100	22
	DS2-132LO54I-20-5	210	81	495	215	35	170	67	175	100	22
	DS2-132BO54I-20-5	240	98	585	265	40	190	79	170	100	22
2500	DS2-132KO54I-25-5	130	65	300	170	27	105	54	135	125	22
	DS2-132MO54I-25-5	170	82	395	215	35	130	66	140	125	22
	DS2-132LO54I-25-5	210	100	490	265	41	155	78	141	125	22
	DS2-132BO54I-25-5	240	119	585	325	47	180	90	140	125	24
3000	DS2-132KO54I-30-5	130	73	295	190	31	98	58	120	150	22
	DS2-132MO54I-30-5	170	96	395	250	39	125	73	120	150	22
	DS2-132LO54I-30-5	210	121	490	325	46	145	89	116	150	24
	DS2-132BO54I-30-5	240	139	580	380	52	165	97	120	150	24

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-132KO54I	0.045	112
DS2-132MO54I	0.058	128
DS2-132LO54I	0.071	143
DS2-132BO54I	0.084	159

2.2.4. DS2-132..54W-.. (IP 54 water-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. Fre-quency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0.max}$	$I_{0.max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	V/1000 min^{-1}	Hz	
1000	DS2-132KO54W-10-5	180	40.4	340	85	18	175	39.1	296	50	20
	DS2-132MO54W-10-5	240	54	450	113	24	230	52	296	50	22
	DS2-132LO54W-10-5	305	64	555	130	30	290	62	321	50	22
	DS2-132BO54W-10-5	360	83	665	170	37	350	80	296	50	22
1500	DS2-132KO54W-15-5	180	58	340	121	27	170	55	207	75	22
	DS2-132MO54W-15-5	240	74	450	155	35	225	70	217	75	22
	DS2-132LO54W-15-5	305	92	555	190	45	285	87	222	75	22
	DS2-132BO54W-15-5	360	118	665	240	54	345	112	207	75	24
2000	DS2-132KO54W-20-5	180	73	340	155	34	165	67	163	100	22
	DS2-132MO54W-20-5	240	93	450	195	45	215	86	171	100	22
	DS2-132LO54W-20-5	305	119	555	240	57	275	109	173	100	24
	DS2-132BO54W-20-5	360	146	665	300	70	330	135	168	100	24
2500	DS2-132KO54W-25-5	180	90	340	190	42	160	79	133	100	22
	DS2-132MO54W-25-5	240	116	450	240	55	210	102	138	125	24
	DS2-132LO54W-25-5	305	147	555	300	69	265	130	140	125	24
	DS2-132BO54W-25-5	360	180	665	365	84	320	160	138	125	26
3000	DS2-132KO54W-30-5	180	101	340	210	47	150	86	118	150	22
	DS2-132MO54W-30-5	240	135	450	280	63	200	115	118	150	24
	DS2-132LO54W-30-5	305	180	555	365	81	255	150	115	150	26
	DS2-132BO54W-30-5	360	205	665	425	96	305	175	118	150	26
4000	DS2+132KO54W-40-5	180	133	340	280	56	135	101	88.8	200	24
	DS2+132MO54W-40-5	240	170	455	365	75	180	132	92.1	200	26
	DS2+132LO54W-40-5	300	215	565	460	96	230	170	90.5	200	26
	DS2+132BO54W-40-5	365	265	680	565	117	280	210	88.8	200	27
4500	DS2+132KO54W-45-5	180	150	340	315	59	125	106	79	225	24
	DS2+132MO54W-45-5	240	200	455	425	80	170	143	79	225	26
	DS2+132LO54W-45-5	300	265	565	565	101	215	195	74	225	27
	DS2+132BO54W-45-5	365	295	675	635	123	260	220	79	225	28

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-132KO54W	0.045	110
DS2-132MO54W	0.058	120
DS2-132LO54W	0.071	130
DS2-132BO54W	0.084	140

2.3. DS2[3]-160

2.3.1. DS2-160..23A(R)-.. (IP 23 internally ventilated)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/1000min^{-1}$	Hz	
1000	DS2-160KO23A(R)-10-5	435	87	745	160	42	405	83	337	50	30
	DS2-160MO23A(R)-10-5	525	107	920	205	52	495	101	334	50	30
	DS2-160LO23A(R)-10-5	615	124	1110	245	60	570	116	336	50	32
	DS2-160BO23A(R)-10-5	695	143	1170	255	67	645	132	331	50	32
1500	DS2-160KO23A(R)-15-5	435	131	745	245	62	400	121	224	75	32
	DS2-160MO23A(R)-15-5	525	160	920	305	75	475	144	225	75	32
	DS2-160LO23A(R)-15-5	615	190	1100	375	87	555	170	218	75	32
	DS2-160BO23A(R)-15-5	695	195	1170	355	95	605	175	240	75	32
2000	DS2-160KO23A(R)-20-5	435	170	745	320	80	385	150	172	100	32
	DS2-160MO23A(R)-20-5	525	210	920	400	96	460	180	171	100	32
	DS2-160LO23A(R)-20-5	615	230	1100	455	109	520	200	179	100	32
	DS2-160BO23A(R)-20-5	695	265	1170	475	121	580	220	179	100	34
2500	DS2-160KO23A(R)-25-5	435	215	745	400	97	370	185	137	125	32
	DS2-160MO23A(R)-25-5	525	260	920	490	115	440	215	139	125	34
	DS2-160LO23A(R)-25-5	615	295	1100	585	131	500	240	140	125	34
	DS2-160BO23A(R)-25-5	695	320	1170	575	142	540	250	148	125	34
3000	DS2-160KO23A(R)-30-5	435	245	745	455	110	350	200	119	150	32
	DS2-160MO23A(R)-30-5	525	305	920	585	131	415	240	117	150	34
	DS2-160LO23A(R)-30-5	615	325	1100	645	144	460	250	127	150	34
	DS2-160BO23A(R)-30-5	640	325	1170	640	155	495	260	133	150	34

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-160KO23A(R)	0.15	230
DS2-160MO23A(R)	0.18	255
DS2-160LO23A(R)	0.22	285
DS2-160BO23A(R)	0.25	310

2.3.2. DS2-160..23I-.. (IP 23 internally ventilated)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/_{1000min^{-1}}$	Hz	
1000	DS2-160KO23I-10-5	425	85	740	160	41	395	80	337	50	30
	DS2-160MO23I-10-5	520	105	925	205	50	480	97	334	50	30
	DS2-160LO23I-10-5	605	122	1100	245	58	555	112	336	50	32
	DS2-160BO23I-10-5	685	141	1170	255	65	625	128	331	50	32
1500	DS2-160KO23I-15-5	425	128	740	245	60	380	116	224	75	32
	DS2-160MO23I-15-5	520	155	925	305	72	460	138	225	75	32
	DS2-160LO23I-15-5	605	190	1100	375	83	530	165	218	75	32
	DS2-160BO23I-15-5	685	195	1170	355	92	585	165	240	75	32
2000	DS2-160KO23I-20-5	425	165	740	320	77	365	144	172	100	32
	DS2-160MO23I-20-5	520	205	920	400	92	440	175	171	100	32
	DS2-160LO23I-20-5	605	230	1100	455	104	495	190	179	100	32
	DS2-160BO23I-20-5	685	260	1170	475	116	555	210	179	100	34
2500	DS2-160KO23I-25-5	425	210	740	400	92	350	170	137	125	32
	DS2-160MO23I-25-5	520	255	920	490	109	415	200	139	125	34
	DS2-160LO23I-25-5	605	295	1100	585	124	470	230	140	125	34
	DS2-160BO23I-25-5	685	315	1170	575	135	515	235	148	125	34
3000	DS2-160KO23I-30-5	425	240	740	455	104	330	185	119	150	32
	DS2-160MO23I-30-5	520	300	920	585	123	390	225	117	150	34
	DS2-160LO23I-30-5	605	325	1100	645	136	430	235	127	150	34
	DS2-160BO23I-30-5	640	325	1170	640	146	465	245	133	150	34

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-160KO23I	0.15	220
DS2-160MO23I	0.18	245
DS2-160LO23I	0.22	275
DS2-160BO23I	0.25	300

2.3.3. DS2-160..54A(R)-.. (IP 54 surface-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. Frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/_{1000min^{-1}}$	Hz	
1000	DS2-160KO54A(R)-10-5	325	68	700	160	30	285	59	337	50	30
	DS2-160MO54A(R)-10-5	405	85	875	205	37	355	75	334	50	30
	DS2-160LO54A(R)-10-5	480	101	1050	245	45	430	90	336	50	30
	DS2-160BO54A(R)-10-5	555	118	1110	255	52	500	107	331	50	32
1500	DS2-160KO54A(R)-15-5	325	103	700	245	41	265	82	224	75	30
	DS2-160MO54A(R)-15-5	405	127	875	305	52	330	104	225	75	32
	DS2-160LO54A(R)-15-5	480	155	1050	375	63	400	130	218	75	32
	DS2-160BO54A(R)-15-5	555	165	1110	355	74	470	139	240	75	32
2000	DS2-160KO54A(R)-20-5	325	134	700	320	51	245	100	172	100	32
	DS2-160MO54A(R)-20-5	405	165	875	400	64	305	127	171	100	32
	DS2-160LO54A(R)-20-5	480	190	1050	455	78	375	147	179	100	32
	DS2-160BO54A(R)-20-5	555	220	1110	475	92	440	175	179	100	32
2500	DS2-160KO54A(R)-25-5	325	170	700	400	59	225	115	137	125	32
	DS2-160MO54A(R)-25-5	405	205	875	490	74	285	145	139	125	32
	DS2-160LO54A(R)-25-5	480	240	1050	585	91	345	175	140	125	32
	DS2-160BO54A(R)-25-5	555	265	1110	575	107	410	195	148	125	34
3000	DS2-160KO54A(R)-30-5	325	195	700	455	65	205	122	119	150	32
	DS2-160MO54A(R)-30-5	405	245	875	585	82	260	160	117	150	32
	DS2-160LO54A(R)-30-5	480	265	1050	645	100	320	175	127	150	34
	DS2-160BO54A(R)-30-5	555	295	1110	640	117	375	200	133	150	34

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-160KO54A(R)	0.15	230
DS2-160MO54A(R)	0.18	255
DS2-160LO54A(R)	0.22	285
DS2-160BO54A(R)	0.25	310

2.3.4. DS2-160..54I-.. (IP 54 surface-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/_{1000min^{-1}}$	Hz	
1000	DS2-160KO54I-10-5	325	69	695	160	30	280	60	337	50	30
	DS2-160MO54I-10-5	400	85	870	205	37	350	74	334	50	30
	DS2-160LO54I-10-5	470	100	1050	245	44	415	88	336	50	30
	DS2-160BO54I-10-5	540	115	1110	255	50	480	103	331	50	32
1500	DS2-160KO54I-15-5	325	104	690	245	41	260	83	224	75	30
	DS2-160MO54I-15-5	400	126	870	305	51	325	103	225	75	32
	DS2-160LO54I-15-5	470	155	1050	375	61	390	126	218	75	32
	DS2-160BO54I-15-5	540	160	1110	355	71	450	133	240	75	32
2000	DS2-160KO54I-20-5	325	136	690	320	51	240	100	172	100	32
	DS2-160MO54I-20-5	400	165	865	400	63	300	125	171	100	32
	DS2-160LO54I-20-5	470	185	1040	455	75	360	142	179	100	32
	DS2-160BO54I-20-5	540	215	1110	475	88	420	165	179	100	32
2500	DS2-160KO54I-25-5	325	170	690	400	58	220	116	137	125	32
	DS2-160MO54I-25-5	400	205	865	490	73	275	143	139	125	32
	DS2-160LO54I-25-5	470	240	1040	585	87	330	170	140	125	32
	DS2-160BO54I-25-5	540	255	1110	575	101	385	185	148	125	34
3000	DS2-160KO54I-30-5	325	195	690	455	64	205	122	119	150	32
	DS2-160MO54I-30-5	400	245	865	585	80	255	155	117	150	32
	DS2-160LO54I-30-5	470	265	1040	645	95	305	170	127	150	34
	DS2-160BO54I-30-5	540	285	1110	640	110	350	185	133	150	34

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-160KO54I	0.15	220
DS2-160MO54I	0.18	245
DS2-160LO54I	0.22	275
DS2-160BO54I	0.25	300

2.3.5. DS3-160..54W-.. (IP 54 water-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/1000min^{-1}$	Hz	
1000	DS3-160KO54W-10-5	320	62	695	146	32	305	59	337	50	30
	DS3-160MO54W-10-5	400	78	870	185	41	390	76	334	50	30
	DS3-160LO54W-10-5	480	94	1030	215	49	465	91	336	50	32
	DS3-160BO54W-10-5	575	114	1210	255	58	555	110	331	50	32
1500	DS3-160KO54W-15-5	320	93	695	220	47	295	86	224	75	32
	DS3-160MO54W-15-5	400	116	870	270	60	380	111	225	75	32
	DS3-160LO54W-15-5	480	144	1030	335	72	460	137	218	75	32
	DS3-160BO54W-15-5	575	155	1210	355	85	540	149	240	75	32
2000	DS3-160KO54W-20-5	320	122	695	285	60	285	109	172	100	32
	DS3-160MO54W-20-5	400	150	870	360	78	375	143	171	100	32
	DS3-160LO54W-20-5	480	175	1030	405	93	445	165	179	100	32
	DS3-160BO54W-20-5	575	210	1210	475	111	530	195	179	100	34
2500	DS3-160KO54W-25-5	320	150	695	360	72	275	132	137	125	32
	DS3-160MO54W-25-5	400	190	870	445	95	365	170	139	125	34
	DS3-160LO54W-25-5	480	225	1030	520	115	440	205	140	125	34
	DS3-160BO54W-25-5	575	255	1200	575	134	515	230	148	125	34
3000	DS3-160KO54W-30-5	320	175	695	410	83	265	145	119	150	32
	DS3-160MO54W-30-5	400	225	870	525	110	350	195	117	150	34
	DS3-160LO54W-30-5	480	245	1030	575	131	420	220	127	150	34
	DS3-160BO54W-30-5	575	280	1200	640	151	480	250	133	150	34

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS3-160KO54W	0.15	165
DS3-160MO54W	0.18	190
DS3-160LO54W	0.22	215
DS3-160BO54W	0.25	240

2.4. DS2-200

DS2-200..23A(R)-.. (IP 23 internally ventilated)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/_{1000min^{-1}}$	Hz	
500	DS2-200KO23A(R)05-5	755	83	1230	155	39	740	82	609	16.7	40
	DS2-200MO23A(R)05-5	1050	111	1710	210	53	1010	110	629	16.7	40
	DS2-200LO23A(R)05-5	1340	146	2190	275	69	1330	145	617	16.7	42
1000	DS2-200KO23A(R)10-5	750	160	1220	300	76	730	155	316	33.3	42
	DS2-200MO23A(R)10-5	1050	210	1710	400	103	985	205	331	33.3	42
	DS2-200LO23A(R)10-5	1340	275	2190	515	133	1270	265	329	33.3	44
1500	DS2-200KO23A(R)15-5	755	240	1230	450	114	730	230	210	50.0	42
	DS2-200MO23A(R)15-5	1050	320	1710	600	153	970	300	219	50.0	44
	DS2-200LO23A(R)15-5	1340	385	2190	725	189	1210	360	234	50.0	46
2000	DS2-200KO23A(R)20-5	755	320	1230	600	149	710	300	156	66.7	44
	DS2-200MO23A(R)20-5	1050	385	1710	725	186	890	350	182	66.7	46
	DS2-200LO23A(R)20-5	1340	485	2190	910	235	1120	435	186	66.7	46
2700	DS2-200KO23A(R)27-5	755	390	1230	725	180	640	340	130	90.0	44
	DS2-200MO23A(R)27-5	1050	485	1590	820	225	800	405	144	90.0	46
	DS2-200LO23A(R)27-5	1340	655	2190	1230	295	1040	535	138	90.0	46

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-200KO23A(R)	0.44	435
DS2-200MO23A(R)	0.61	545
DS2-200LO23A(R)	0.79	660

2.4.1. DS2-200..54W-.. (IP 54 water-cooled)

Mains voltage 3 AC 400 V for converters with uncontrolled supply

Nom. speed	Motor type	Stand-still torque	Stand-still current	Max. static torque	Max. static current	Nom. power	Nom. torque	Rated current	Voltage constant	Nom. frequency	Terminal box assignment see p. 76
n_N		M_0	I_0	$M_{0,max}$	$I_{0,max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	
Min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/_{1000mi\ n^{-1}}$	Hz	
1000	DS2-200KO54W10-5	570	118	1130	270	58	550	114	316	33.3	40
	DS2-200MO54W10-5	820	165	1570	360	83	795	160	331	33.3	42
	DS2-200LO54W10-5	1080	220	2010	465	109	1040	210	329	33.3	42
1500	DS2-200KO54W15-5	570	180	1130	405	84	535	165	210	50.0	42
	DS2-200MO54W15-5	820	245	1570	540	122	775	235	219	50.0	42
	DS2-200LO54W15-5	1080	310	2010	655	154	980	285	234	50.0	44
2100	DS2-200KO54W21-5	570	240	1130	540	112	510	215	156	70.0	42
	DS2-200MO54W21-5	820	300	1570	655	153	695	270	182	70.0	44
	DS2-200LO54W21-5	1080	385	2010	820	193	880	335	186	70.0	46
2700	DS2-200KO54W27-5	570	285	1130	655	134	475	240	130	90.0	44
	DS2-200MO54W27-5	820	375	1570	820	183	645	315	144	90.0	46
	DS2-200LO54W27-5	1080	520	2010	1105	235	840	415	138	90.0	46

Motor type	Inertia J [kgm^2]	Weight m [kg]
DS2-200KO54W	0.44	400
DS2-200MO54W	0.61	500
DS2-200LO54W	0.79	600

2.5. Vibration load

The vibration behavior of the entire system at the place of use, caused by output elements, mounting conditions, alignment and installation as well as by influences of external vibrations, can lead to an increase in the vibration values at the motor. Under certain circumstances, it may be necessary to completely balance the rotor with the output element.
In order to be able to guarantee perfect function and service life, the specified vibration values based on DIN ISO 10816 are not to be exceeded at the specified measuring points of the motor (refer to figure "Measuring points for vibration measurement").

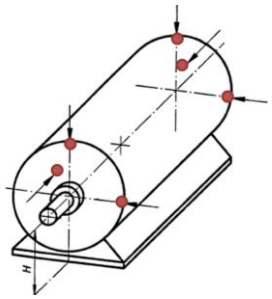


Figure: Measuring points for vibration measurement

The specified maximum radial and axial vibration values have to be adhered to simultaneously. They apply to substructures that can be described as elastic. An elastic substructure is present if the lowest natural frequency of the total system (machine and foundation) in the measuring direction is at least 25% below the essential excitation frequency. All other substructures can be described as rigid. In the case of rigid substructures, please consult the manufacturer.

Maximum radial vibration load:

Peak vibrational acceleration 1 g	> 250 Hz
Peak vibration displacement ≤ 0.16 mm	< 6.3 Hz
Effect. Vibrational speed ≤ 4.5 mm/s	6.3 Hz – 250 Hz

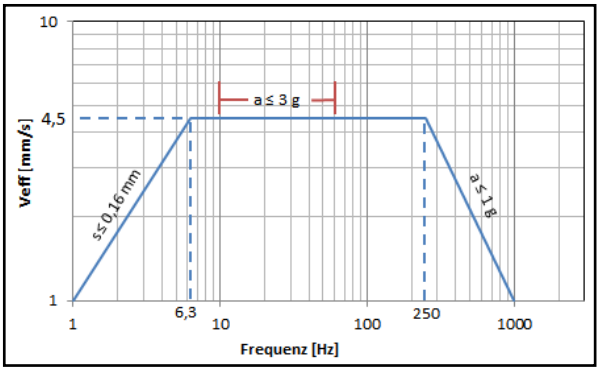


Figure: Permissible radial vibration load

Maximum axial vibration load:

Peak vibrational acceleration 0.225 g	> 55 Hz
Peak vibration displacement ≤ 0.16 mm	< 6.3 Hz
Effective vibrational speed ≤ 4.5 mm/s	6.3 Hz – 55 Hz

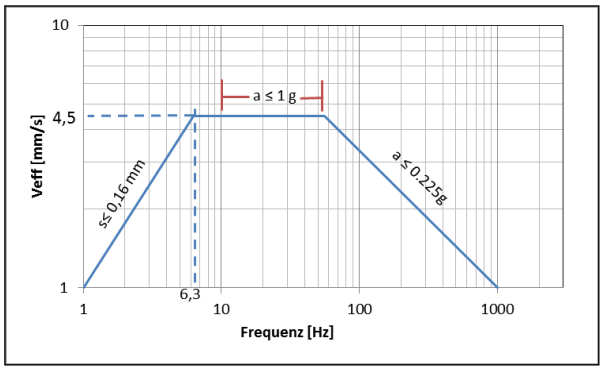


Figure: Permissible axial vibration load

Additional vibration resistance:

Vibrational acceleration 3 g radial and 1g axial 10 Hz to 55 Hz

The specified vibrations are additionally resisted by the motor. However, the service life of wear parts (such as bearings) can be reduced.

Shock stress:

If there are increased vibration loads in form of shocks, measurements on the machine are required. Based on this, constructive revisions and evaluations are carried out with the company Baumüller.

To evaluate the vibration speed, the measuring equipment shall meet the requirements of ISO 2954. The vibration acceleration shall be evaluated in the time range in the frequency band from 10 Hz to 2 kHz. If significant vibration excitations above 2 kHz are to be expected, such as tooth mesh frequencies the measuring range must be adapted accordingly. Consequently, the permissible maximum values do not change.

2.6. Bearings and shaft load

All machines are equipped with rolling-contact bearings. Normally, the non-locating bearing (ball bearing) is intended for the drive end and the locating bearing (ball bearing) for the non-drive end. Machines with roller bearings at the drive end are available for applications where increased radial forces can occur, for instance when using pulleys. Please specify radial forces in your order.

Bearing assignment Standard:

	Ventilated		Water-cooled	
Size	D-side	N-side	D-side	N-side
100	6209 2ZRC3	6209 2ZRC3	6209 2ZRC3	6306 2ZRC3
132	6212 2ZRC3	6212 2ZRC3	6312 2ZRC3	6310 2ZRC3
160	6313 2ZRC3	6311 2ZRC3	6313 2ZRC3	6311 2ZRC3
200	6315 2ZRC3	6313 2ZRC3	6315 2ZRC3	6313 2ZRC3

Bearing assignment, roller bearing option for D-side:

	Ventilated	Water-cooled
Size	D-side	D-side
100	NU 209E	NU 209E
132	NU 212E	NU 312E
160	NU 313E	NU 313E
200	NU 315E	NU 315E

The size 200 N-side bearing is insulated as standard. An insulated bearing for sizes 100-160 is available as an option (Observe the ordering designation).

Note:
In the option "roller bearings for D-side" the rotor is secured by default with a transport lock. The transport lock must be fixed during the transport and must first be removed before reassembling a driven element. If the machine will be transport after mounting of a driven element, a suitable method for the axial and radial fixation of the rotor must are taken.

Determination of radial forces F_R

When using pulleys, the radial load is calculated according to the following formula:

$$F_R = k\frac{2\cdot 10^7 \cdot P_N}{n\cdot D}\ [N]$$

P_N = Nominal power in kW

n = Nominal speed in rpm

D = Pulley diameter in mm

The belt tightening factor k is approximately:
k = 1.8...2.5 for V-belt
k = 2.2…3.5 for flat belt
(Observe specifications of the belt manufacturer)

To ensure safe and reliable torque transmission, it is necessary to utilize the entire bearing length of the key. Otherwise, the key may be subjected to an excessive compressive load per unit area, which in turn can result in the failure of the motor.
The pulley must be mounted up to the shaft shoulder and only tightened to the following maximum tightening torques.

Gland	M5	M6	M8	M10	M12	M16	M20
Tightening torque	2.2 Nm	4.0 Nm	10.0 Nm	19.0 Nm	33.0 Nm	80 Nm	160 Nm

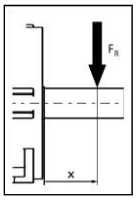
2.7. Radial force diagrams

All bearings are designed for a service life of 20,000 h L_{10h}. The load values specified below may thereby not be exceeded. The permissible radial forces F_R are valid only for the horizontal installation of the motor without additional axial forces.
Furthermore, the specified average speeds must be adhered to to reach the grease consumption period of 20,000 h under the following conditions:

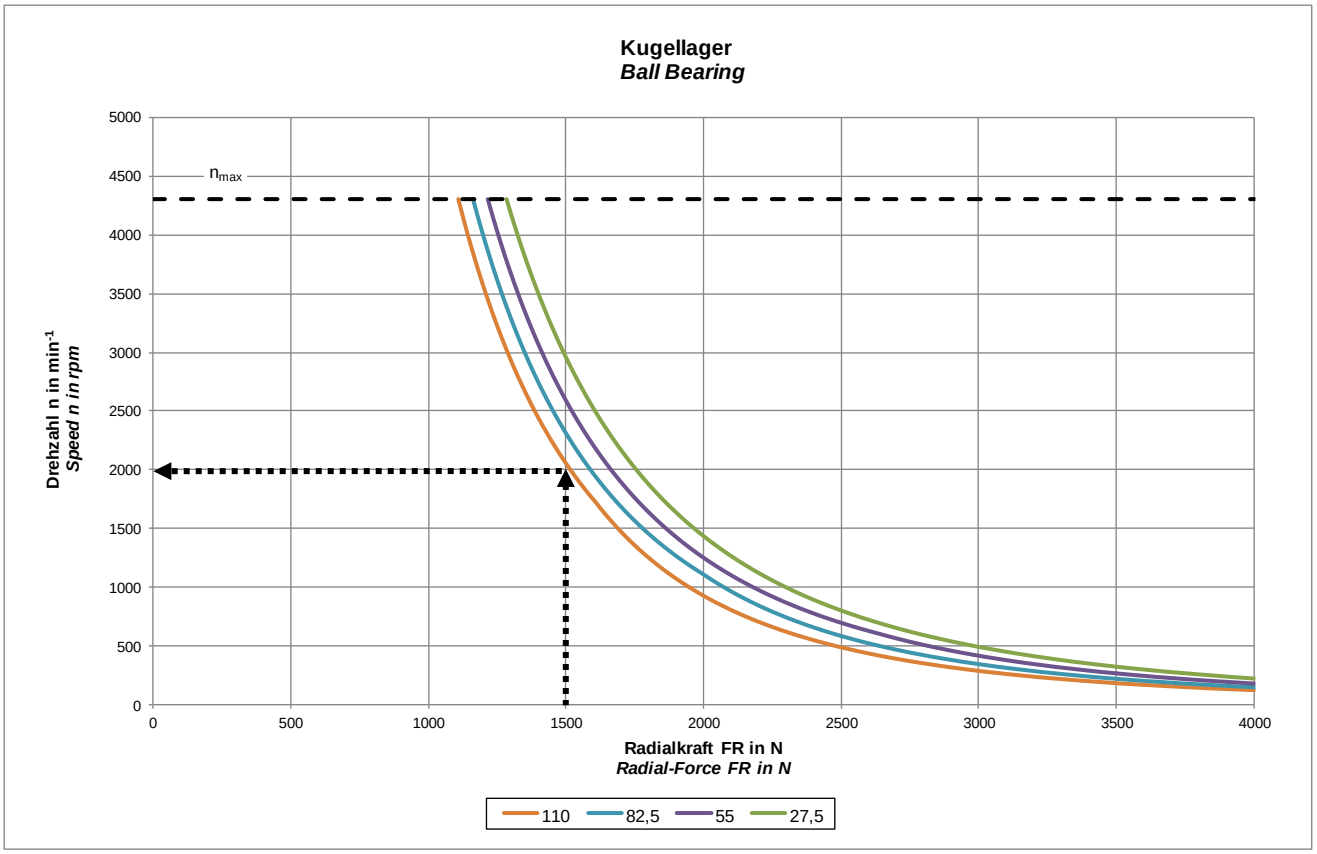
- Low-vibration applications
- Horizontal installation
- Oscillatory bearing motion in which at least one pivot angle of 180° is performed
- Average operating temperature < 90°C
- Average operating speed < 2000 rpm (size 100-160) – Ball bearing version
- Average operating speed < 1500 rpm (size 200) – Ball bearing version
- Average operating speed in roller bearing version: see note on characteristic lines

Axial load on the motor shaft:
No axial forces may develop when mounting clutches, pulleys, etc. on the motor shaft!
In this case, the internal thread on the shaft end should be used as a mounting aid.

2.7.1. Sample diagram

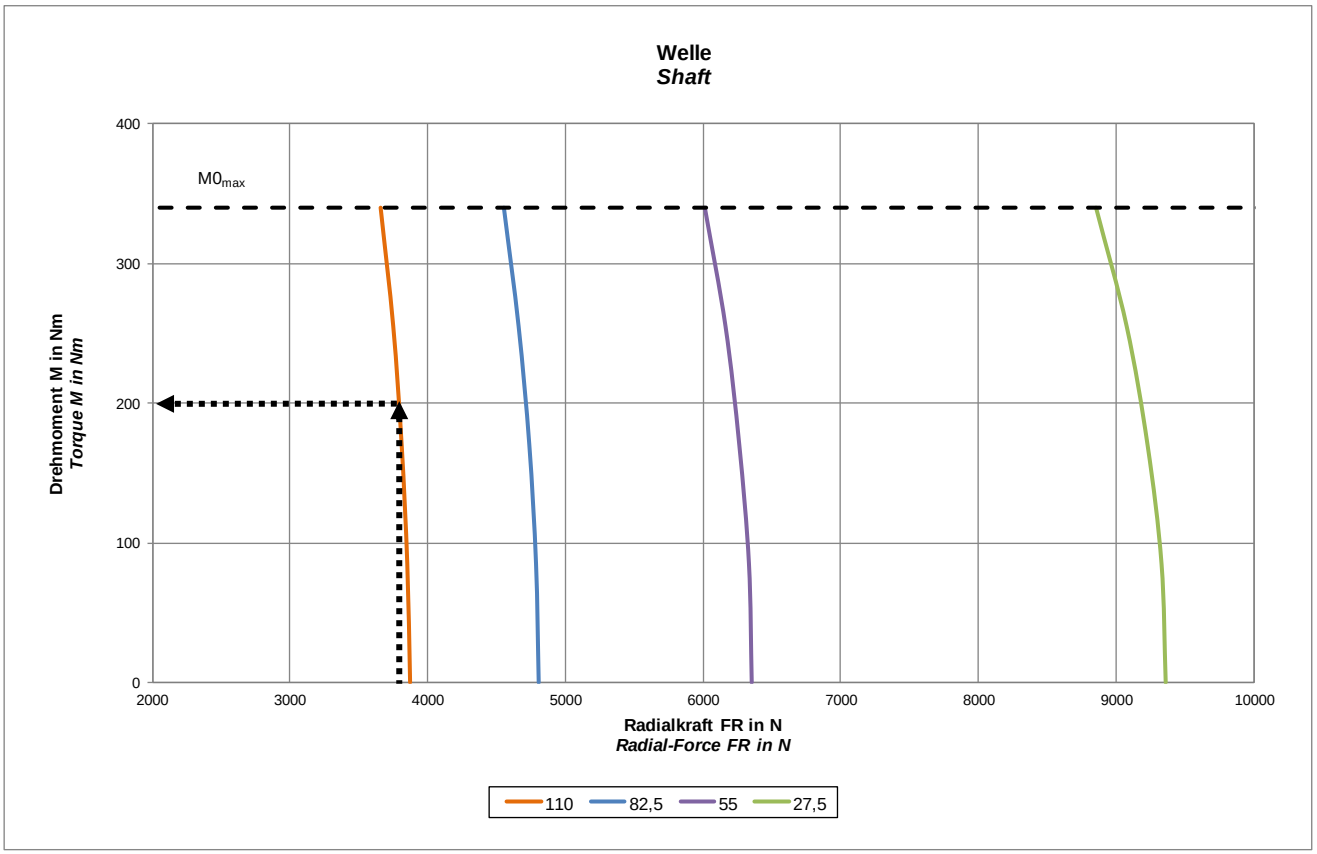


Sample diagrams:
Driving forces x = 110 mm from the shaft shoulder
Bearing service life 20,000 h, shaft with parallel key groove



Explanation of the sample chart:

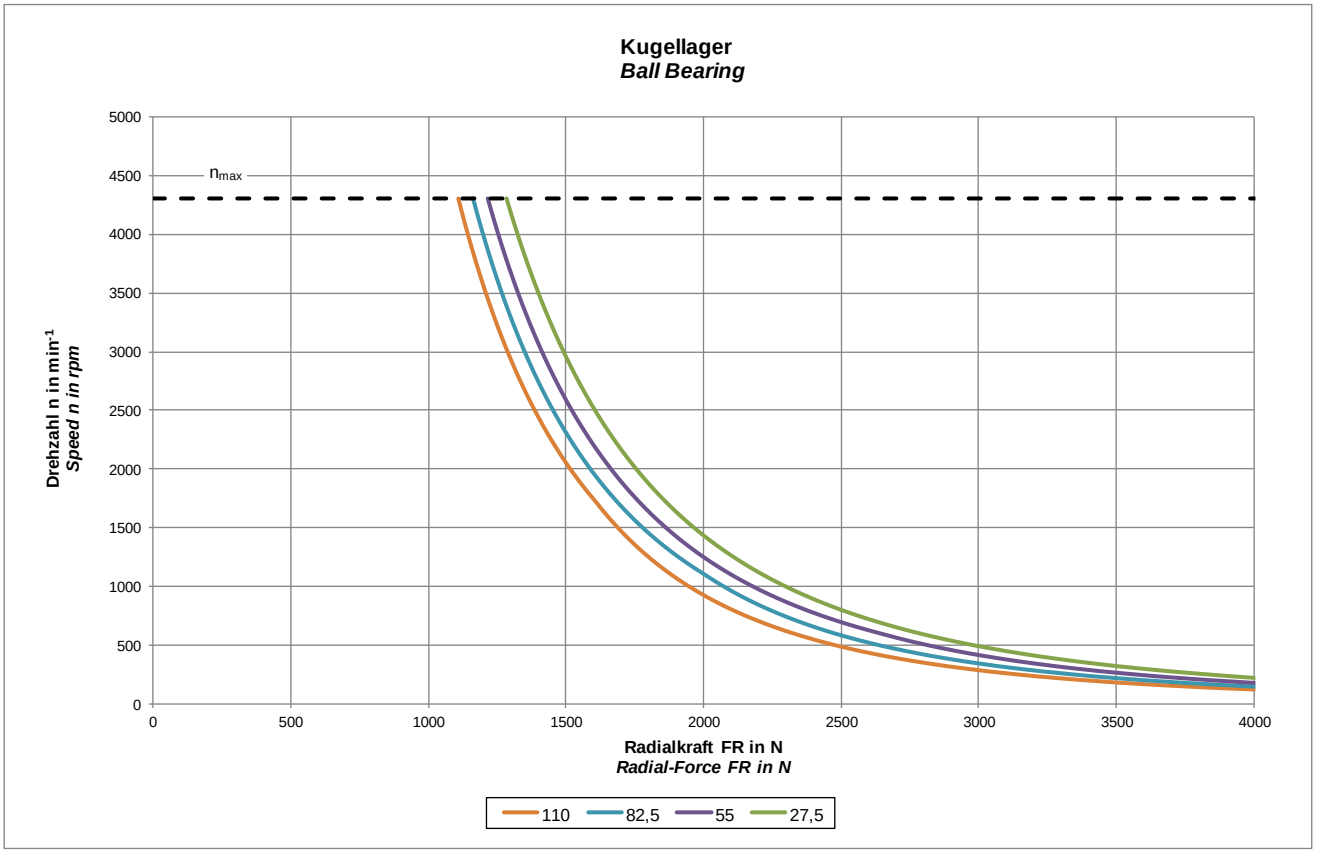
The maximum possible speed of the bearing can be calculated in the "Ball bearing" or "Roller bearing" characteristic curve using the radial force F_R from the application.
At a radial force of 1500 N with a driving force point of x = 110 mm from the shaft shoulder, a maximum speed of 2000 rpm results.

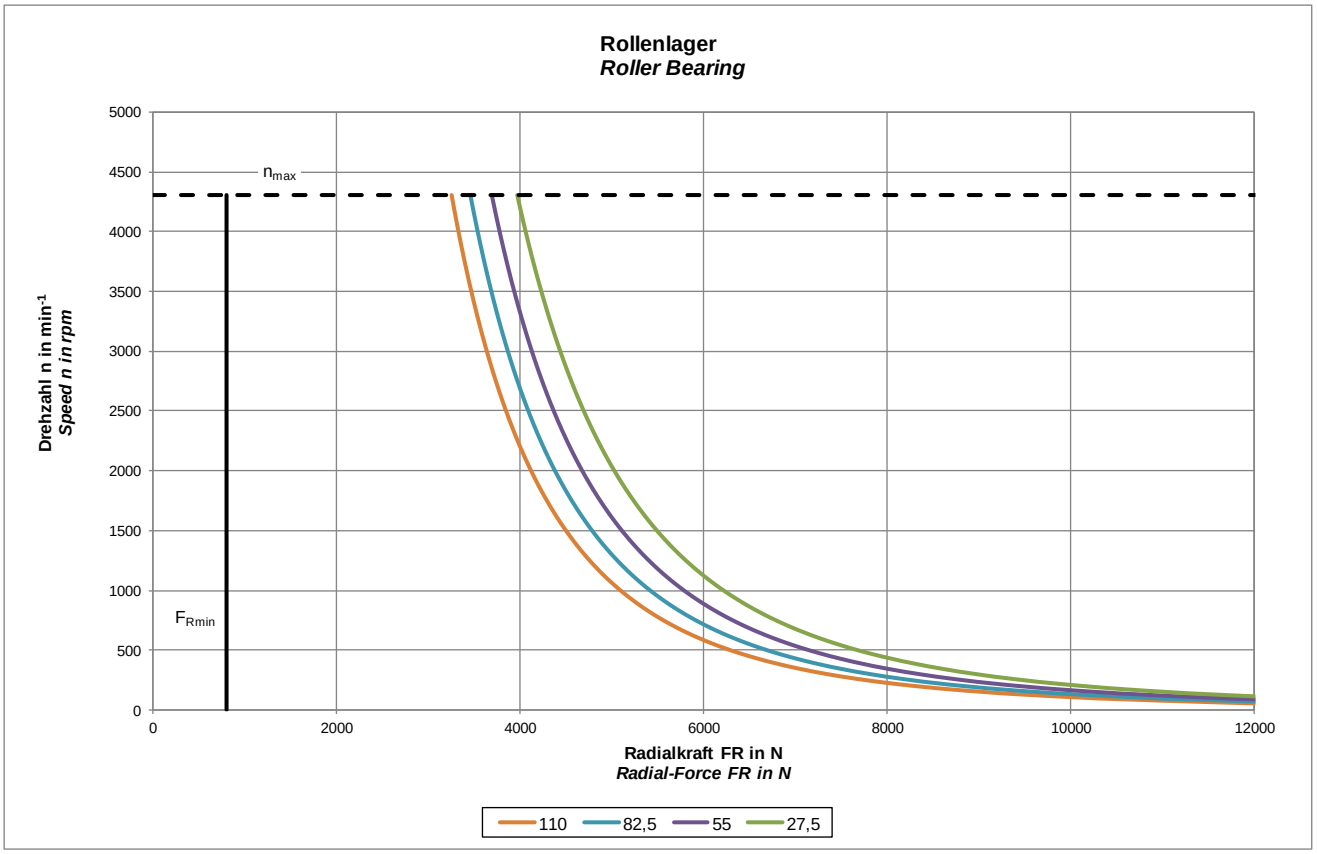


Explanation of the sample chart:

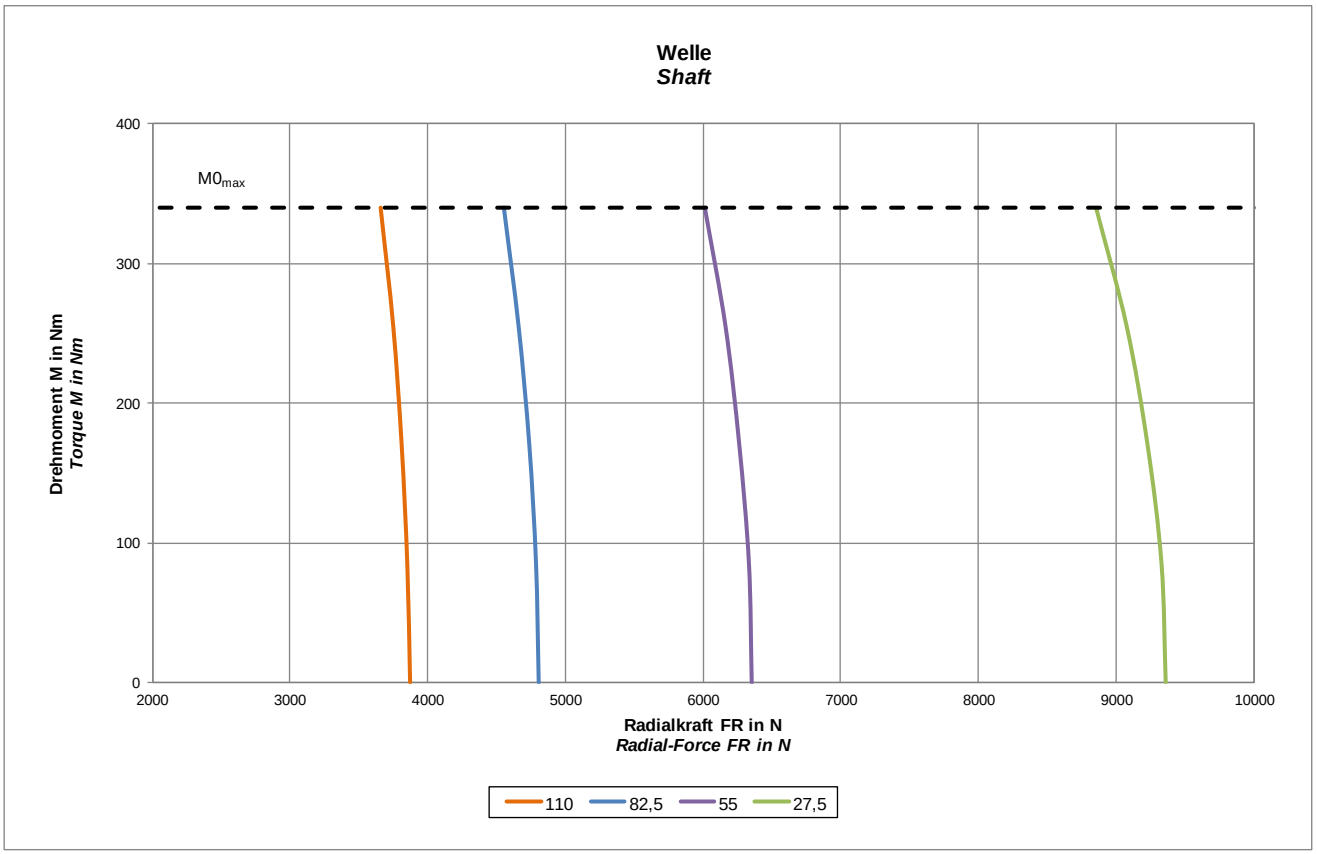
The maximum torque to be still transmitted results from the characteristic "shaft".
At a centrifugal force of 3770 N with a driving force point of x = 110 mm from the shaft shoulder, a torque to be still transmitted of 200 Nm results.

2.7.2. Diagrams DS2-100_R

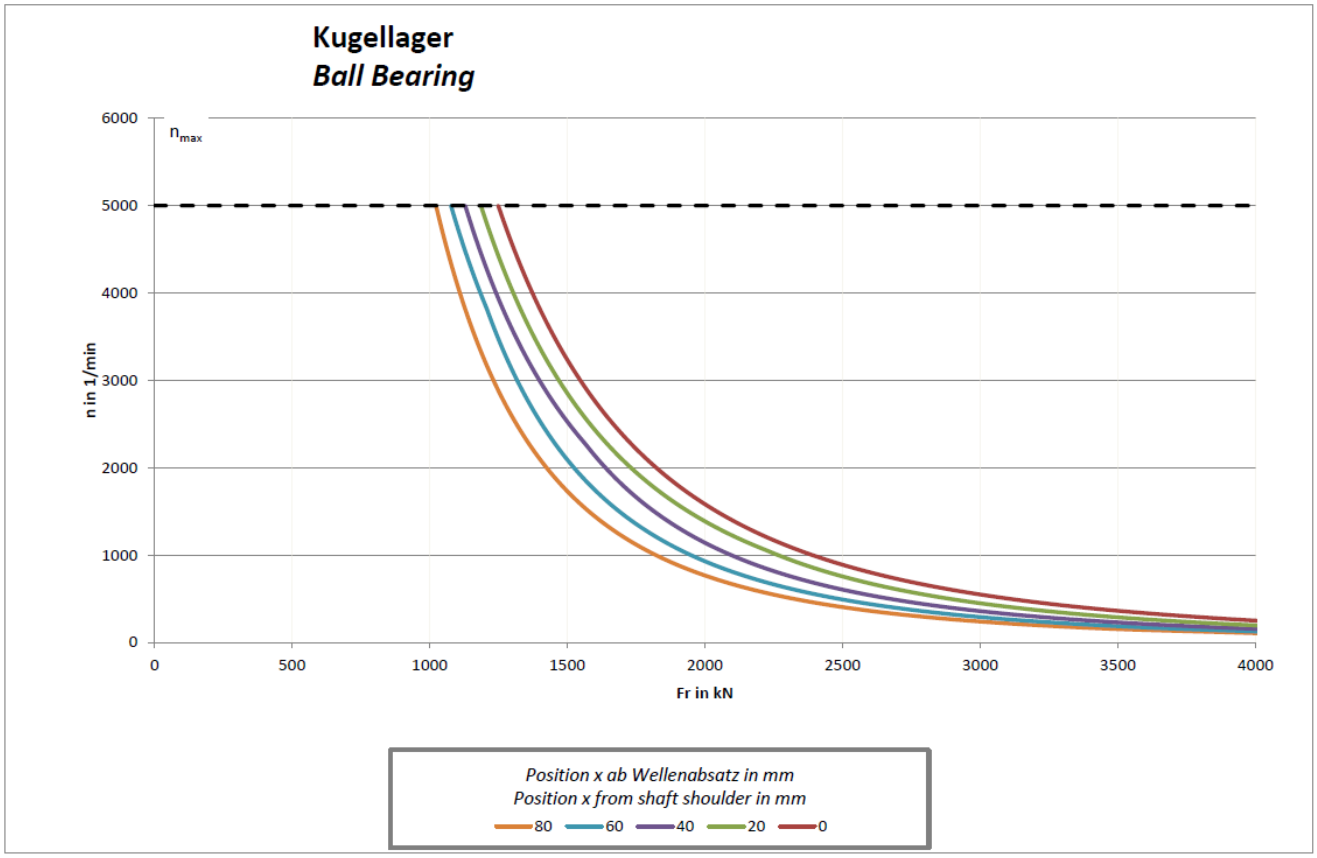


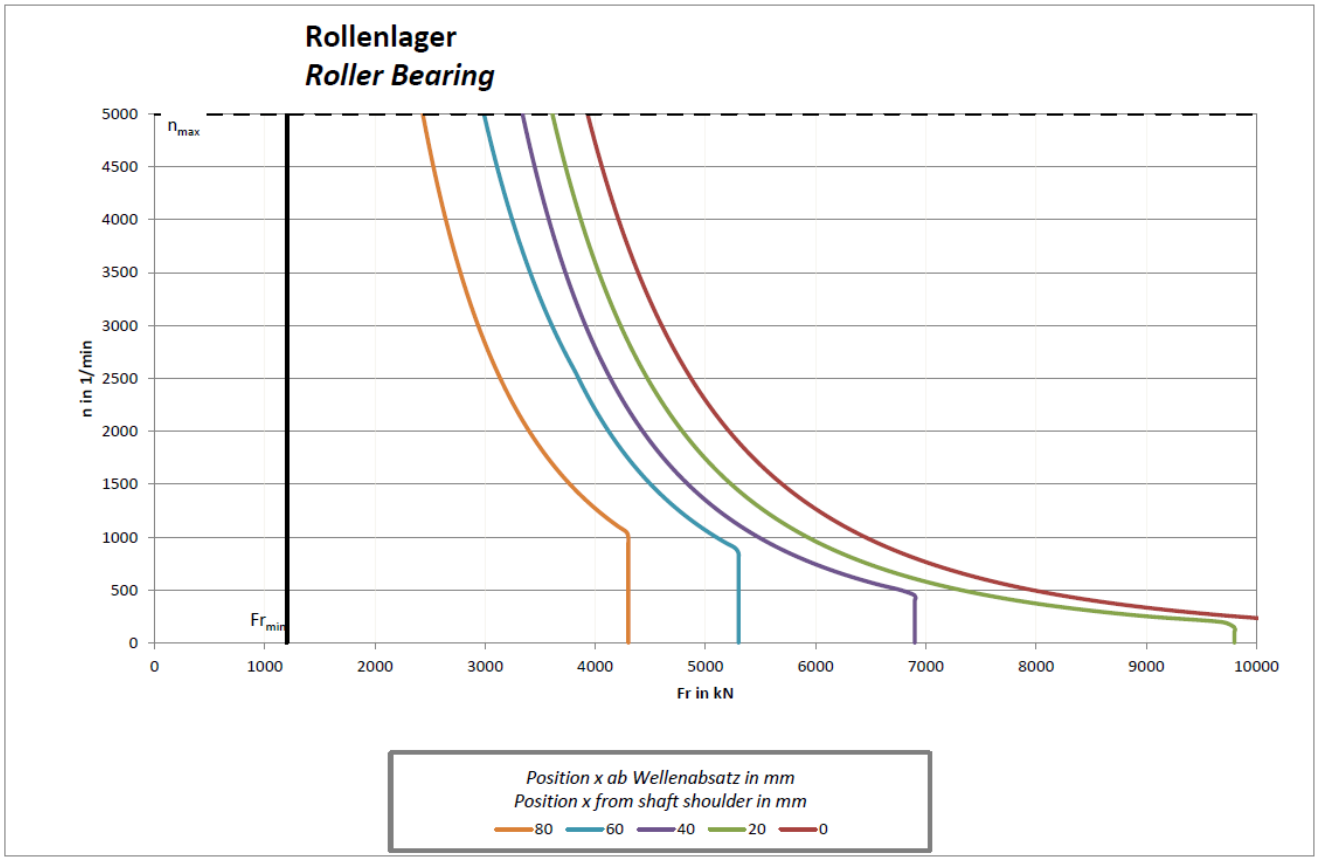


Note: Grease use duration F_{h10} of 20,000 h at $n_{average} \leq 1400\ min^{-1}$

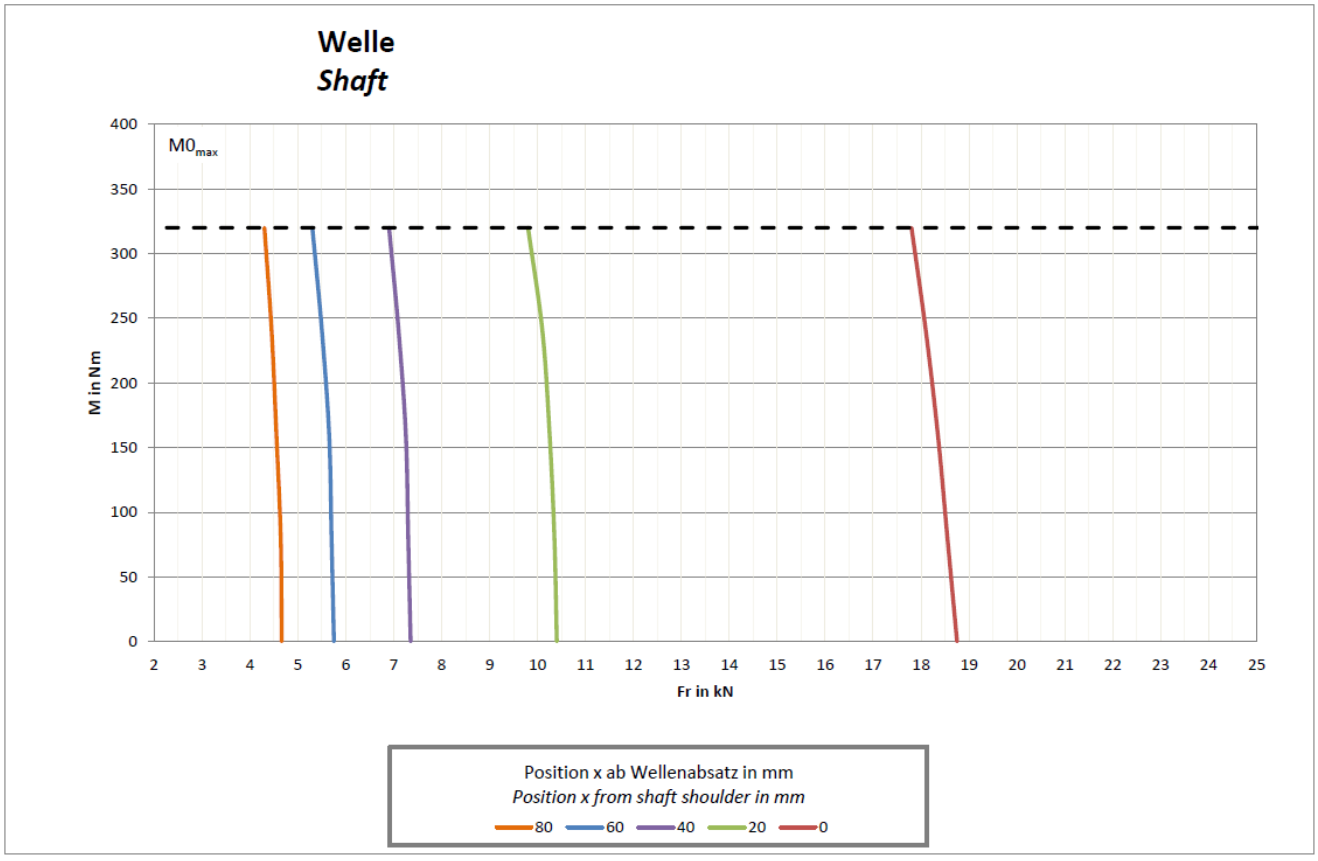


2.7.3. Diagrams DS2-100_W / DS+100_W

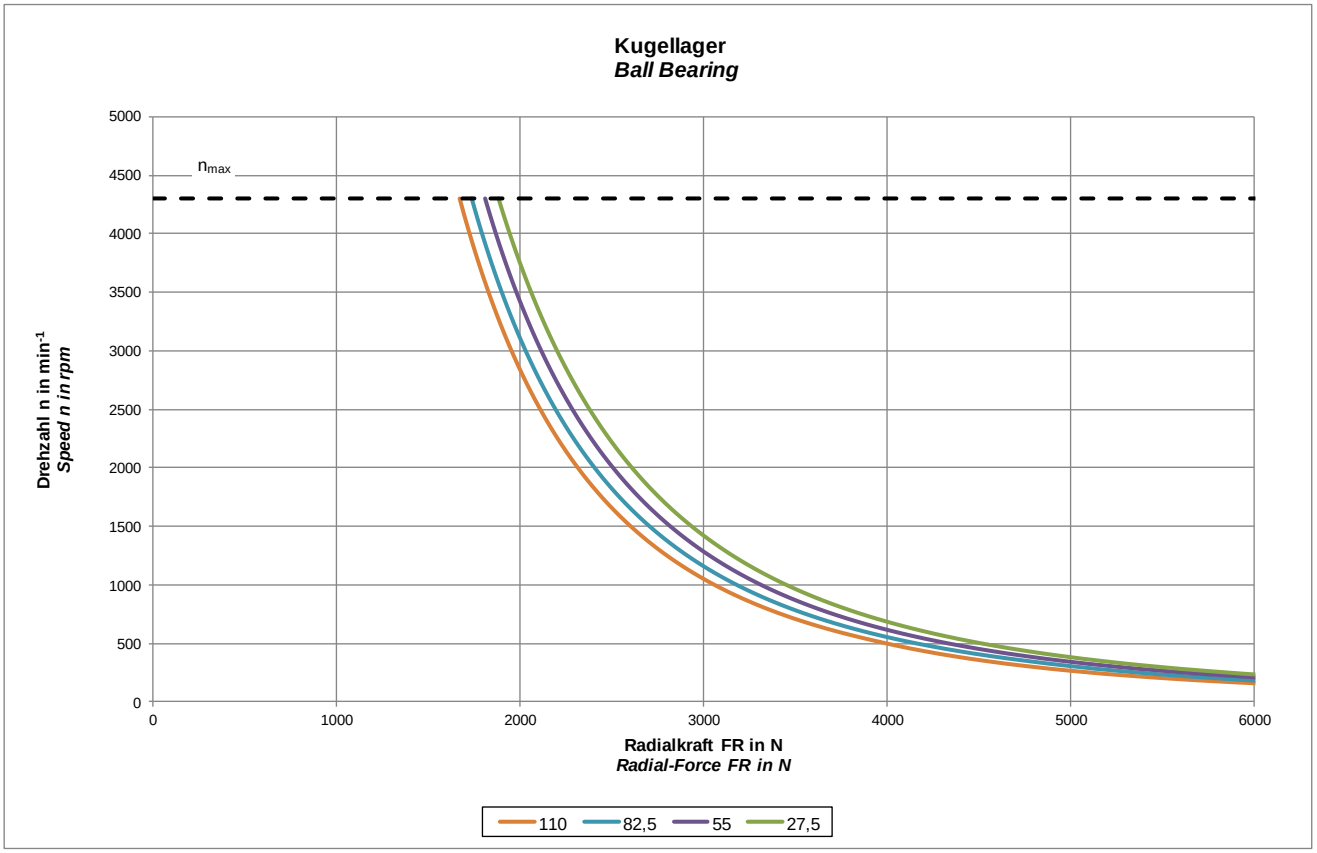


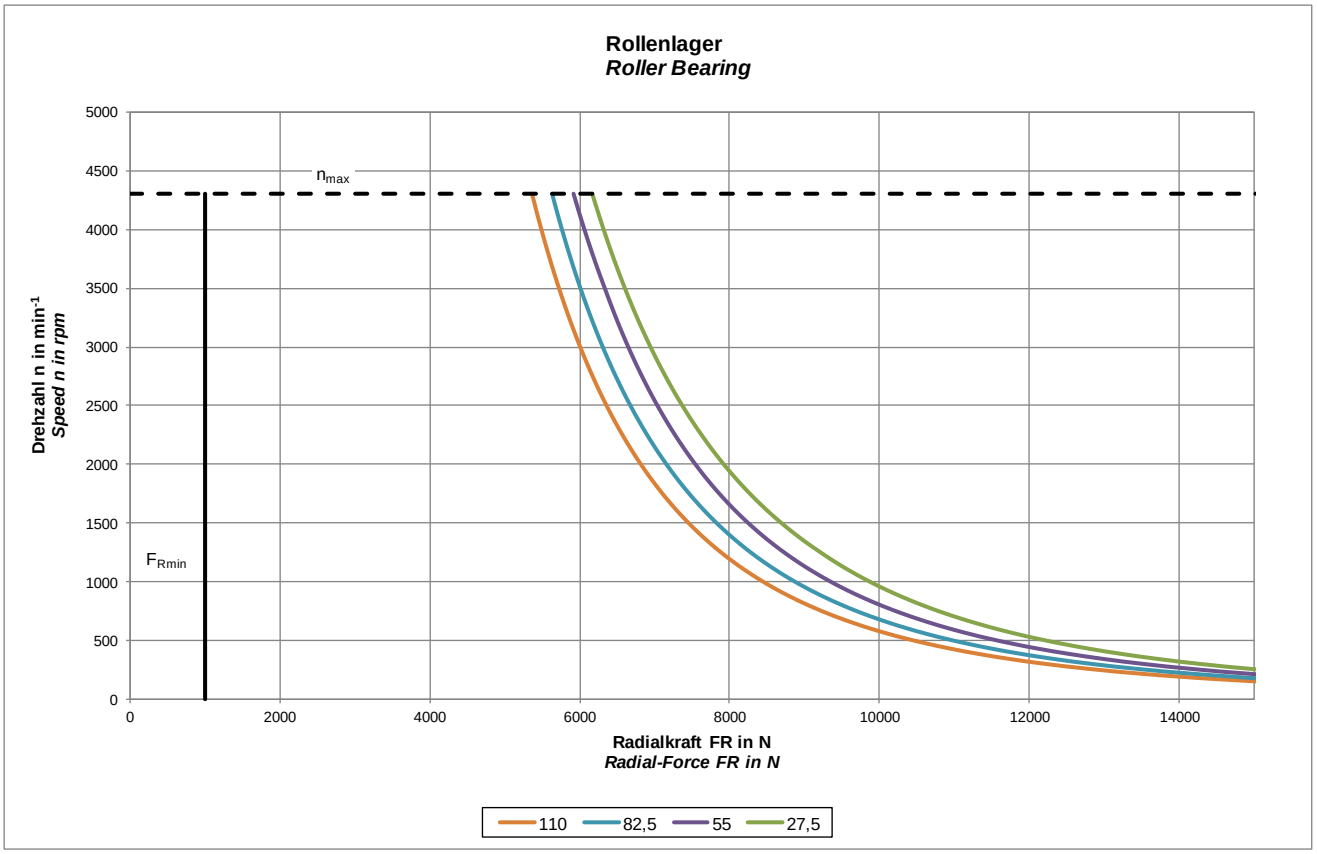


Note: Grease use duration F_{h10} of 20,000 h at $n_{average} \leq 1400\ min^{-1}$

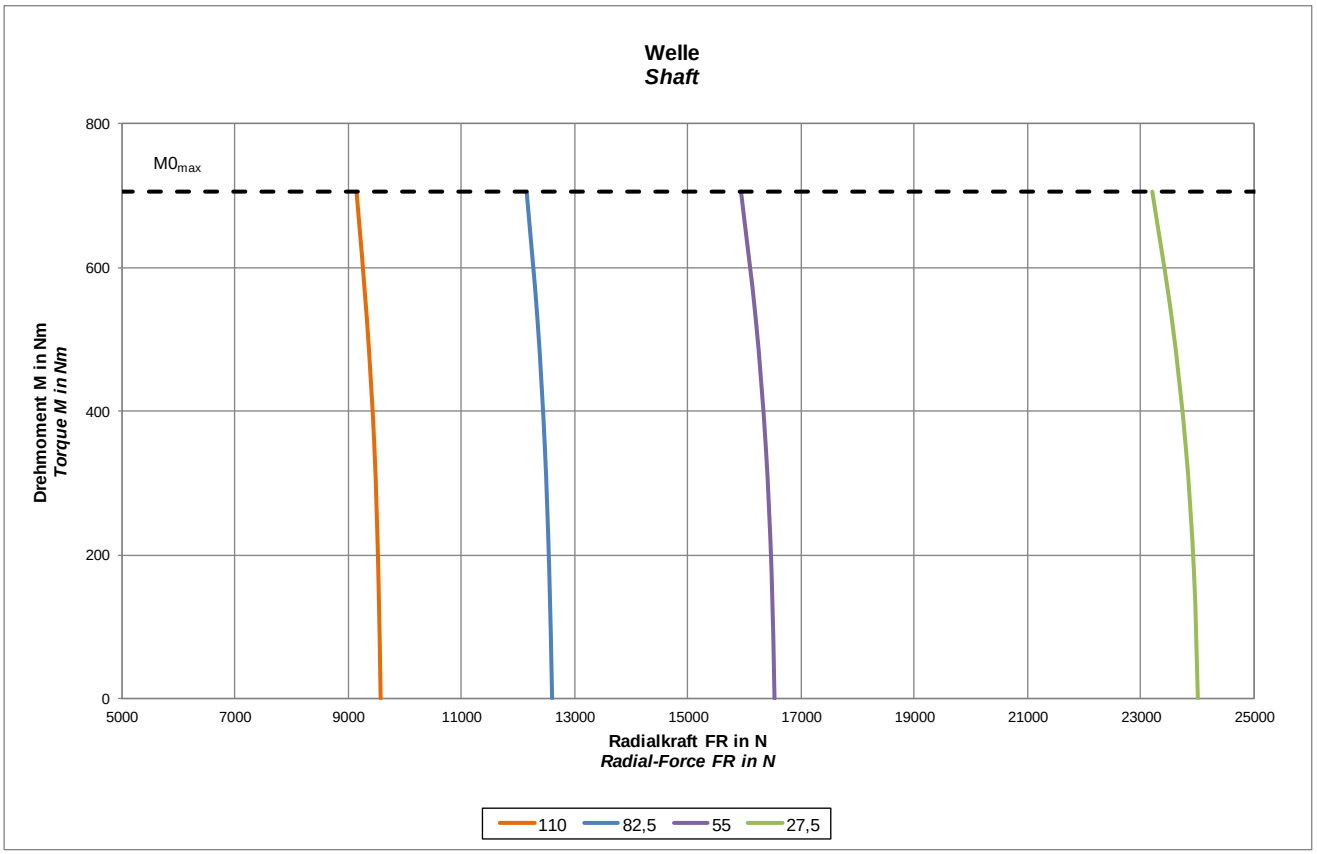


2.7.4. Diagrams DS2-132_A(R)

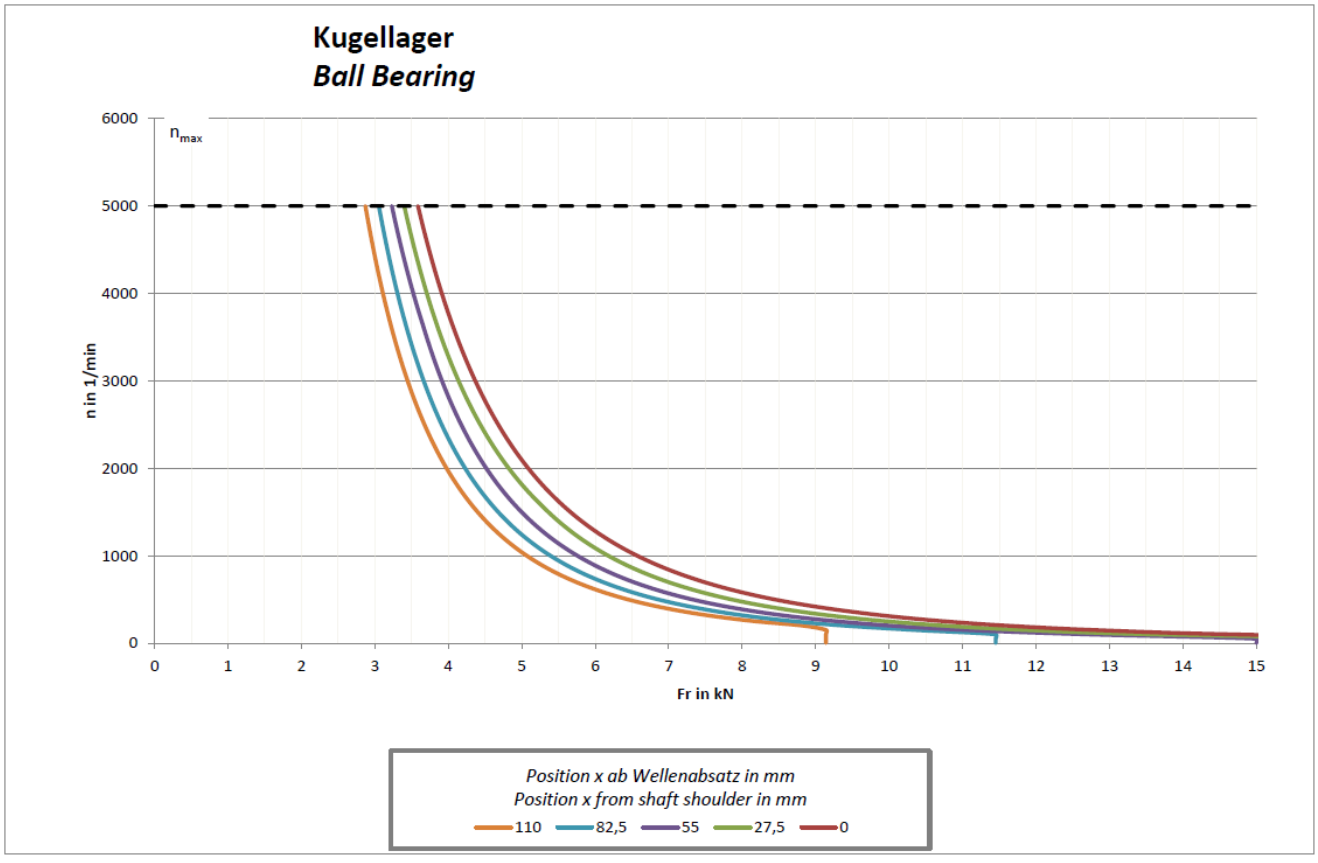


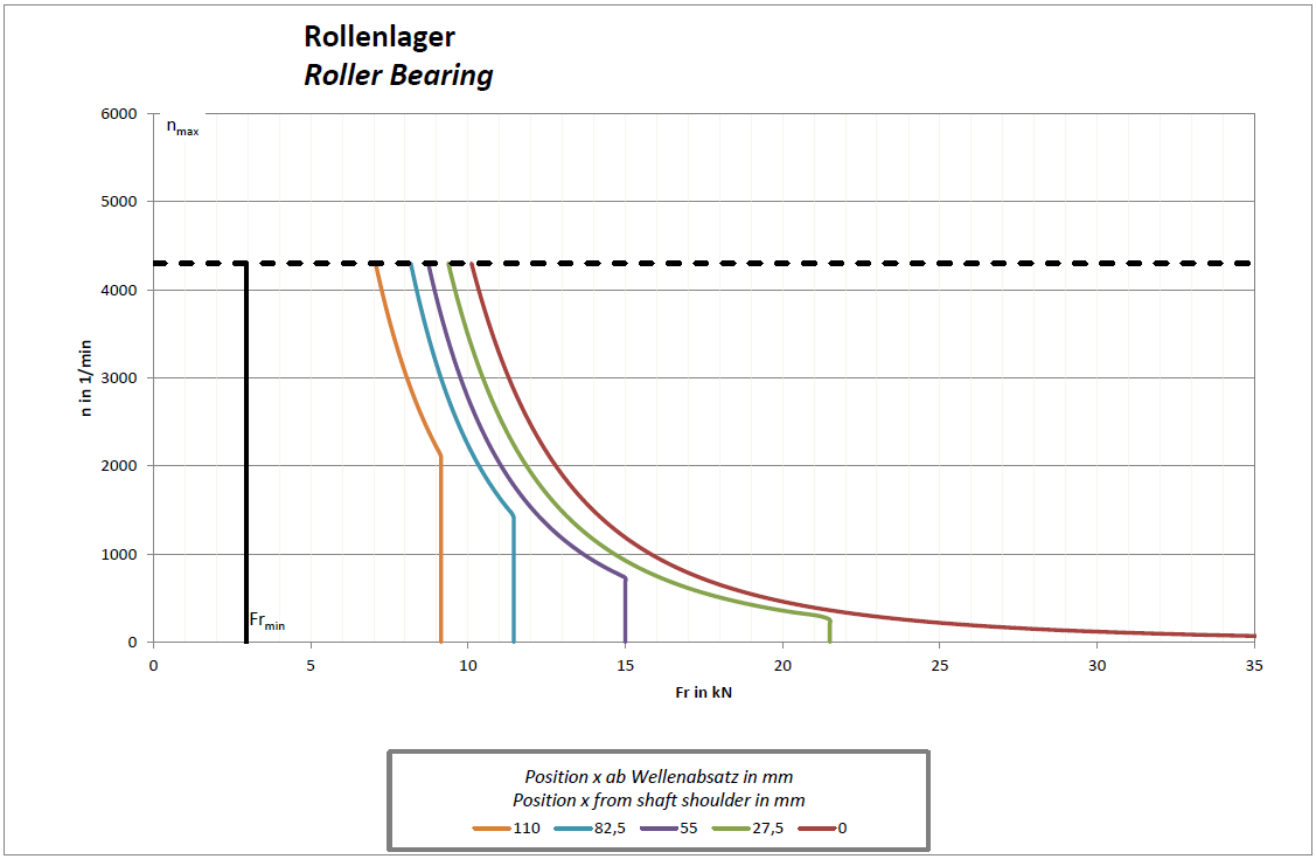


Note: Grease use duration F_{h10} of 20,000 h at $n_{average} \leq 1100$ min^{-1}

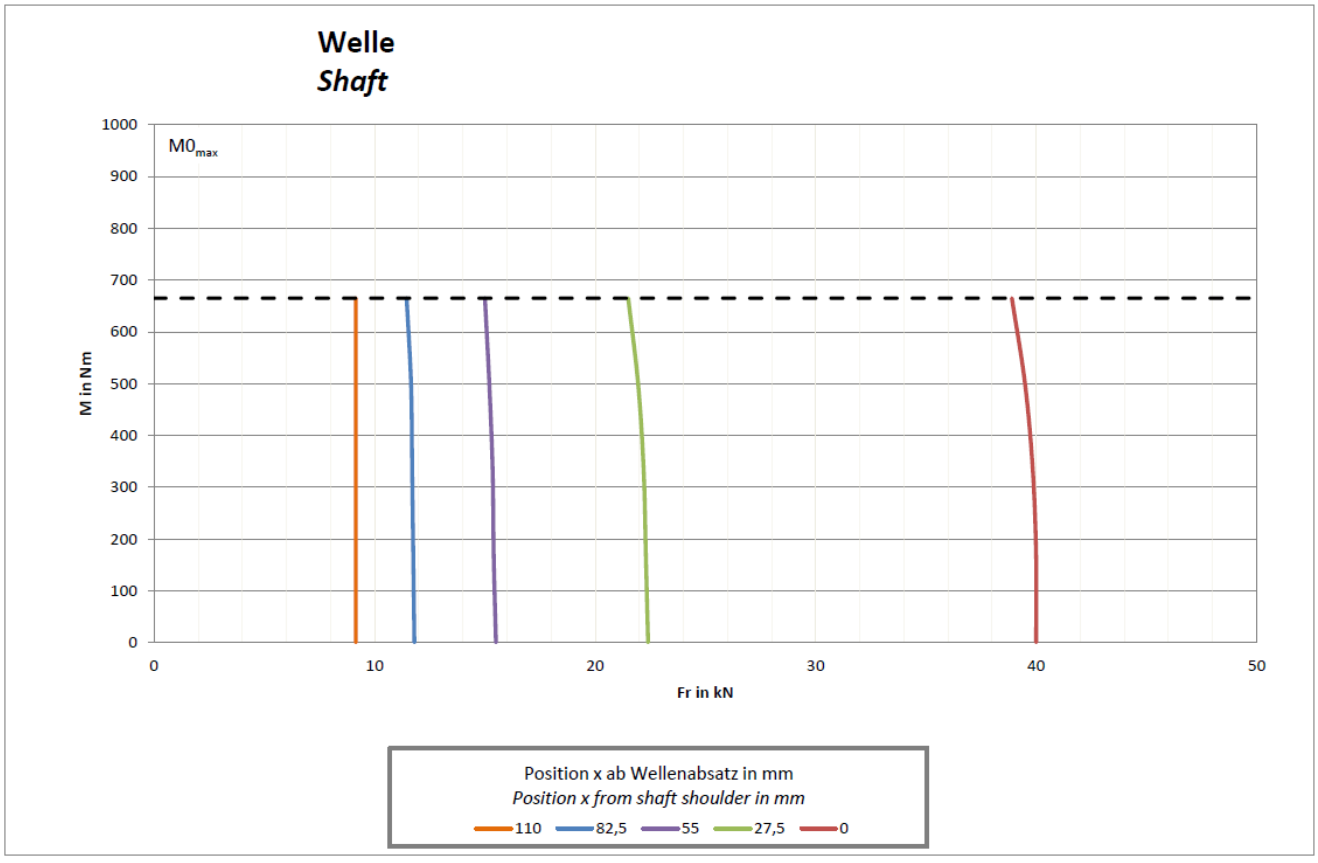


2.7.5. Diagrams DS2-132_W / DS2+132_W

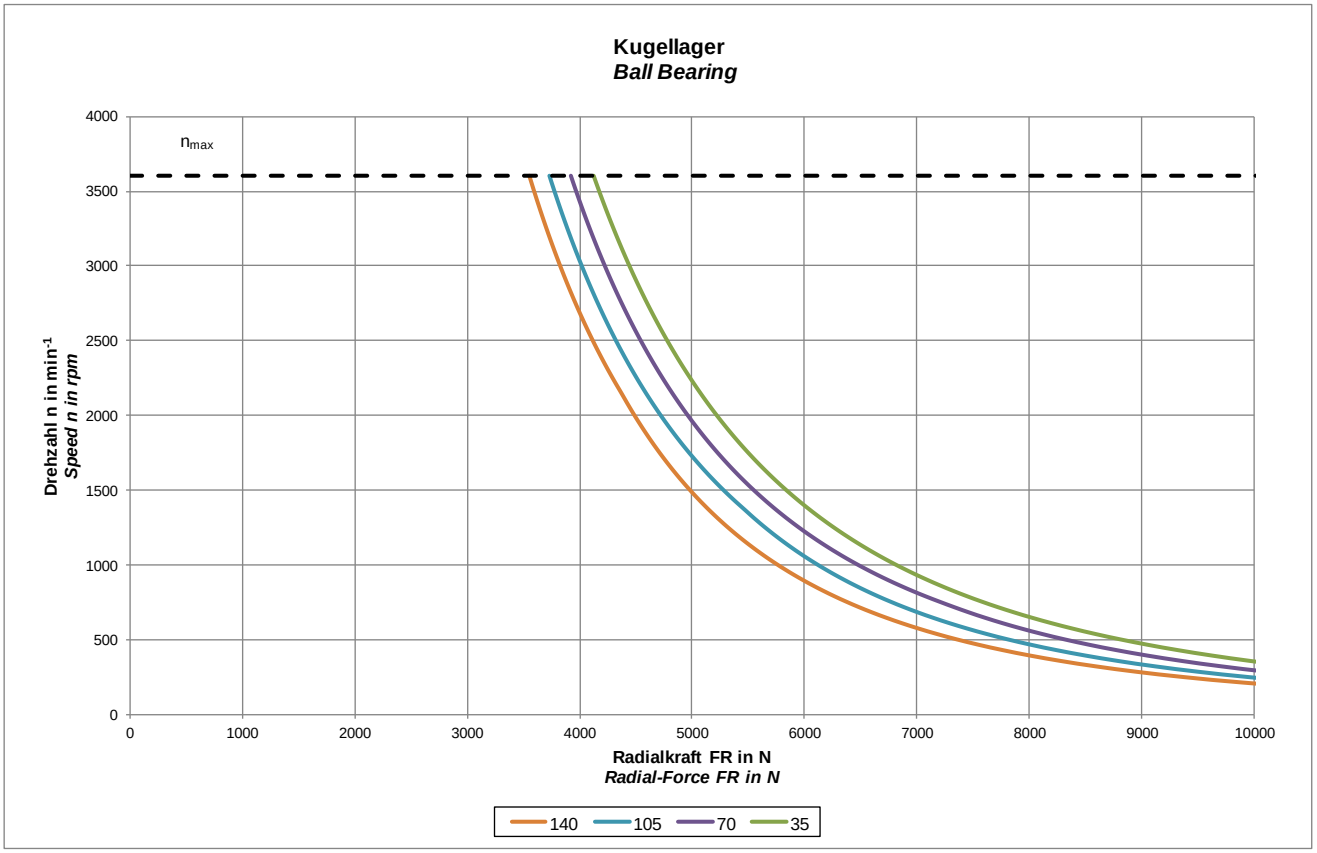


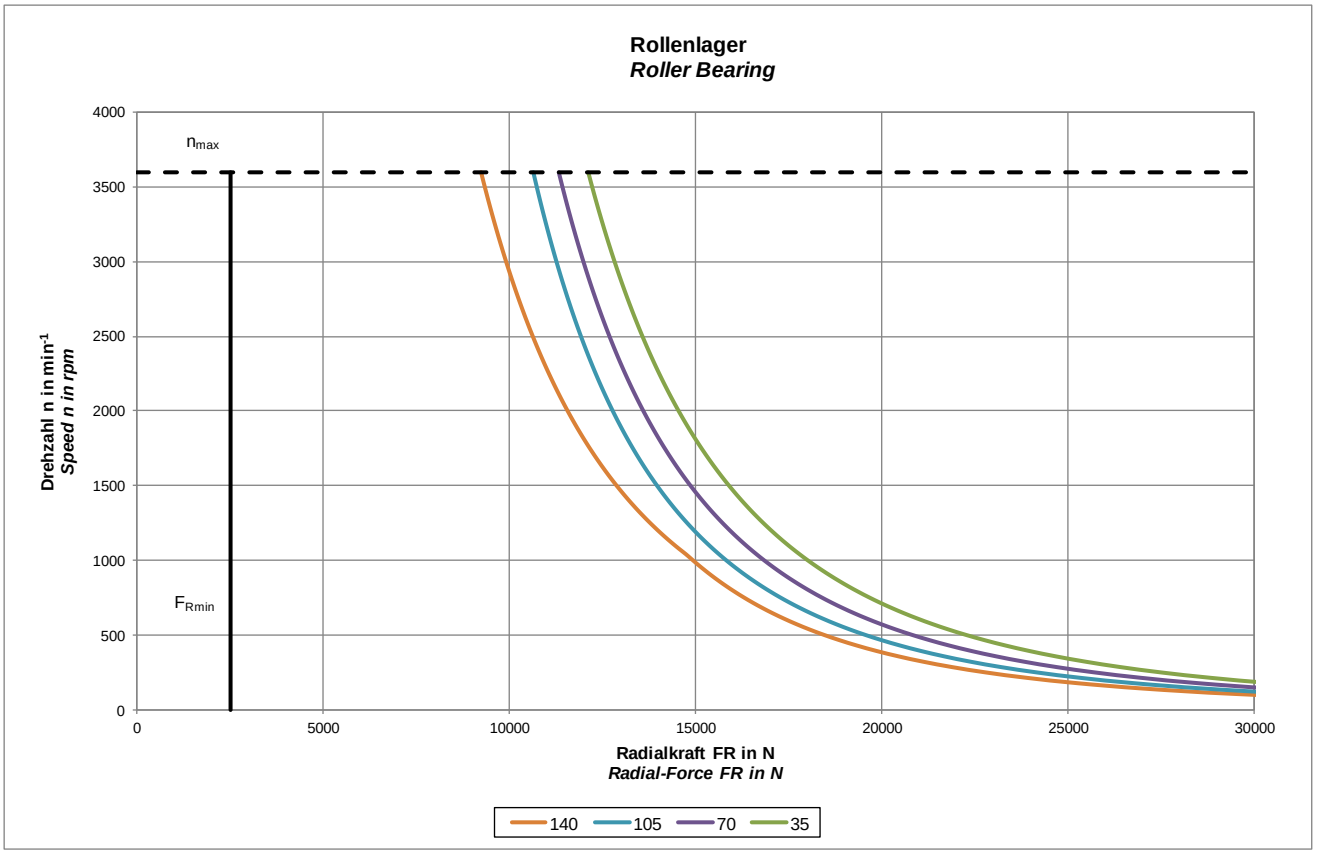


Note: Grease use duration F_{h10} of 20,000 h at $n_{average} \leq 1000\ min^{-1}$

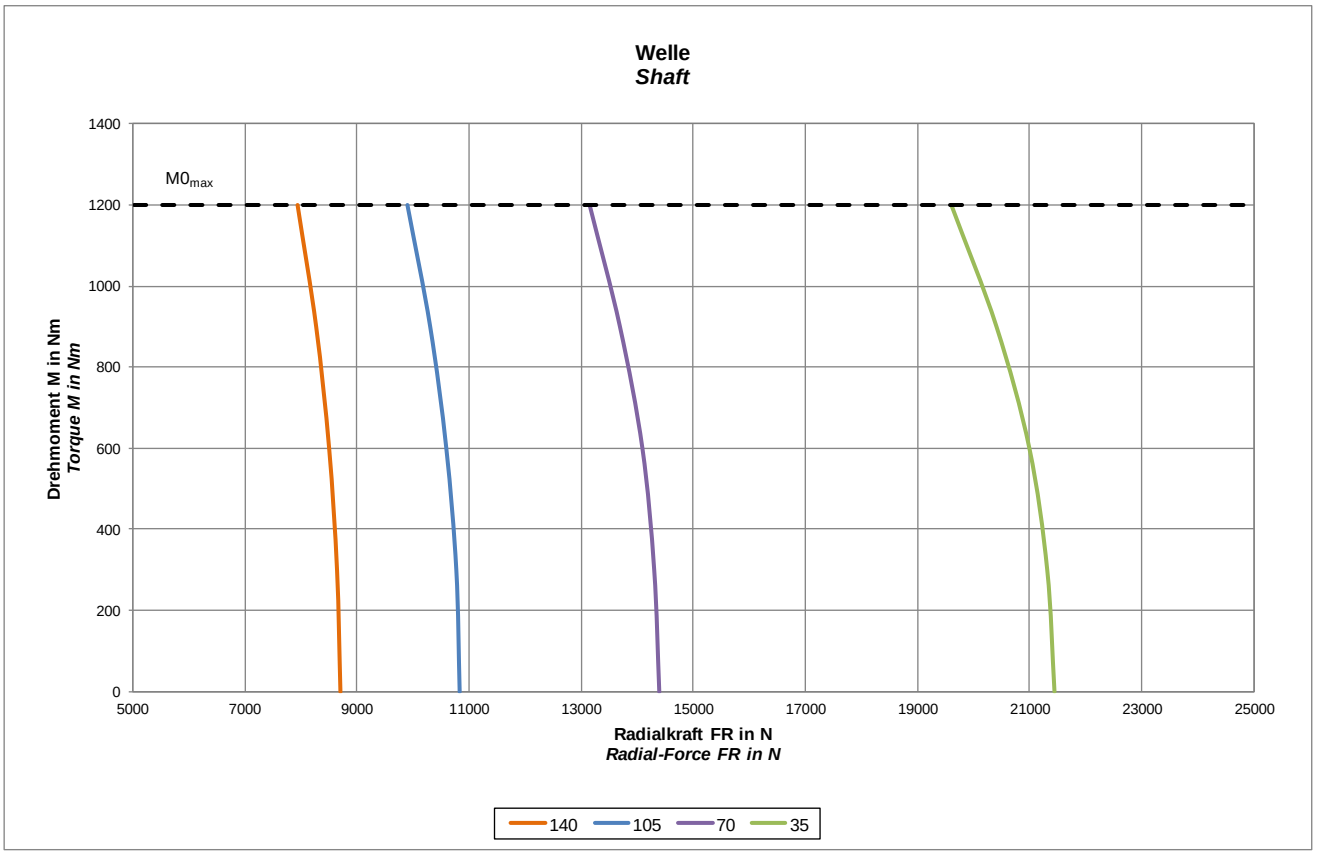


2.7.6. Diagrams DS2-160 / DS3-160..W

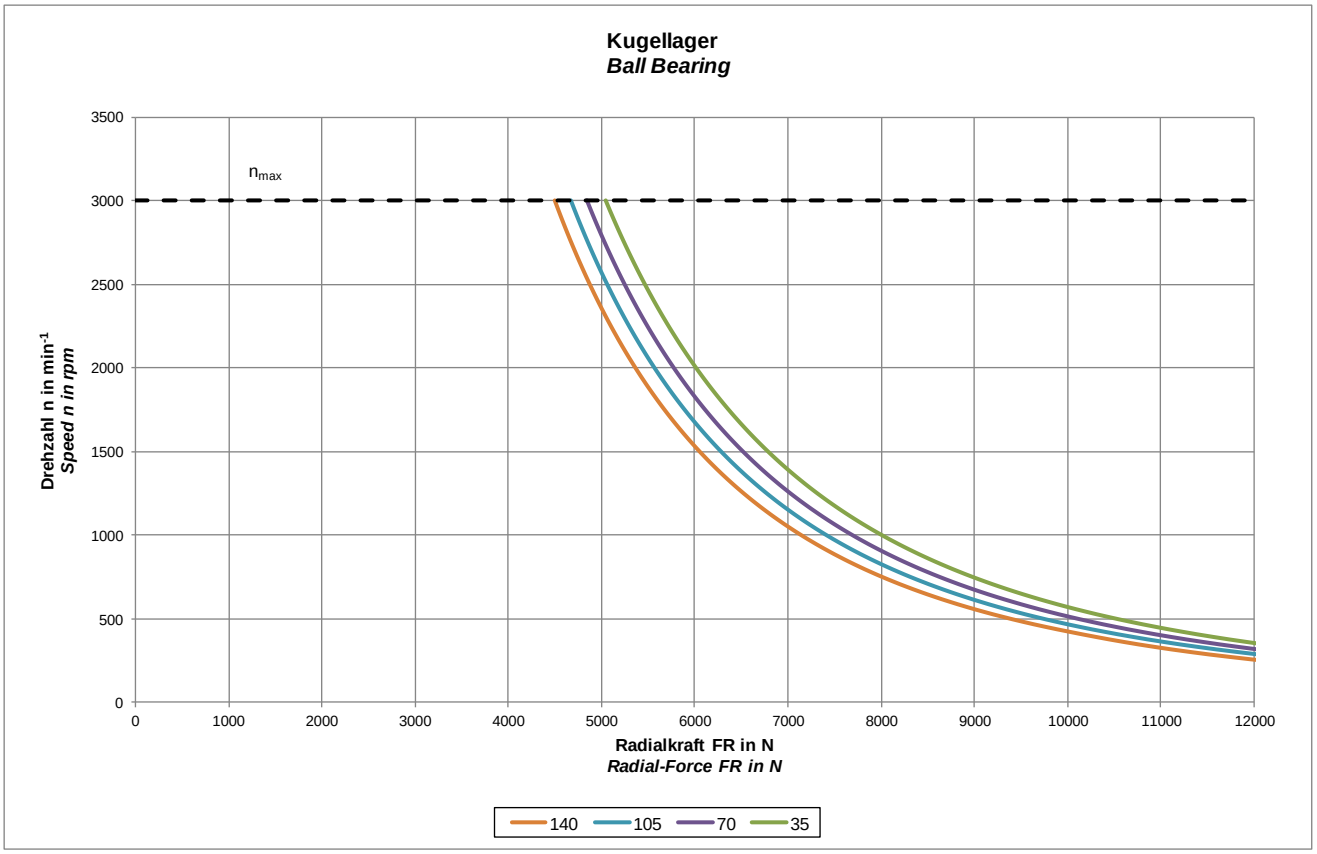


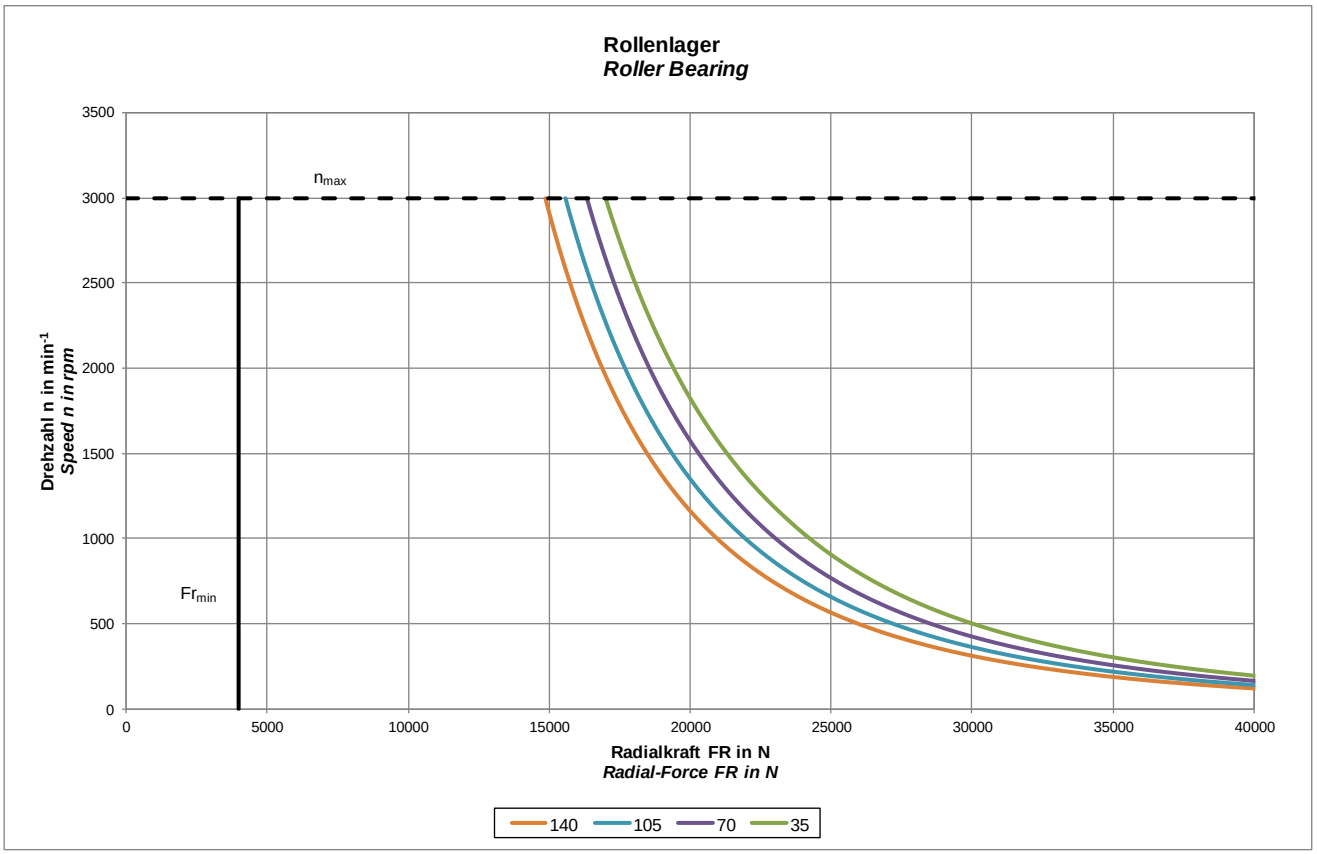


Note: Grease use duration F_{h10} of 20,000 h at $n_{average} \leq 900$ min^{-1}

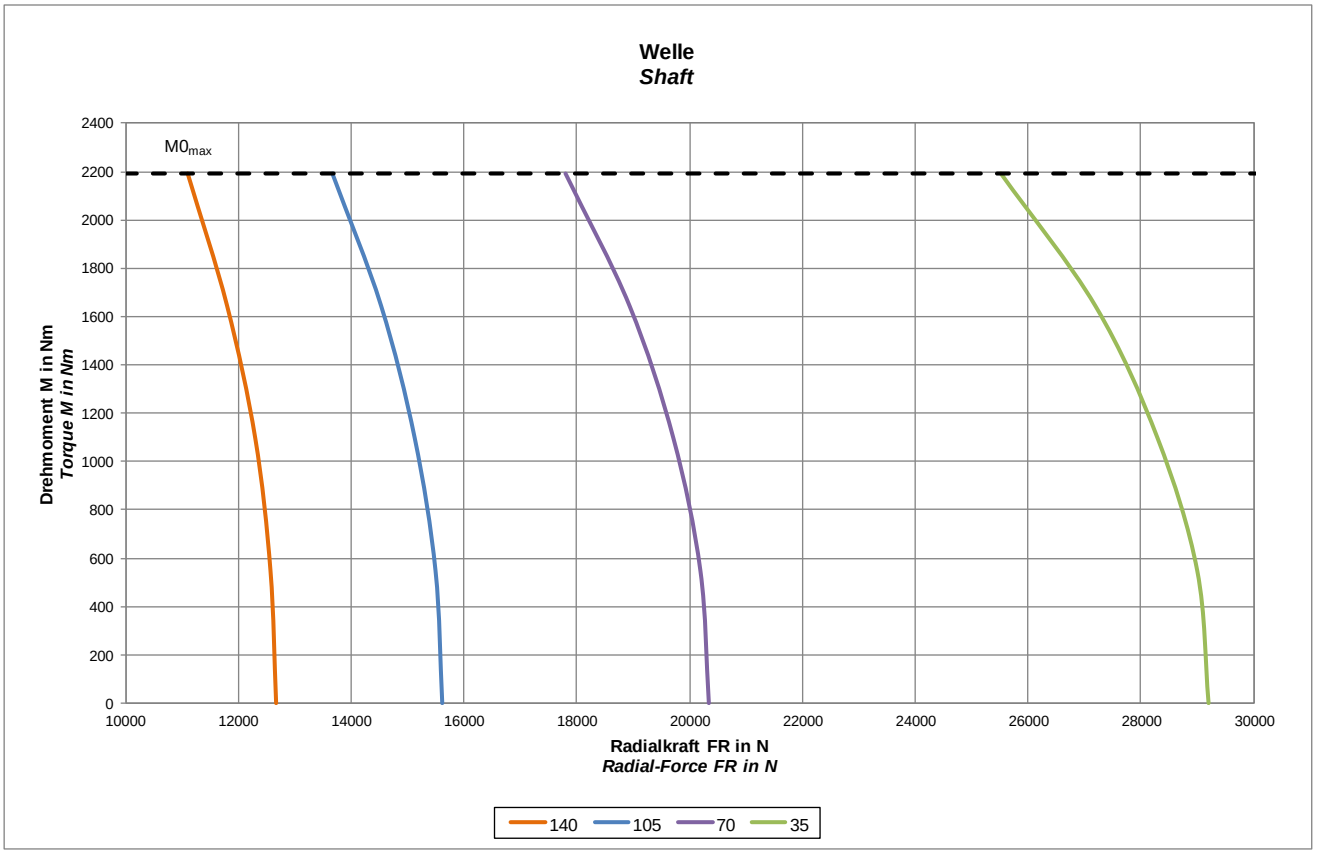


2.7.7. Diagrams DS2-200





Note: Grease use duration F_{h10} of 20,000 h at $n_{average} \leq 800$ min^{-1}



3. Motor components (options)

3.1. Holding brake

For motor type	Brake type	Brake torque M_B for holding brake [Nm]	Input power [W]	Current at 24 V DC [A]	Max. perm. switching energy $W_{perm.}$ per switching operation [kJ]	Dis-engaging time [s]	Engaging time [s]	Inertia [kgm²]	Max. perm. speed [min⁻¹]	Weight [kg]
DS2-100..	SB 50	50	96	3.7	10	0.12	0.16	0.0005	4000	5
DS2-100..	SB 100	100	106	4.0	15	0.18	0.25	0.0015	3500	9.5
DS2-132..	SB 200	200	170	6.5	20	0.225	0.3	0.0040	3000	13
DS2-160..[1)]	SB 360	320	190	7.3	30	0.35	0.3	0.0090	3000	29
DS3-160..W DS2-200..	On request									

1) if radial ventilation requested

For use as a **holding brake** the following must be observed:

- **3 emergency stops** (individual braking operations) per hour are possible if evenly distributed
- Switching times values are valid for switching on the AC side, in a cold state, with basic air gap and holding brake
- Disengaging time – Time until the brake has completely disengaged (brake without torque)
- Engaging time – Time until the brake torque is reached
- All information is valid for installation on a horizontal shaft.
- The supplier must be contacted before vertical installation.
- Requirements other than those indicated can be catered for on request

Brake time / Switching energy
It is necessary to check that the brake is suited for its application. For this, the switching energy must be determined.

Determination of the braking time [t_B]

t_B $\quad t_B = \dfrac{\sum J * \Delta n}{9{,}55 * (M_B \pm M_L)} + t_0$ in s

$\sum J$ Total moment of inertia in kgm² = J_{mot} + J_{add} (referred to motor shaft)
J_{mot} Motor moment of inertia in kgm²
J_{add} Additional moment of inertia in kgm² (referred to motor shaft)
Δn Motor speed in rpm
M_B Brake torque in Nm
M_L Load torque in Nm (positively calculated if it decelerates, negatively calculated if it accelerates)
t_0 Time in s from the switching instant to the full extent of the braking torque (response time)
I Number of cycles per hour

Determining the switching energy [W_R]

$$W_R = \frac{\sum J \cdot \Delta n^2}{182.4} \cdot \frac{M_B}{(M_B \pm M_L)} \quad \text{in} \quad \frac{\text{joules}}{\text{switching operation}}$$

Determining the switching capacity [P_R]

$$P_R = \frac{W_R \cdot i}{1000} \quad \text{in} \quad \frac{kJ}{h}$$

$W_{Rperm} \leq$ value from table

In most cases, t_0 is negligible. If this is not the case and the time t_0 must be reduced, you can achieve this by interrupting the magnet circuit on the DC side.
However, this measure must be known before dimensioning the brake motor.

3.1.1. Brake supply

Standard: Normal voltage 24 DC supply with transformer and rectifier.
Option: Normal voltage 104 and 176 V DC supply using brake supply unit.
The brake supply unit must be order separately.
The brakes are designed with micro-switch (normally open contact). The silver contacts are coated with a layer of gold, which enables two applications. By maximum load of the gold layer, the gold layer can be burned irreversible. In this case, the contact material "gold layer" cannot longer be used.

Electrical data of the switches:

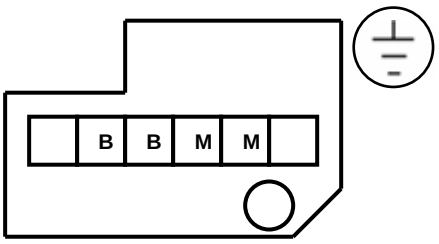
Contact material	Min. load	Idealrange of use		Max. load
Gold coat	0 mA; 0 V up to 3 million cycles	0 mA; 0 V up to 3 million cycles	10 mA; 12 V up to 1 million cycles	0.1 A; 12 V up to 100,000 cycles
Argent	10 mA; 12 V up to 3 million cycles	100 mA; 12 V up to 3 million cycles	5 A; 30 V up to 50,000 cycles	5 A; 30 V up to 50,000 cycles

The brakes can be executed optional with hand ventilation and lock.

3.1.2. Brake connection

DS2 100-160 for radial external ventilation or water cooling

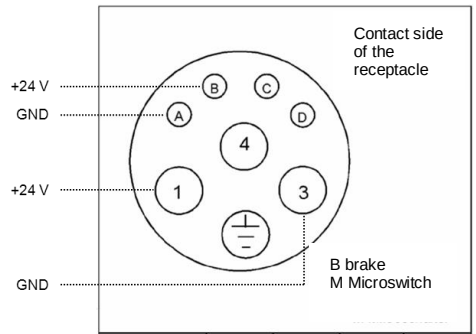
Terminal:



B - Brake
M - Microswitch

DS2 132-160 for axial external ventilation

Connection diagram and pin assignment:



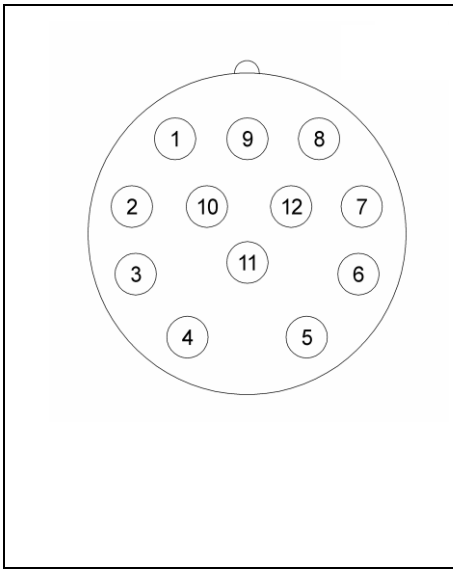
Pin	A	B	C	D
Signal	M	M		
Pin	1	⏚	3	4
Signal	B		B	

3.2. Encoder

3.2.1. Resolver

Pole pair number	1
Transmission ratio	0,5 ± 0,05
Frequency	5 kHz
Nominal input voltage	7 V_{rms}
Effective input power at no-load speed	112 mW
Current consumption at no-load speed	70 mA
Max. output voltage at no-load speed	3,5 V ± 10%
Voltage constant	61 mV/°
Rotor resistance	48 Ω ± 10%
Stator resistance	31 Ω ± 15%
Rotor impedance at no-load speed	70 + j 74Ω ± 15%
Rotor impedance with short circuit	62 + j 66Ω ± 15%
Stator impedance at no-load speed with minimum coupling	108 + j 206Ω ± 15%
Stator impedance with short circuit and maximum coupling	97 + j 183Ω ± 15%
Phase shift	8° ± 3°
Zero voltage	30 mV
Angle error in relation to ($\Delta\varphi_{max}+\Delta\varphi_{min}$)/2	± 6’
Shock according to DIN EN 60068-2-27 (11ms)	≤ 102 g
Vibration according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 51 g

Resolver connection



Pin	Signal
1	cos -
2	-
3	-
4	-
5	sin -
6	sin +
7	-
8	cos +
9	-
10	ref +
11	-
12	ref -

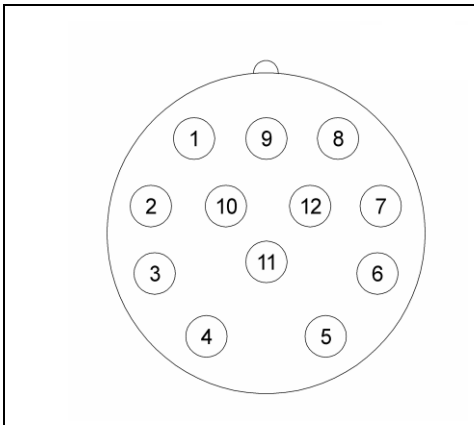
View on the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.
The technical data is specification from the encoder manufacturer, we cannot assume any liability for the correctness of the data.

3.2.2. Resolver for safety-related applications

Pole pair number	1
Transmission ratio	0,5 ± 0,05
Frequency	5 kHz
Safety integrity level	SIL 3 (IEC 61508) in combination with b maXX5000
Performance Level	PL e (EN ISO 13849) in combination with b maXX 5000
Maximum angular acceleration	100.000 rad/s²
Effective input power at no-load speed	112 mW
Nominal input voltage	7 V_{rms}
Current consumption at no-load speed	70 mA
Max. output voltage at no-load speed	3,5 V ± 10%
Voltage constant	61 mV/°
Rotor resistance	48 Ω ± 10%
Stator resistance	31 Ω ± 15%
Rotor impedance at no-load speed	70 + j 74Ω ± 15%
Rotor impedance with short circuit	62 + j 66Ω ± 15%
Stator impedance at no-load speed with min. coupling	108 + j 206Ω ± 15%
Stator impedance with short circuit and max. coupling	97 + j 183Ω ± 15%
Phase shift	8° ± 3°
Zero voltage	30 mV
Angle error related to $(\Delta\varphi_{max}+\Delta\varphi_{min})/2$	± 6’
Shock according to DIN EN 60068-2-27 (11 ms)	≤ 102 g
Vibration according to DIN EN 60068-2-6	≤ 51 g (55-2000 Hz)

Resolver connection



Pin	Signal	Option for allocation PT1000 (R1/R2) or KTY (K+/K-) at encoder socket
1	cos -	cos -
2	-	-
3	-	-
4	-	-
5	sin -	sin -
6	sin +	sin +
7	-	K - or R2
8	cos +	cos +
9	-	K + or R1
10	ref +	ref +
11	-	-
12	ref -	ref -

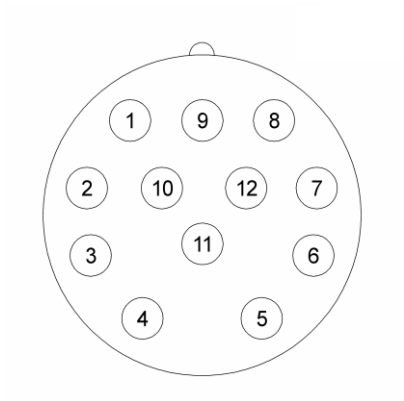
View of the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.
The technical data is specification from the encoder manufacturer. The configuration options for the safety encoders with different engine versions can be found in the product configurator. The axial ventilation, roller bearing and brake attachment are available by request in combination with safety-related resolver.

3.2.3. SINCOS SEK/SEL37 (SICK)

Motor size	DS2-100-132	
	SEK37	SEL37
Number of sine-, cosine periods per revolution	16	
Measuring step at interpolation of the sine-, cosine periods such as with 12 bits	20“	
Number of absolutely completed revolutions	1	4.096
Code type for the absolute value	binary	
Error limits at the evaluation of the sine-, cosine periods; integral non-linearity	+/- 288“	
Non-linearity within a sine-, cosine period, differential non-linearity at nominal position +/- 0.1mm	+/- 144“	
Operating speed up to which the absolute position can be made	6.000 1/min	
Maximum operating speed	12.000 1/min	
Output signal	serial RS 485, asynchronous, half duplex	
Operating voltage range	7-12 V	
max. operating current without load	50 mA	
Shock according to DIN EN 60068-2-27 (10 ms)	980 m/s²	
Vibration according to DIN EN 60068-2-6 (10-2000 Hz)	490 m/s²	

SEK/SEL37 Connection

	Pin	Signal	Assignment option PT1000 (R1/R2) at encoder socket
	1 2 3 4 5 6 7 8 9 10 11 12	cos - + 485 - - sin + sin - - 485 cos + - GND - + U	cos - + 485 R1 R2 sin + sin - - 485 cos + - GND - + U

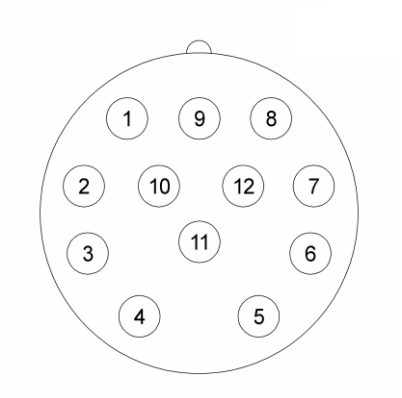
View on the contact side of the socket

NOTE:
This encoder is a component susceptible to ESD.
The technical data is specification from the encoder manufacturer.

3.2.4. SINCOS SRS/SRM 50 (SICK)

	SRS50	SRM50
Number of sine, cosine periods per revolution	1024	
Number of increments per revolution	32768	
Number of absolute resolved revolutions	1	4096
Code type for the absolute value	binär	
Output frequency of the sine and cosine signals	0-200 kHz	
Error limits for evaluating the sine, cosine periods, integral non-linearity	+/- 45''	
Non-linearity within a sine, cosine, differential non-linearity at nominal position	+/- 7''	
Operating speed until the absolute position can be formed	6000 rpm	
Max. operating speed	12000 rpm	
Output signals; 2 x 90° offset sinusoidal signals	1 V_{ss}	
Output signal	serial RS 485 asynchronous, half duplex	
Operating voltage range	7-12 V	
max. no-load operating current	80 mA	
Shock according to DIN EN 60068-2-27 (10 ms)	100 g	
Vibration according to EN 60068-2-6 (10-2000 Hz)	20 g	

SRS/SRM50 Connection



Pin	Signal
1	cos -
2	+ 485
3	-
4	-
5	sin +
6	sin -
7	- 485
8	cos +
9	-
10	GND
11	-
12	+ U

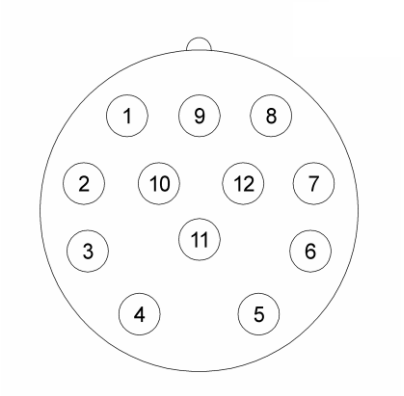
View on the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.
The technical data is specification from the encoder manufacturer, we cannot assume any liability for the correctness of the data.

3.2.5. SINCOS SRS/SRM 50-S (SICK)

	SRS50-S	SRM50-S
Safety integrity level	SIL2 (IEC 61508), SILCL2 (IEC 62061)	
Category	3 (EN ISO 13849)	
Performance Level	PL d (EN ISO 13849)	
Maximum angular acceleration	200.000 rad/s^2	
Number of sine, cosine periods per revolution	1.024	
Number of steps per revolution	32.768	
Number of absolute revolutions	1	4.096
Code type for the absolute value	binär	
Output frequency of the sine, cosine signals	0-200 kHz	
Fault limits in evaluation of the sine, cosine signals. Integral non-linearity in the relaxed state	+/- 45“	
Non-linearity within a sine or cosine period. Differential non-linearity	+/- 7“	
Working speed up to which the absolute position can be formed	6.000 1/min	
Maximum operating speed	12.000 1/min	
Output signals; 2x90° offset sinusoidal signals	1 V_{ss}	
Output signal	serial RS 485, asynchron, halbduplex	
Operating voltage range	7-12 V	
Operating current without load	80 mA	
Shock according to DIN EN 60068-2-27	100 g (10 ms)	
Vibration according to DIN EN 60068-2-6 (10-2000 Hz)	20 g	

SRS/SRM50 Connection



Pin	Signal
1	cos -
2	+ 485
3	-
4	-
5	sin +
6	sin -
7	- 485
8	cos +
9	-
10	GND
11	-
12	+ U

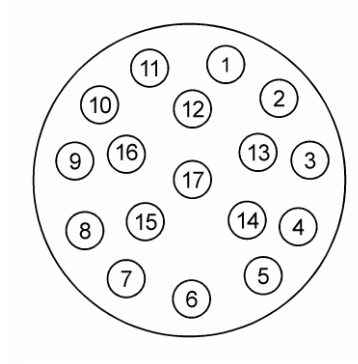
View on the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.
The technical data is specification from the encoder manufacturer. The configuration options for the safety encoders with different engine versions can be found in the product configurator. The axial ventilation, roller bearing and brake attachment are available by request in combination with safety-related resolver.

3.2.6. ECN 1313/EQN 1325 (Heidenhain)

	ECN 1313	EQN 1325
Number of sine and cosine periods per revolution	2048	
System accuracy	± 20”	
Number of absolute completed revolutions	1	4096 (12 bit)
Code type for the absolute value	EnDat 2.1	
Sampling limit frequency or limit frequency	0-200 kHz	
Position values/revolution	8192 (13 bit)	
Maximum speed at which the absolute position can be defined	12000 rpm	
Maximum operating speed	12000 rpm	
Power supply	3.6-14 V	
Current consumption without load	≤ 160 mA	≤ 200 mA
Shock 6ms according to DIN EN 60068-2-27 (6ms)	≤ 203 g	
Vibration according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 30 g up to +100 °C ≤ 15 g^2 up to +115 °C	

ECN1313/EQN1325Connection



Pin	Signal
1	U_p
2	-
3	-
4	0V
5	-
6	-
7	U_p
8	Clock
9	Clock inv.
10	0V
11	-
12	B +
13	B -
14	Data
15	A +
16	A -
17	Data inv.

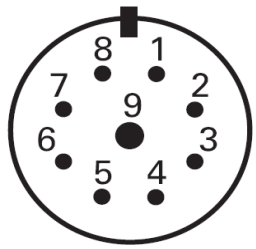
View on the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.
The technical data is specification from the encoder manufacturer, we cannot assume any liability for the correctness of the data.

3.2.7. ECI1319/EQI1331 (Heidenhain)

	ECI 1319	EQI 1331
Number of lines	-	
System accuracy	± 65“	
Number of absolute completed revolutions	1	4096 (12 bit)
Code type for the absolute value	EnDat 2.2	
Position values/revolution	524 288 (19 bit)	
Maximum speed at which the absolute position can be defined	15000 rpm	
Maximum operating speed	15000 rpm	12000rpm
Power supply	3,6…14 V	
Current consumption without load	95 mA	115 mA
Shock 6ms according to DIN EN 60068-2-27 (6ms)	≤ 203 g	
Vibration 55-2000Hz according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 40 g	

ECI1319/EQI1331 connection



Pin	Signal
1	Clock
2	Clock inv.
3	U_p
4	0V
5	Data
6	Data inv.
7	Sensor U_p
8	Sensor 0V
9	-

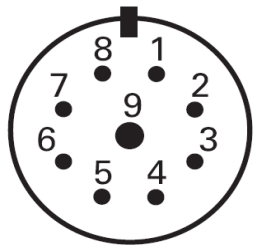
View on the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.
The technical data is specification from the encoder manufacturer, we cannot assume any liability for the correctness of the data.

3.2.8. ECI1319/EQI1331-S (Heidenhain)

	ECI 1319-S	EQI 1331-S
Number of lines	-	
System accuracy	± 65“	
Number of absolute completed revolutions	1	4096 (12 bit)
Code type for the absolute value	EnDat 2.2	
Position values/revolution	524 288 (19 bit)	
Maximum speed at which the absolute position can be defined	15000 rpm	
Maximum operating speed	15000 rpm	12000rpm
Power supply	3.6…14 V	
Current consumption without load	95 mA	115 mA
Shock according to DIN EN 60068-2-27 (6ms)	≤ 203 g	
Vibration 55-2000Hz according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 40 g	

ECI1319/EQI1331-S connection



Pin	Signal
1	Clock
2	Clock inv.
3	U_p
4	0V
5	Data
6	Data inv.
7	Sensor U_p
8	Sensor 0V
9	-

View on the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.

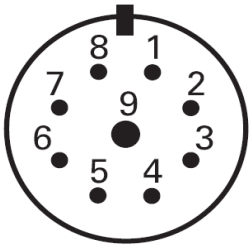
The technical data is specification from the encoder manufacturer, we cannot assume any liability for the correctness of the data.

The configuration options for the safety encoders with different engine versions can be found in the product configurator. The axial ventilation, roller bearing, and brake attachment are available by request in combination with safety-related resolver.

3.2.9. ECN 1325/EQN 1337 (Heidenhain)

	ECN 1325	EQN 1337
Number of lines	2048	
System accuracy	± 20”	
Number of absolute completed revolutions	1	4096 (12 bit)
Code type for the absolute value	EnDat 2.2	
Position values/revolution	33554432 (25 bit)	
Maximum speed at which the absolute position can be defined	12000 rpm	
Maximum operating speed	12000 rpm	
Power supply	3.6-14	
Current consumption without load	≤ 160 mA	≤ 200 mA
Shock 6ms according to DIN EN 60068-2-27 (6ms)	≤ 203 g	
Vibration according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 30 g up to +100 °C ≤ 15 g up to +115 °C	

ECN1325/EQN1337 Connection



Pin	Signal
1	Clock
2	Clock inv.
3	U_p
4	0V
5	Data
6	Data inv.
7	Sensor U_p
8	Sensor 0V
9	-

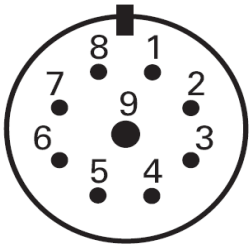
View on the contact side of the receptacle

NOTE:
Use only at low demands on the true running characteristics of the motor.
The technical data is specification from the encoder manufacturer, we cannot assume any liability for the correctness of the data.

3.2.10. ECN 1325/EQN 1337-S (Heidenhain)

	ECN1325-S	EQN1337-S
Safety integrity level	SIL 2 nach EN 61508	
Category	3 (EN ISO 13849)	
Performance Level	PL d (EN ISO 13849)	
Maximum angular acceleration	50.000 rad/s^2	
System accuracy	± 20“	
Number of absolute completed revolutions	1	4.096 (12bit)
Code type for the absolute value	EnDat 2.2	
Position values/revolution	33.554.432 (25 bit)	
Maximum speed at which the absolute position can be defined	12.000 1/min	
Maximum operating speed	12.000 1/min	
Power supply	3,6…14 V	
Current consumption without load	≤ 160mA	≤ 200mA
Shock 6ms according to DIN EN 60068-2-27 (6ms)	≤ 203 g	
Vibration according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 30 g up to +100 °C ≤ 15 g up to+115 °C	

ECN1325/EQN1337-S Connection



Pin	Signal
1	Clock
2	Clock inv.
3	U_p
4	0V
5	Data
6	Data inv.
7	Sensor U_p
8	Sensor 0V
9	-

View on the contact side of the receptacle

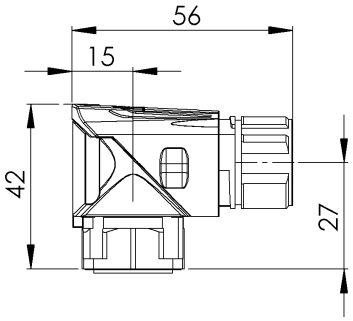
NOTE:
Use only at low demands on the true running characteristics of the motor.

The technical data is specification from the encoder manufacturer, we cannot assume any liability for the correctness of the data.

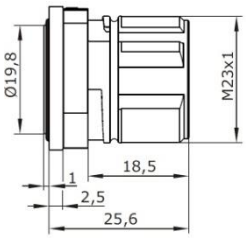
The configuration options for the safety encoders with different engine versions can be found in the product configurator. The axial ventilation, roller bearing and brake attachment are available by request in combination with safety-related resolver.

3.2.11. Dimensional drawing - socket for encoder and -plug

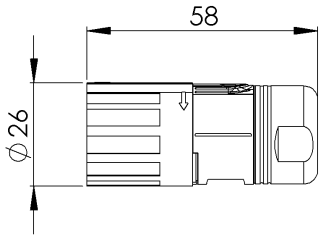
Speedtec - Rotary receptacle angled



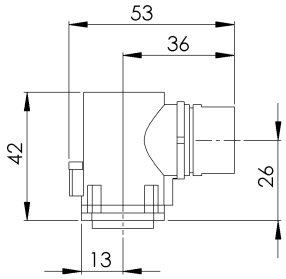
Speedtec - Straight socket



Speedtec - Mating plug



Rotary receptacle angled for ECN1325/EQN1337 encoder
(mating plug cannot be supplied separately)



3.3. Encoder cables for b maXX 4000

General Information

A prefabricated encoder cable is used for all encoder systems. The connection at the motor end consists of a 12-pole circular signal connector on resolvers and Hyperface®-encoders, a 17-pole circular signal connector on ECN1313/EQN1325 and a 9-pole circular signal connector on ECN1325/EQN1337. The connection at the controller side consists of a 15-pole Sub-D connector. Alternatively, the signal connector on the motor side is available for Speed-Tec versions with trailing cables.

The dragable cable is suitable for mobile applications such as drag chains, for example. Unlike non-dragable cables made from PVC, the cable sheath is made from durable PU (suitable for environments where acids and bases are present).

3.3.1. Technical data

Technical description - non-dragable for resolver/ SinCos Hiperface®-interface / SinCos- and TTL - incremental encoder

- LiYCY, 5x (2x0.14mm²) + 2 x 0.5mm² copper strand, twisted pairs
- PVC sheath, grey; inscription with Baumüller logo, black
- 1st side: 12-pole circular signal plug connector with 12 socket contacts
- 2nd side: 15-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 9.0 mm (+/- 0.3mm)
- Bending radius: $r \geq 60$ mm (fixed routing), $r \geq 135$ mm (flexible use)
- Nominal voltage: $250V_{AC}$

Technical description - dragable for resolver/ SinCos Hiperface®-interface / SinCos - and TTL - incremental encoder

- Li12YC11Y, 5x (2x0.14mm²) + 2 x 0.5mm² copper strand, twisted pairs
- PU sheath, black; inscription with Baumüller logo, white
- 1st side: 12-pole circular signal plug connector with 12 socket contacts
- 2nd side: 15-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 9.0 mm (+/- 0.3mm)
- Bending radius: $r \geq 70$ mm (fixed routing), $r \geq 100$ mm (flexible use)
- Nominal voltage: $300V_{AC}$

Technical description - non-dragable for EnDat® 2.1-interface

- LiYCY, 5x (2x0.14mm²) + 2 x 0.5mm² copper strand, twisted pairs
- PVC sheath, grey; inscription with Baumüller logo, black
- 1st side: 17-pole circular signal plug connector with 17 socket contacts
- 2nd side: 15-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 9.0 mm (+/- 0.3mm)
- Bending radius: $r \geq 60$ mm (fixed routing), $r \geq 135$ mm (flexible use)
- Nominal voltage: $250V_{AC}$

Technical description - dragable for EnDat® 2.1-interface

- Li12YC11Y, 5x (2x0.14mm²) + 2 x 0.5mm² copper strand, twisted pairs
- PU sheath, black; inscription with Baumüller logo, white
- 1st side: 17-pole circular signal plug connector with 17 socket contacts
- 2nd side: 15-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 9.0 mm (+/- 0.3mm)
- Bending radius: r ≥ 70 mm (fixed routing), r ≥ 100 mm (flexible use)
- Nominal voltage: $300V_{AC}$

Technical description - dragable for EnDat® 2.2-interface

- PUR sheath, 1x(4x0.14mm²) + (4x0.34mm²)
- 1 twisted foursome 0.14mm², 4 wires 0.34mm², copper, tin-plated
- Total shield CuSn, inscription Heidenhain
- 1st side: 9-pole circular signal plug connector with 8 socket contacts
- 2nd side: 15-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 6.0 mm
- Bending radius: r ≥ 20 mm (fixed routing), r ≥ 75 mm (flexible use)
- Dielectric strength wire/wire and wire/shield: 0.5kV at 50Hz, 1 minute

3.3.2. Application references

- **Operating temperature of encoder cable resolver/ SinCos Hiperface®-interface / SinCos - and TTL - incremental encoder / EnDat® 2.1**

	Dragable	Not dragable
Limit temperature	on the surface	on the surface
Static use/minimal movement	- 40 °C to + 80 °C	- 30 °C to + 80 °C
Permanent movement	- 30 °C to + 80 °C	- 5 °C to + 70 °C

- **Operating temperature of encoder cable EnDat® 2.2**

	Dragable
Limit temperature	on the surface
Static use/minimal movement	- 40 °C to + 80 °C
Permanent movement	- 10 °C to + 80 °C

- **Routing of cable on motor**

The cables must not touch the surface of the motor.

3.3.3. Order information for encoder cables

Encoder cables for resolver/ SinCos Hiperface®-interface / SinCos - and TTL - incremental encoder - prefabricated cables with connector

Not dragable, prefabricated
Cable 5 x (2x0.14mm2) + 2 x 0.5 mm2 with plug connector

Length [m]	Part number
1	243601
2	211338
3	219333
4	231166
5	209879
6	220197
7	216455
8	220429
10	210052
15	215716
20	218568
25	218569
30	217094
35	216444
40	217095
45	217567
50	217568
55	217569
60	217570
70	232088

Dragable, prefabricated
Cable 5 x (2x0.14mm2) + 2 x 0.5 mm2 with plug connector

Length [m]	Part number	Part number (Speedtec)
3	246658	448944
4	243379	448945
5	239540	448948
6	242954	448946
8	239541	448949
10	239542	448956
15	239543	448962
20	239544	448967
25	239545	448970
30	239546	448971
35	239547	448973
40	240520	448976
45	240521	448978
50	240522	448980
55	244033	448981
60	245484	448982

Encoder cables for EnDat® 2.1- prefabricated cables with plug connector

Not dragable, prefabricated
Cable 5 x (2x0.14mm2) + 2 x 0.5 mm2 with plug connector

Length [m]	Part number
2	383152
3	383923
5	393885
7	389445
8	380138
9	389446
10	393886
15	388505
20	388418
25	393887
30	393888
35	387958
40	382006
50	388419
70	384473
90	387391

Dragable, prefabricated
Cable 5 x (2x0.14mm^2) + 2 x 0.5 mm^2 with plug connector

Length [m]	Part number	Part number (Speedtec)
2	393889	448816
3	369864	448817
5	394014	448818
7	389807	448819
8	393890	448820
9	389808	448821
10	393891	448822
15	393892	448823
17	371494	448824
20	393893	448825
25	393894	448826
30	380358	448827
35	391216	448828
40	382005	448830
50	378022	448832

Encoder cables for EnDat® 2.2 - prefabricated cables with plug connector

Dragable, prefabricated
cable 1x4x0.14 + 4x0.34 PUR Ø 6mm with plug connector

Length [m]	Part number	Part number (Speedtec)
2	434056	459031
3	434057	459032
5	434058	459033
10	434059	459035
15	434060	459036
20	434061	459037
25	434062	459038
50	434063	459042

3.4. Encoder cables for b maXX 5000

A prefabricated encoder cable is used for all encoder systems. The connection at the motor end consists of a 12-pole circular signal connector on resolvers and Hyperface® encoder, a 17-pole circular signal connector on ECN1313/EQN1325. The connection at the controller side consists of a 26-pole Sub-D connector. Alternatively, the signal connector on the motor side is available in a Speed-Tec version.

3.4.1. Technical data

Technical description - dragable for resolver

- Li9YC, 1 x (2 x 0,25) + Li9Y, 2 x (2x0,25) + Li9YC11Y, 1 x (2 x 0,34), copper strand, twisted pairs
- PUR sheat, green; inscription with Baumüller Nürnberg and encoder cable Resolver
- 1st side: 12-pole circular signal plug connector with 12 socket contacts
- 2nd side: 26-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 7.3 mm (+/- 0.3mm)
- Bending radius: $r \geq 4 \times D$ (fixed routing), $r \geq 10 \times D$ (flexible use)

Technical description - dragable for SinCos Hiperface®-interface und SinCos - and TTL - incremental encoder

- Li9YC, 3 x (2 x 0,25) , + Li9Y, 3 x (2 x 0,25) + Li9YC11Y, 1 x (2x0,34), copper strand, twisted pairs
- PUR sheat, green; inscription with Baumüller Nürnberg and encoder cable Hyperface or Incremental
- 1st side: 12-pole circular signal plug connector with 12 socket contacts
- 2nd side: 26-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 9.6 mm (+/- 0.3mm)
- Bending radius: $r \geq 4 \times D$ (fixed routing), $r \geq 10 \times D$ (flexible use)

Technical description – dragable for EnDat® 2.1-interface

- Li9YC, 3 x (2 x 0,25) , + Li9Y, 3 x (2 x 0,25) + Li9YC11Y, 1 x (2x0,34), copper strand, twisted pairs
- PUR sheat, green; inscription with Baumüller Nürnberg and encoder cable Endat 2.1
- 1st side: 17-pole circular signal plug connector with 17 socket contacts
- 2nd side: 26-pole Sub-D plug connector with pin contacts and locking screws 4-40UNC
- Outer diameter 9.6 mm (+/- 0.3mm)
- Bending radius: $r \geq 4 \times D$ (fixed routing), $r \geq 10 \times D$ (flexible use)

3.4.2. Application references

Operating temperature of encoder cable resolver/ SinCos Hiperface®-interface / SinCos - and TTL - incremental encoder / EnDat® 2.1

Limit temperature	on the surface
Static use/minimal movement	- 40 °C to + 80 °C
Permanent movement	- 20 °C to + 60 °C

Routing of cable on motor

The cables must not touch the surface of the motor.

3.4.3. Order information for encoder cables

Encoder cable - prefabricated with plug

For Resolver

Length [m]	Part number	Part number. (Speedtec)
1	429914	448746
2	429915	448747
3	429916	448748
5	429917	448749
7	429918	448750
10	429919	448751
15	429920	448752
20	429921	448753
25	429922	448754
30	429923	448755
35	429924	448756
40	429925	448757
50	429926	448758
75	429927	448759

For SinCos Hiperface® - interface

Length [m]	Part number	Part number (Speedtec)
1	429958	448761
2	429959	448762
3	429960	448763
5	429961	448764
7	429962	448765
10	429963	448766
15	429964	448767
20	429965	448768
25	429966	448769
30	429967	448770
35	429968	448772
40	429969	448773
50	429970	448774
75	429971	448775

For SinCos - and TTL - incremental encoder

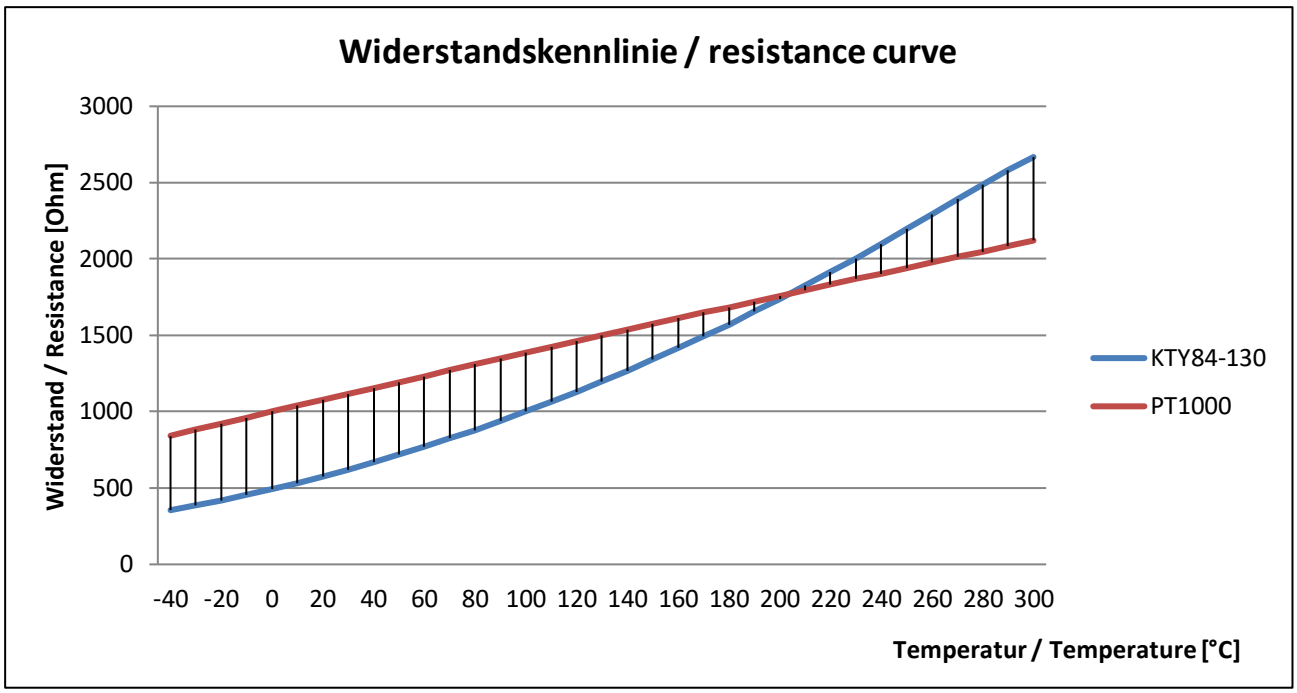
Length [m]	Part number	Part number. (Speedtec)
1	430015	448777
2	430016	448778
3	430017	448779
5	430018	448780
7	430019	448781
10	430020	448782
15	430021	448783
20	430022	448784
25	430023	448785
30	430024	448786
35	430025	448787
40	430026	448788
50	430027	448789
75	430028	448790

For SinCos EnDat® 2.1 - interface

Length [m]	Part number	Part number (Speedtec)
1	429986	448796
2	429987	448797
3	429988	448798
5	429989	448799
7	429990	448800
10	429991	448801
15	429992	448802
20	429993	448803
25	429994	448804
30	429995	448805
35	429996	448806
40	429997	448807
50	429998	448808
75	429999	448809

3.5. Thermal sensor

As standard, the motors are equipped with a thermal sensor in the stator winding, the data of which is evaluated in the motor controller. Additional PTCs or thermal sensors can be fitted on request. They are connected through the terminal box.



The temperature sensor PT1000 continuously monitors the motor temperature. If the sensor is supplied with a measured current of 2 mA the above shown resistance curve results.

3.6. Fan data

The motors are available with the following types of fan:

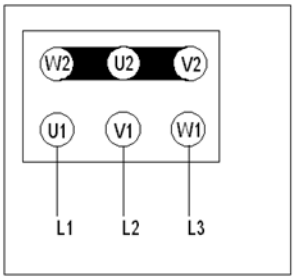
- Standard blower motor for radial ventilation (size 100-200)
- Standard blower motor for axial ventilation (size 132-200), only in IP 54 for size 132
- Axially integrated blower (size 160)

3.6.1. Standard fan motors

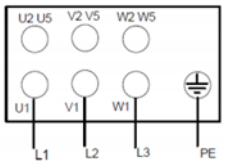
Blower connection for standard fan motors via terminal box

Connection diagram

FCA 56A-2
FCA 80B-2



FCA 63B-2
FCA 71B-2



U V W power connection

Standard fan motors for radial ventilation

Δ/Y 200-265V / 345-460V 50 // 60Hz

Size	Power [kW]	Nominal current [A]	Blower/ Fan motor	Nominal input power [kW]	Flow rate [m³/min]	Stat. pressure [Pa]	Speed [1/min]	Spec. ratio
100	0.08 // 0.12	0.4 / 0.23 // 0.61 / 0.35	FCA 56A-2	0.12	4.8	438	2880	1

200-400 V // 230-460V 50 // 60Hz – IE3

Size	Power [kW]	Nominal current [A]	Blower/ Fan motor	Nominal input power [kW]	Flow rate [m³/min]	Stat. pressure [Pa]	Speed [1/min]	Spec. ratio
132	0.25 // 0.25	1.3 / 1.,65 // 1.1 / 0.55	FCA 63B-2	0.28	6.4	824	2825	1
160	0.55 // 0.55	2.7 / 1.35 // 2.4 / 1.2	FCA 71B-2	0.61	14.6	970	2825	1

Δ/Y 265-345V / 460-600V 50 // 60Hz

Size	Power [kW]	Nominal current [A]	Blower/ Fan motor	Nominal input power [kW]	Flow rate [m³/min]	Stat. pressure [Pa]	Speed [1/min]	Spec. ratio
100	0.08 // 0.12	0.3 / 0.18 // 0.46 / 0.26	FCA56A-2	0.12	4.8	438	2880	1

Δ/Y 230/400V // 280/480V 50 // 60Hz

Size	Power [kW]	Nominal current [A]	Blower/ Fan motor	Nominal input power [kW]	Flow rate [m³/min]	Stat. pressure [Pa]	Speed [1/min]	Spec. ratio
200	1.1 // 1.32	4.02 / 2.31 // 4.12 / 2.38	FCA 80B-2	0.54	14.5	1048	2962	1

The nominal currents are maximum values.

Standard fan motor for axial ventilation

Δ/Y 200-265V / 345-460V 50 // 60Hz

Size	Power [kW]	Nominal current [A]	Fan motor	Nominal input power [kW]	Flow rate [m³/min]	Stat. pressure [Pa]	Speed [1/min]	Spec. ratio
132	0.08 // 0.12	0.4 / 0.23 // 0.61 / 0.35	FCA 56A-2	0.16	5.15	514	2800	1

200-400 V // 230-460V 50 // 60Hz – IE3

Size	Power [kW]	Nominal current [A]	Fan motor	Nominal input power [kW]	Flow rate [m³/min]	Stat. pressure [Pa]	Speed [1/min]	Spec. ratio
160	0.25 // 0.25	1.3 / 1.,65 // 1.1 / 0.55	FCA 63B-2	0.28	6.4	824	2825	1
200	0.55 // 0.55	2.7 / 1.35 // 2.4 / 1.2	FCA 71B-2	0.61	14.6	970	2825	1

Δ/Y 265-345V / 460-600V 50 // 60Hz

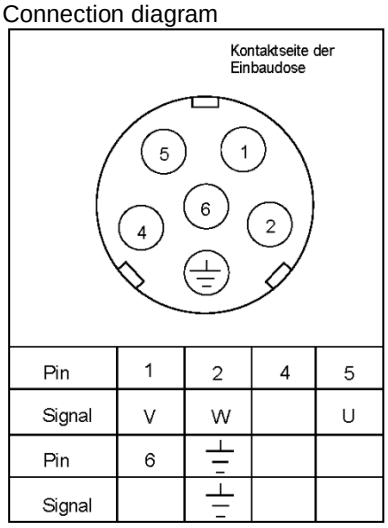
Size	Power [kW]	Nominal current [A]	Fan motor	Nominal input power [kW]	Flow rate [m³/min]	Stat. pressure [Pa]	Speed [1/min]	Spec. ratio
132	0.08 // 0.12	0.3 / 0.18 // 0.46 / 0.26	FCA 56A-2	0.16	5.15	514	2800	1

The nominal currents are maximum values.

3.6.2. Integrated axial blowers

Fan connections for integrated axial blower

Connection diagram



Pin	1	2	4	5
Signal	V	W		U
Pin	6	⏚		
Signal		⏚		

Integrated axial blower

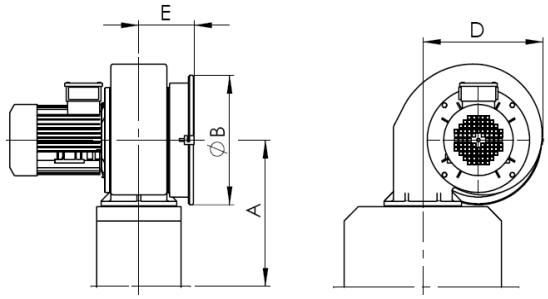
Y 400V // 460V 50 // 60Hz

Size	Power [kW]	Nominal current [A]	Approbation
132	0.15 // 0.24	0.26 // 0.33	UL
160	0.47 // 0.54	0.7 // 0.75	CE

The nominal currents are maximum values.

3.6.3. Filter

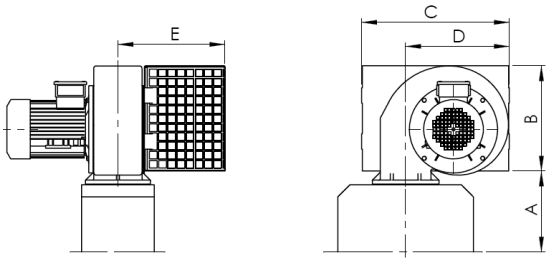
Flat filter



Dimensions for fan mounting at top or on the side

Motor size	Fan type	A	Ø B	D	E
100	BFB 398	197	187	177	77
132	BFB 519	264	210	214	105
160	BFB 635	279	240	237	124
200	BFB 752	343	284	271	124

Rectangle filter



Dimensions for fan mounting at top or on the side

Motor size	Fan type	A	B	C	D	E
100	BFB 398	140	177	246	172	145
132	BFB 519	175	207	306	213	163
160	BFB 635	185	237	338	237	189
200	BFB 752	233	277	386	271	280

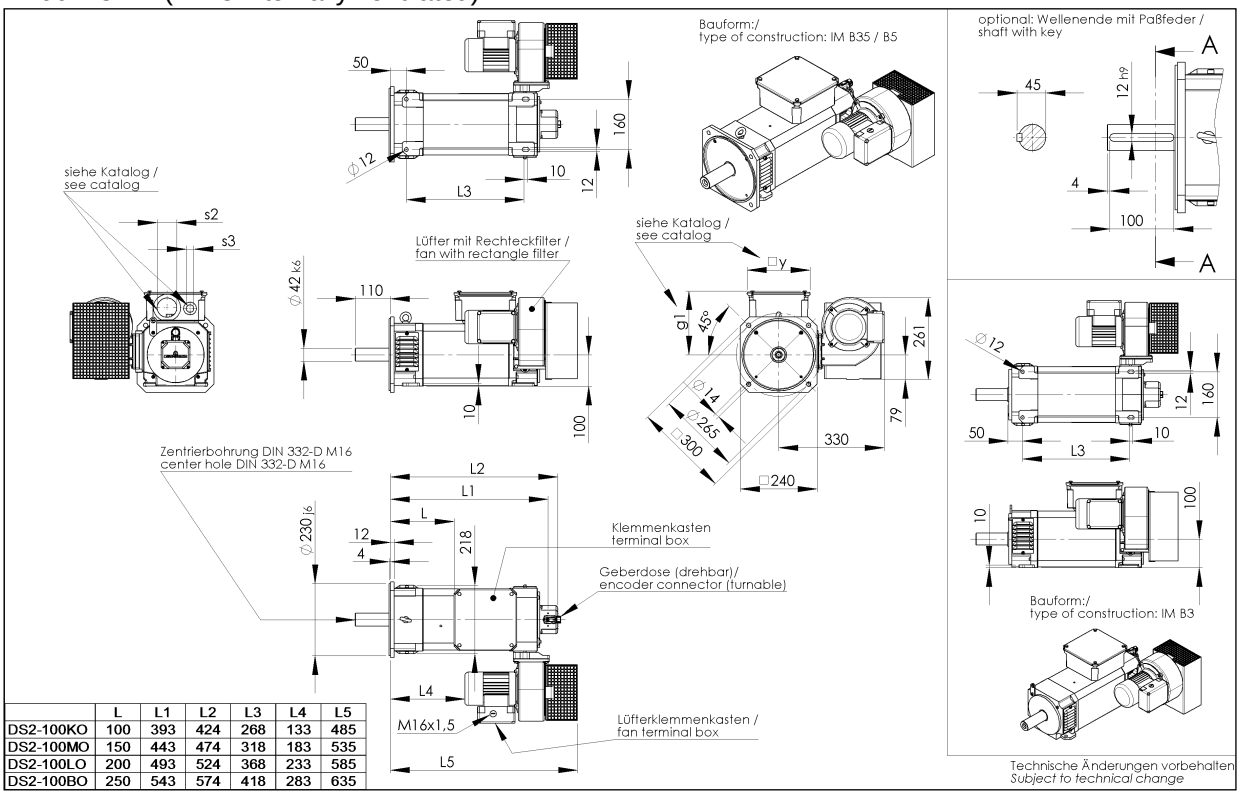
Note:

The coarse filter mat is preferred for IP54 motors and the fine filter mat for IP23 motors.

4. Dimension drawings

4.1. Dimension drawings DS2-100 / DS2+100

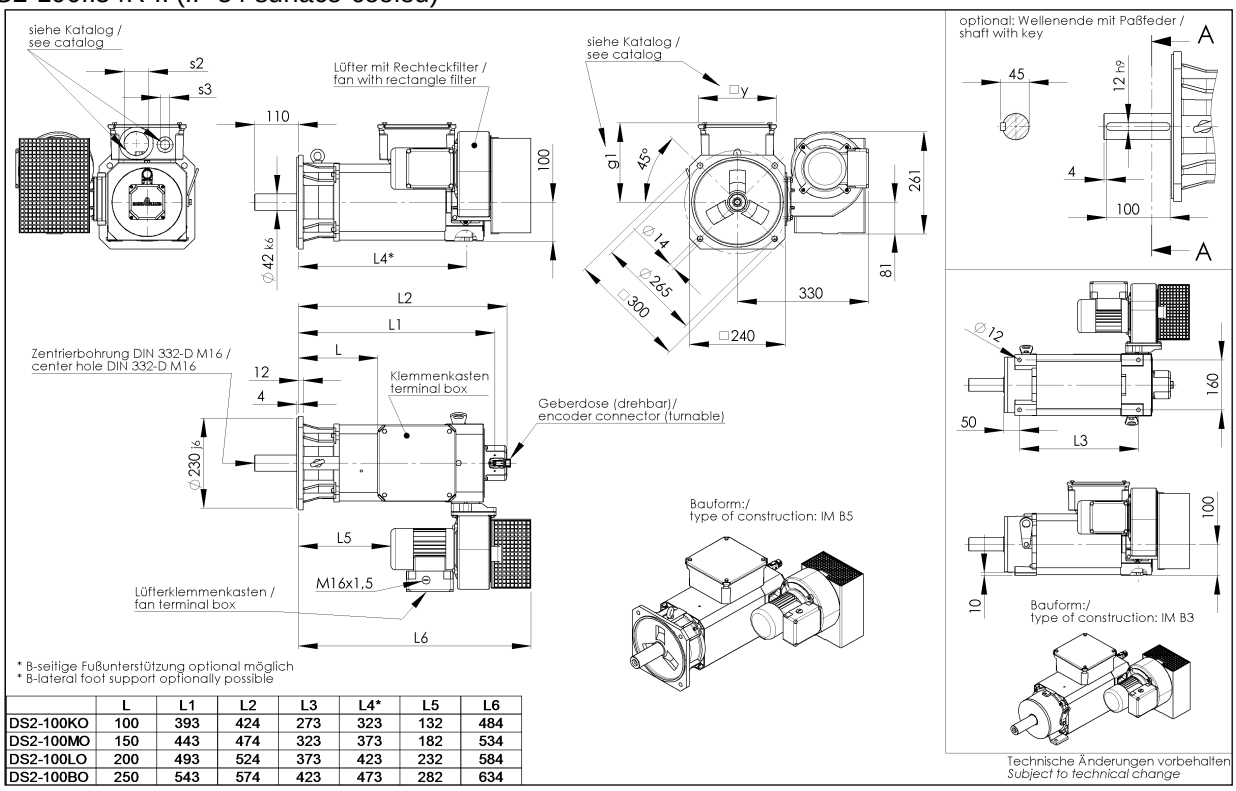
DS2-100..23R-.. (IP 23 internally ventilated)



	L	L1	L2	L3	L4	L5
DS2-100KO	100	393	424	268	133	485
DS2-100MO	150	443	474	318	183	535
DS2-100LO	200	493	524	368	233	585
DS2-100BO	250	543	574	418	283	635

If brake fitted: L1, L2 + 98 mm

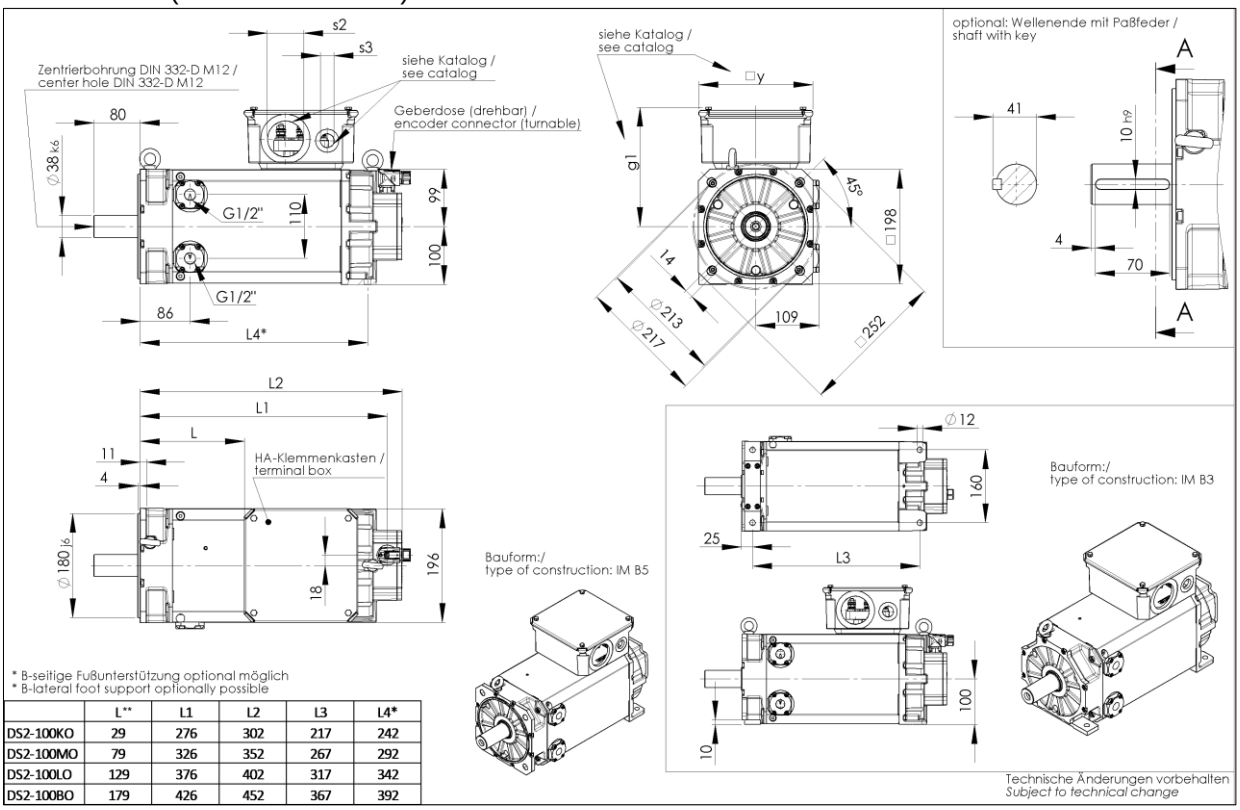
DS2-100..54R-.. (IP 54 surface-cooled)



	L	L1	L2	L3	L4*	L5	L6
DS2-100KO	100	393	424	273	323	132	484
DS2-100MO	150	443	474	323	373	182	534
DS2-100LO	200	493	524	373	423	232	584
DS2-100BO	250	543	574	423	473	282	634

If brake fitted: L1, L2 + 98 mm

DS2-100..54W-.. (IP 54 water-cooled)

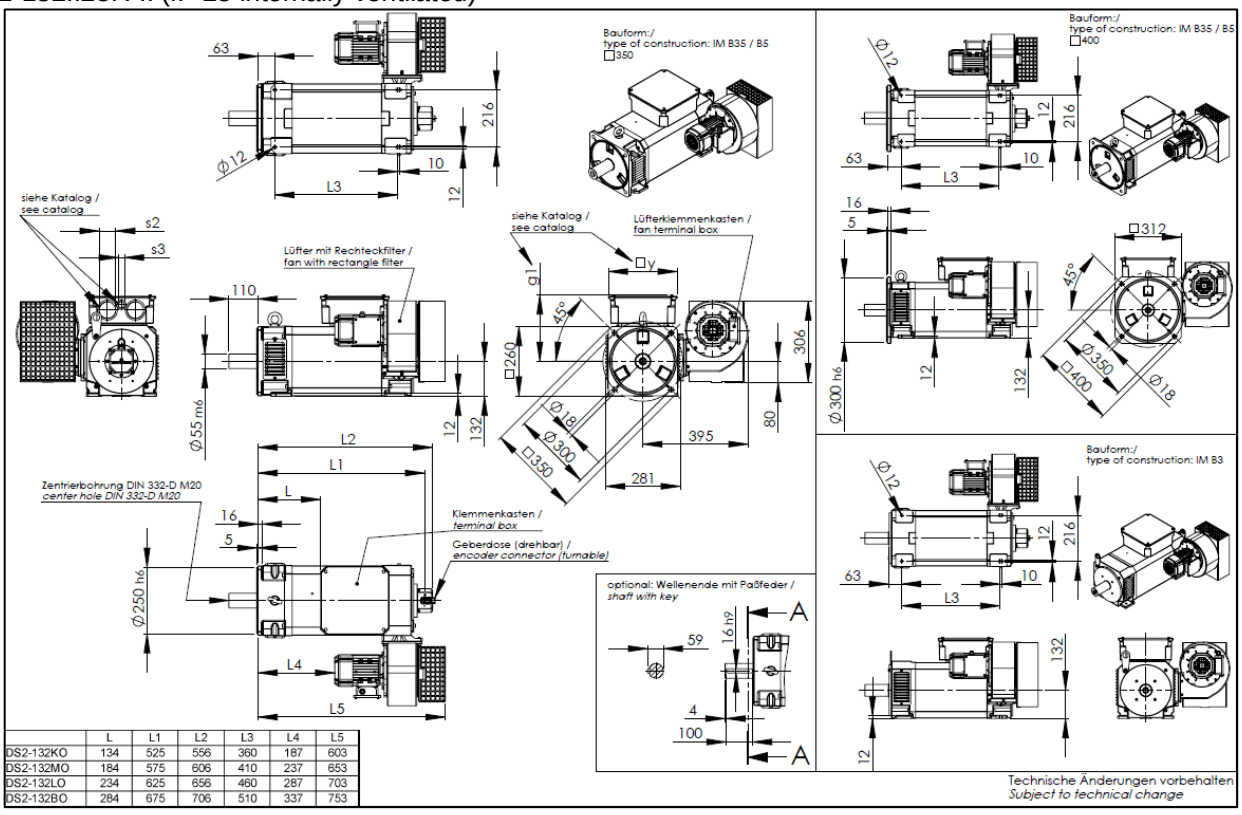


	L**	L1	L2	L3	L4*
DS2-100KO	29	276	302	217	242
DS2-100MO	79	326	352	267	292
DS2-100LO	129	376	402	317	342
DS2-100BO	179	426	452	367	392

If brake fitted: L1, L2 +135 mm
** With terminal box No. 16: L -52 mm

4.2. Dimension drawings DS2-132

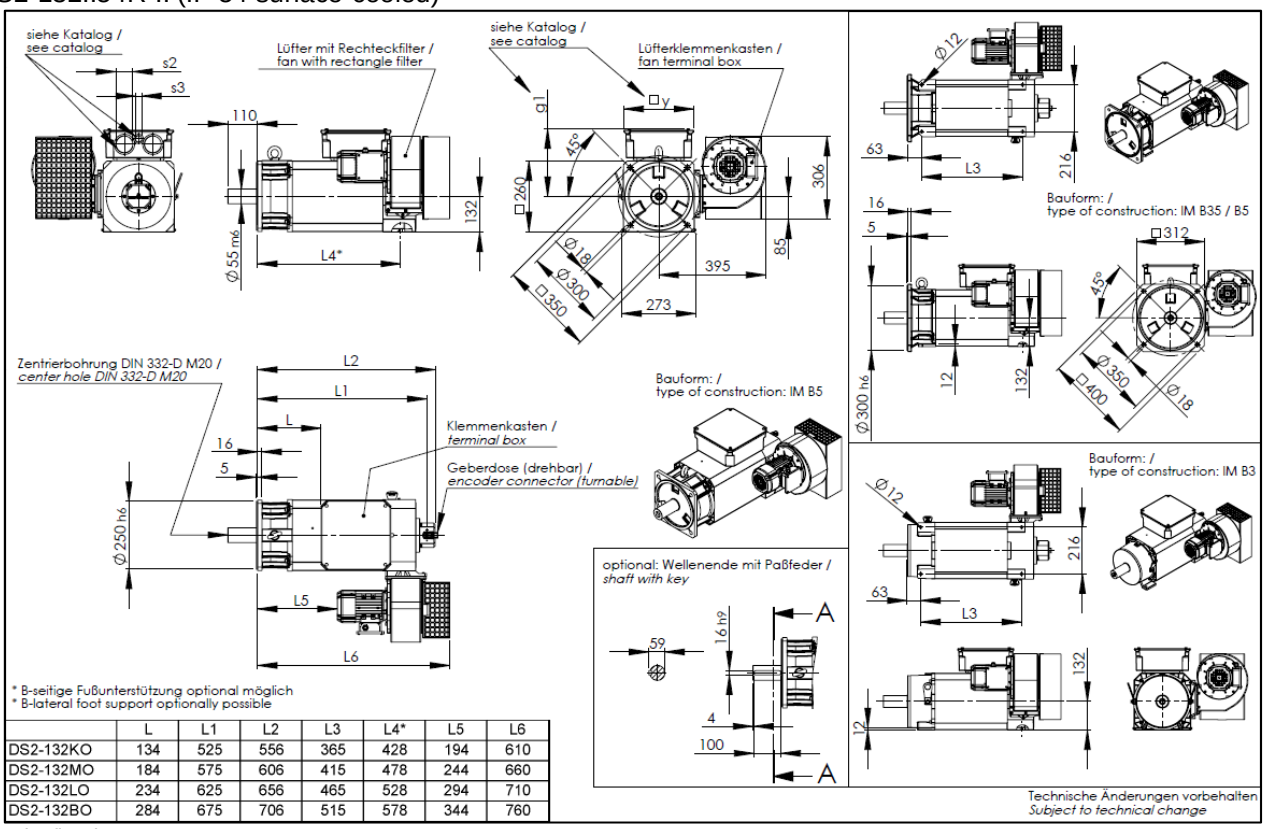
DS2-132..23R-.. (IP 23 internally ventilated)



	L	L1	L2	L3	L4	L5
DS2-132KO	134	525	556	360	187	603
DS2-132MO	184	575	606	410	237	653
DS2-132LO	234	625	656	460	287	703
DS2-132BO	284	675	706	510	337	753

If brake fitted: L1, L2 +108 mm

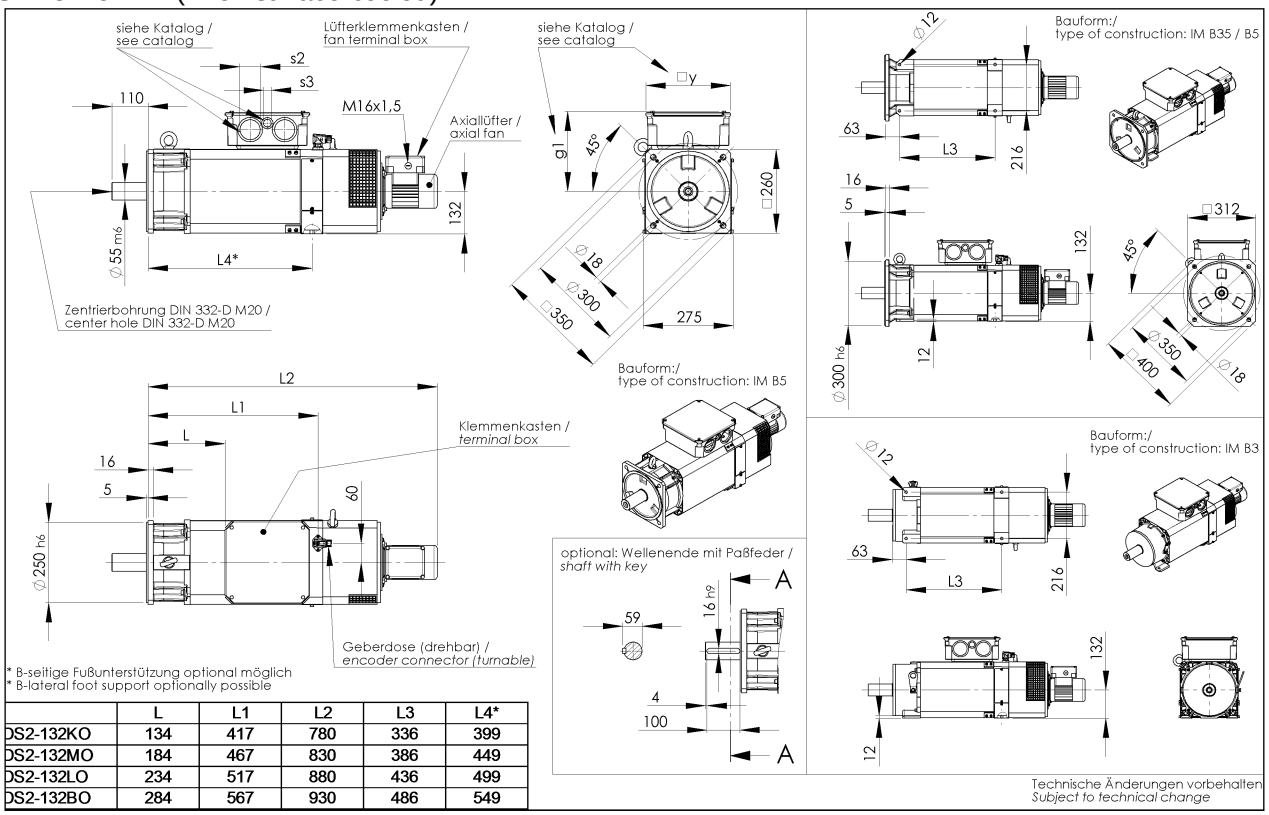
DS2-132..54R-.. (IP 54 surface-cooled)



	L	L1	L2	L3	L4*	L5	L6
DS2-132KO	134	525	556	365	428	194	610
DS2-132MO	184	575	606	415	478	244	660
DS2-132LO	234	625	656	465	528	294	710
DS2-132BO	284	675	706	515	578	344	760

If brake fitted: L1, L2 +108 mm

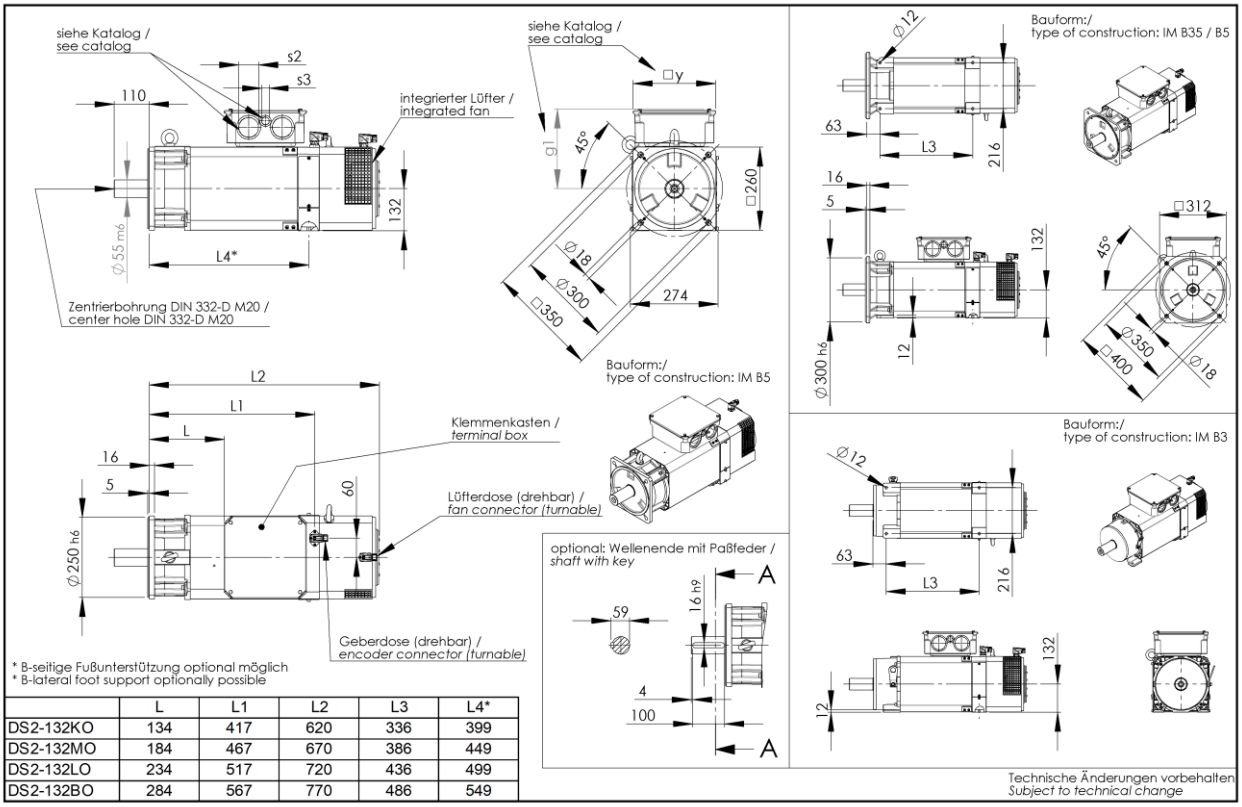
DS2-132..54A-.. (IP 54 surface-cooled)



	L	L1	L2	L3	L4*
DS2-132KO	134	417	780	336	399
DS2-132MO	184	467	830	386	449
DS2-132LO	234	517	880	436	499
DS2-132BO	284	567	930	486	549

If brake fitted: L1 + 152mm and L2 + 149 mm

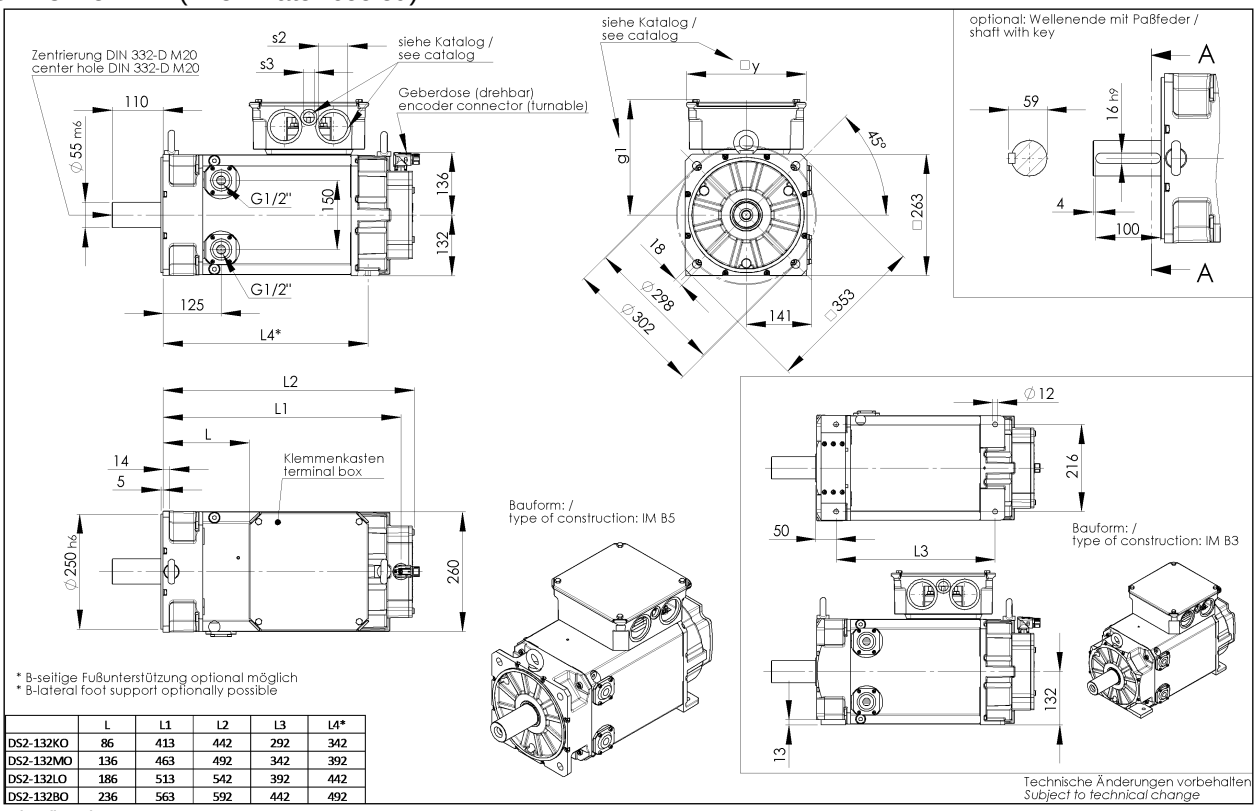
DS2-132..54I-.. (IP 54 surface-cooled)



	L	L1	L2	L3	L4*
DS2-132KO	134	417	620	336	399
DS2-132MO	184	467	670	386	449
DS2-132LO	234	517	720	436	499
DS2-132BO	284	567	770	486	549

If brake fitted: L1 + 152mm and L2 + 149 mm

DS2-132..54W-.. (IP 54 water-cooled)

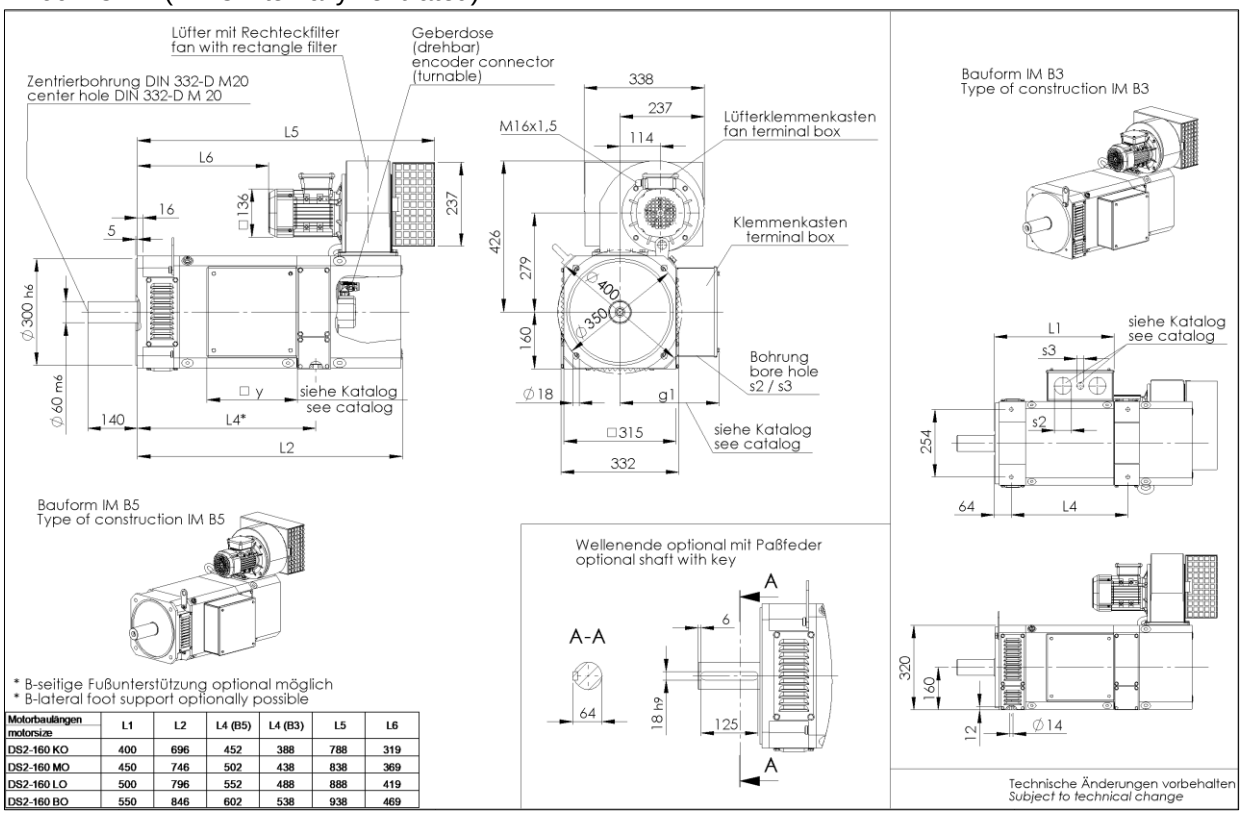


	L	L1	L2	L3	L4*
DS2-132KO	86	413	442	292	342
DS2-132MO	136	463	492	342	392
DS2-132LO	186	513	542	392	442
DS2-132BO	236	563	592	442	492

If brake fitted: L1, L2 +140 mm

4.3. Dimension drawings DS2[3]-160

DS2-160..23R-.. (IP 23 internally ventilated)

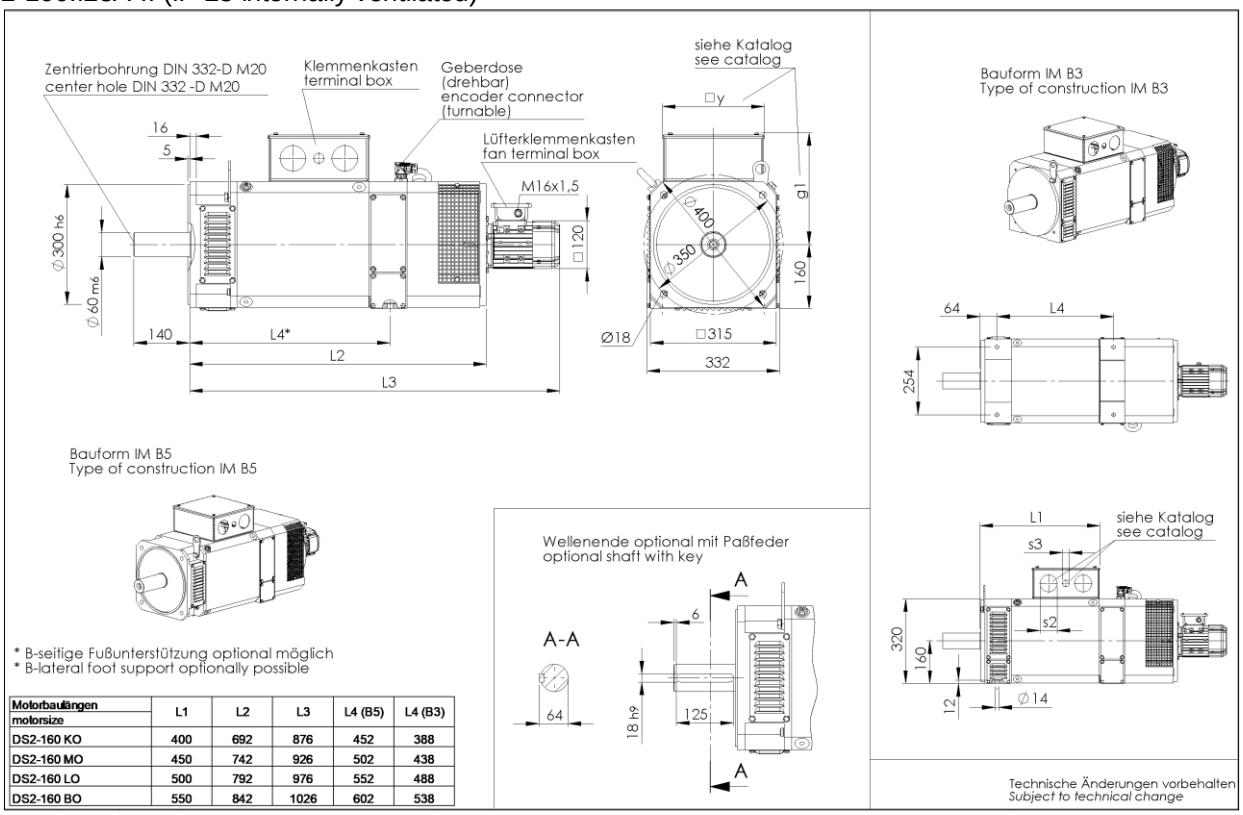


* B-seitige Fußunterstützung optional möglich
* B-lateral foot support optionally possible

Motorbaulängen motorsize	L1	L2	L4 (B5)	L4 (B3)	L5	L6
DS2-160 KO	400	696	452	388	788	319
DS2-160 MO	450	746	502	438	838	369
DS2-160 LO	500	796	552	488	888	419
DS2-160 BO	550	846	602	538	938	469

Brake fitted on request

DS2-160..23A-.. (IP 23 internally ventilated)

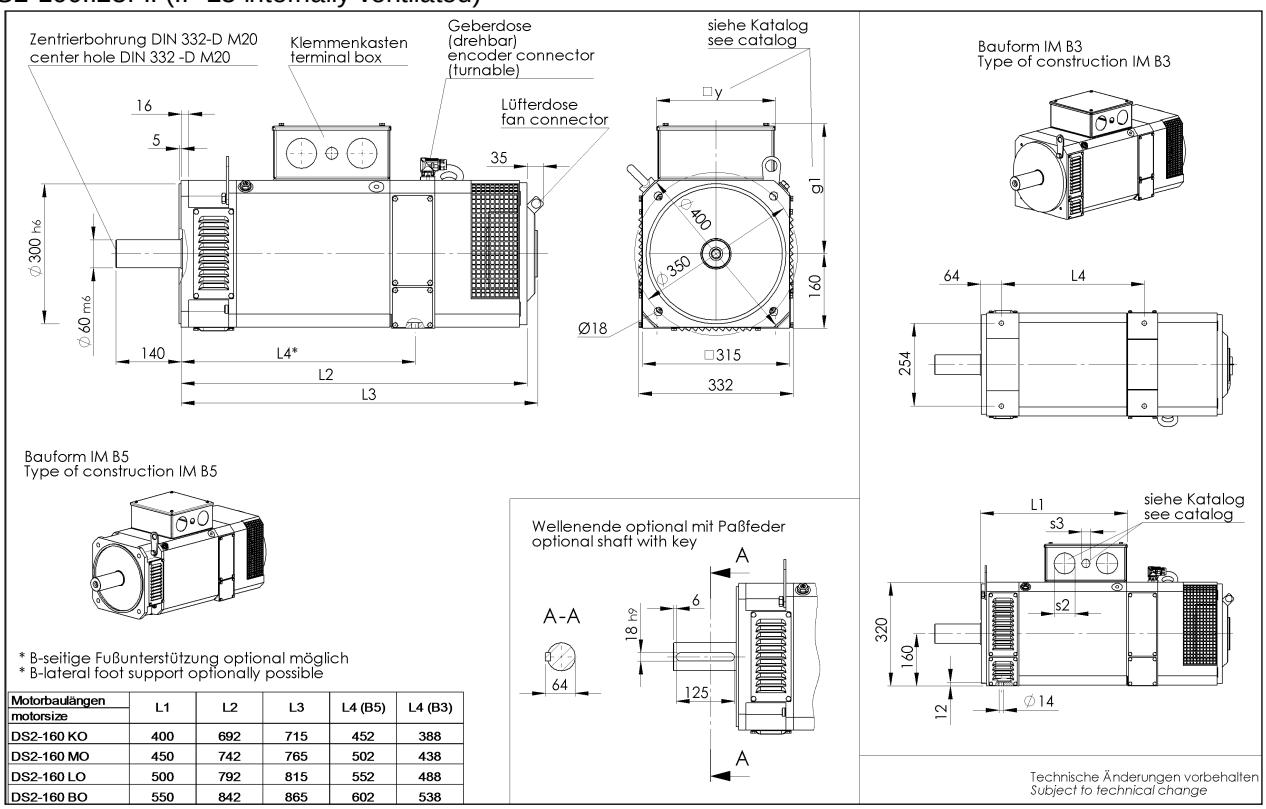


* B-seitige Fußunterstützung optional möglich
* B-lateral foot support optionally possible

Motorbaulängen motorsize	L1	L2	L3	L4 (B5)	L4 (B3)
DS2-160 KO	400	692	876	452	388
DS2-160 MO	450	742	926	502	438
DS2-160 LO	500	792	976	552	488
DS2-160 BO	550	842	1026	602	538

If brake fitted (without manual ventilation): L2, L3 +175 mm

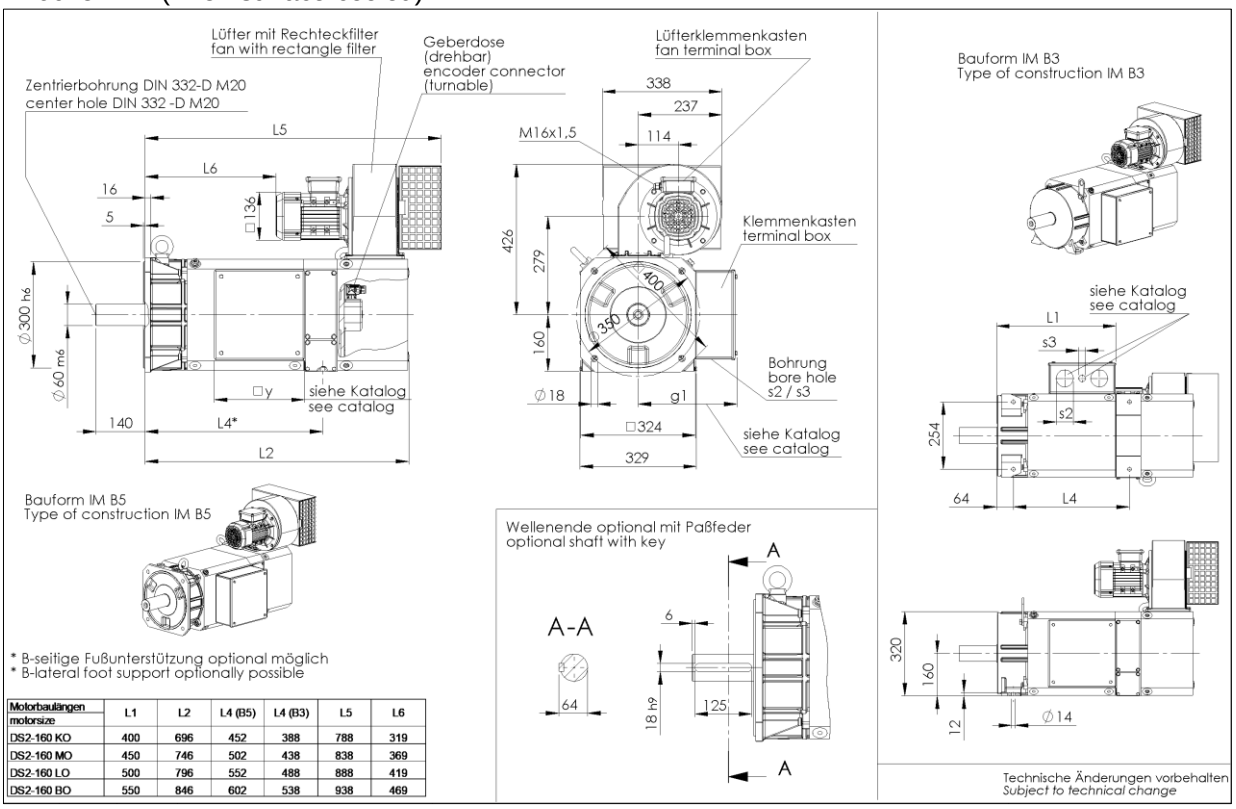
DS2-160..23I-.. (IP 23 internally ventilated)



Motorbaulängen / motorsize	L1	L2	L3	L4 (B5)	L4 (B3)
DS2-160 KO	400	692	715	452	388
DS2-160 MO	450	742	765	502	438
DS2-160 LO	500	792	815	552	488
DS2-160 BO	550	842	865	602	538

If brake fitted (without manual ventilation): L2, L3 +175 mm

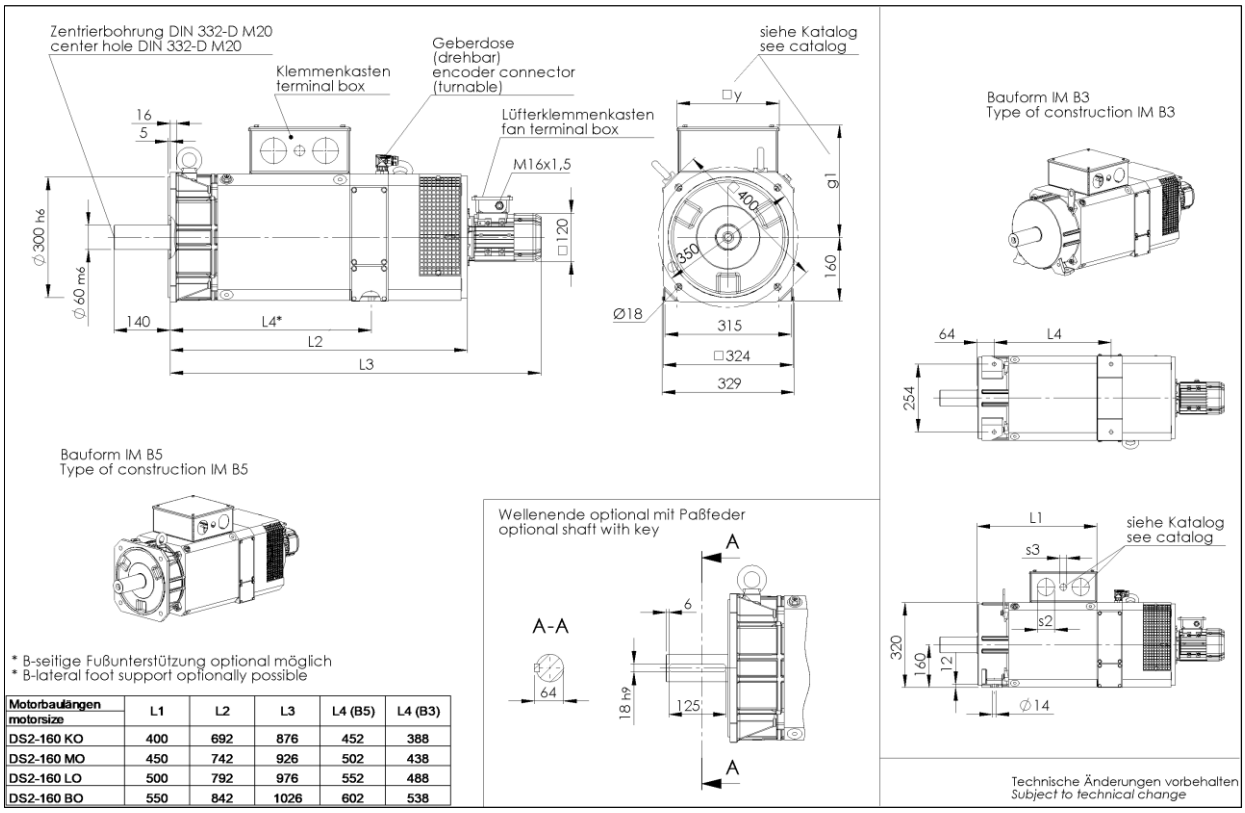
DS2-160..54R-.. (IP 54 surface-cooled)



Motorbaulängen / motorsize	L1	L2	L4 (B5)	L4 (B3)	L5	L6
DS2-160 KO	400	696	452	388	788	319
DS2-160 MO	450	746	502	438	838	369
DS2-160 LO	500	796	552	488	888	419
DS2-160 BO	550	846	602	538	938	469

Brake fitted on request

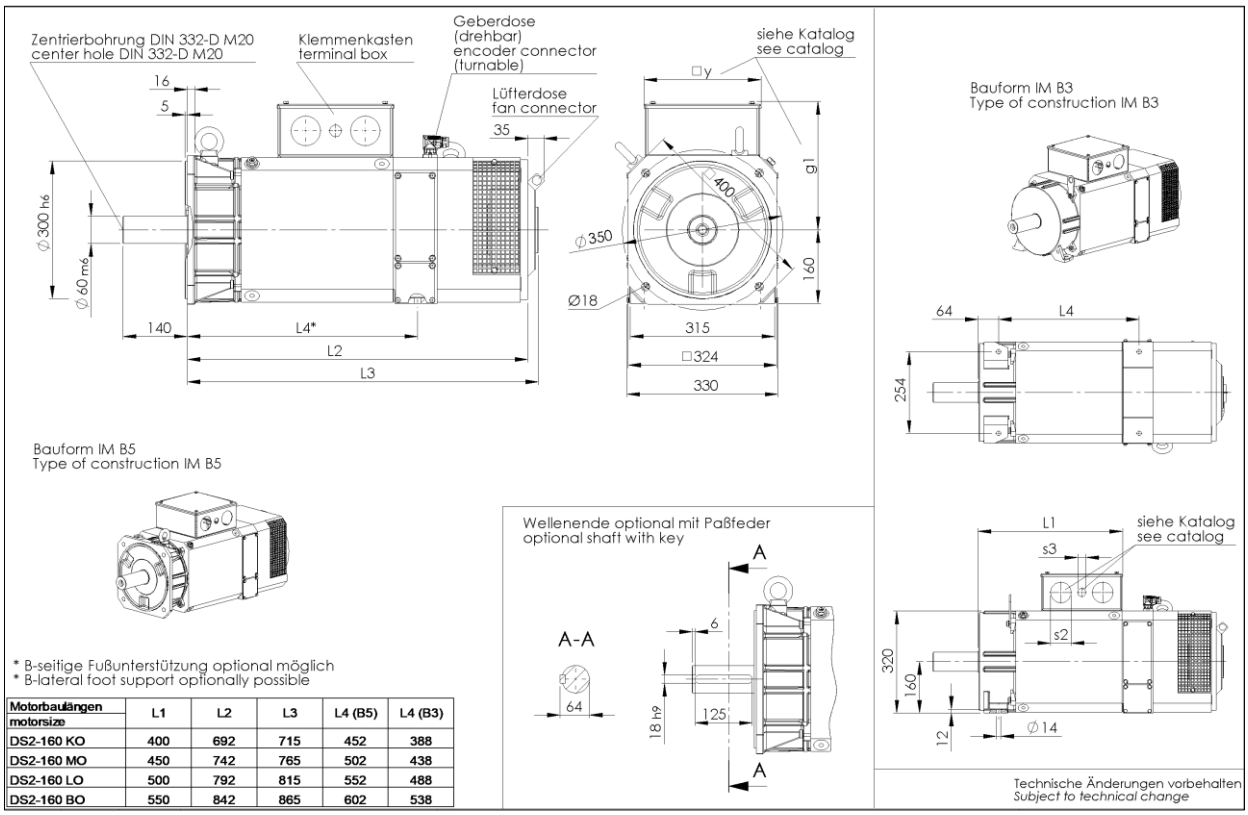
DS2-160..54A-.. (IP 54 surface-cooled)



Motorbaulängen motorsize	L1	L2	L3	L4 (B5)	L4 (B3)
DS2-160 KO	400	692	876	452	388
DS2-160 MO	450	742	926	502	438
DS2-160 LO	500	792	976	552	488
DS2-160 BO	550	842	1026	602	538

If brake fitted (without manual ventilation): L2, L3 +175 mm

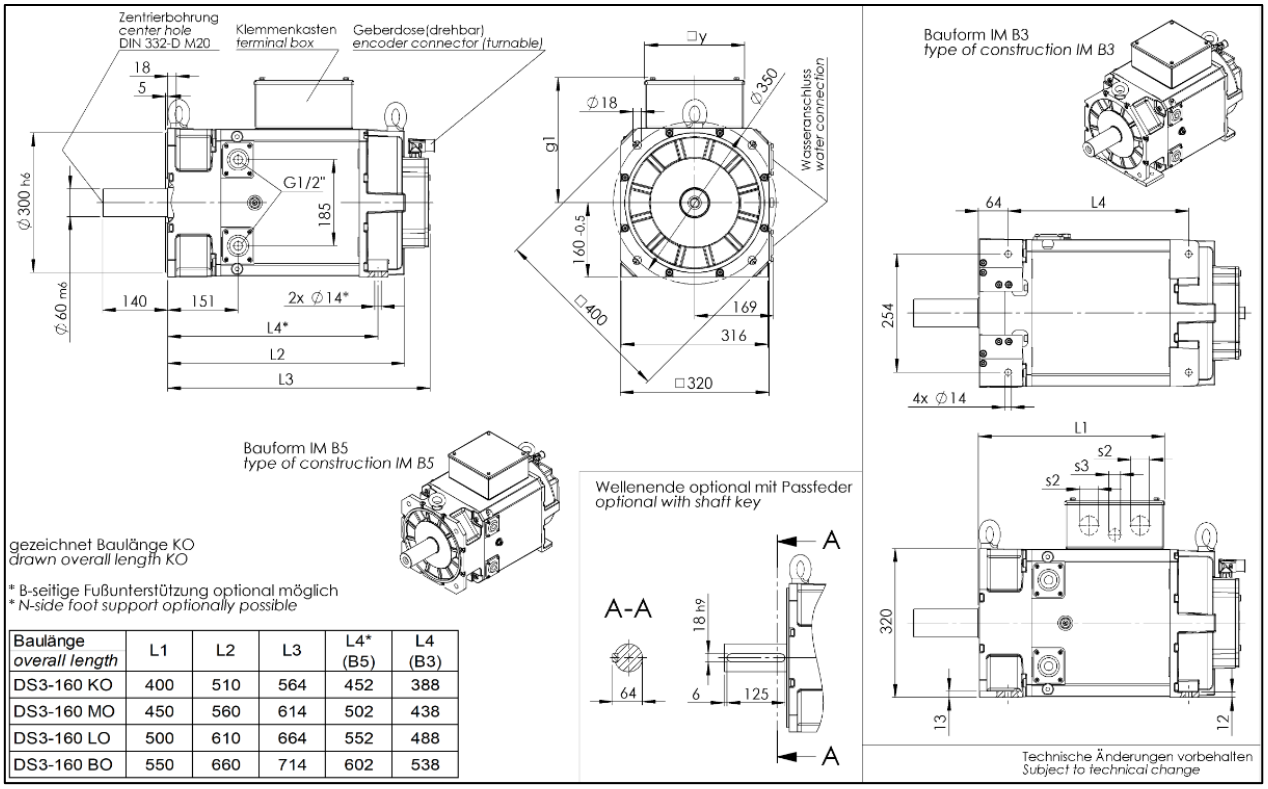
DS2-160..54I-.. (IP 54 surface-cooled)



Motorbaulängen motorsize	L1	L2	L3	L4 (B5)	L4 (B3)
DS2-160 KO	400	692	715	452	388
DS2-160 MO	450	742	765	502	438
DS2-160 LO	500	792	815	552	488
DS2-160 BO	550	842	865	602	538

If brake fitted (without manual ventilation): L2, L3 +175 mm

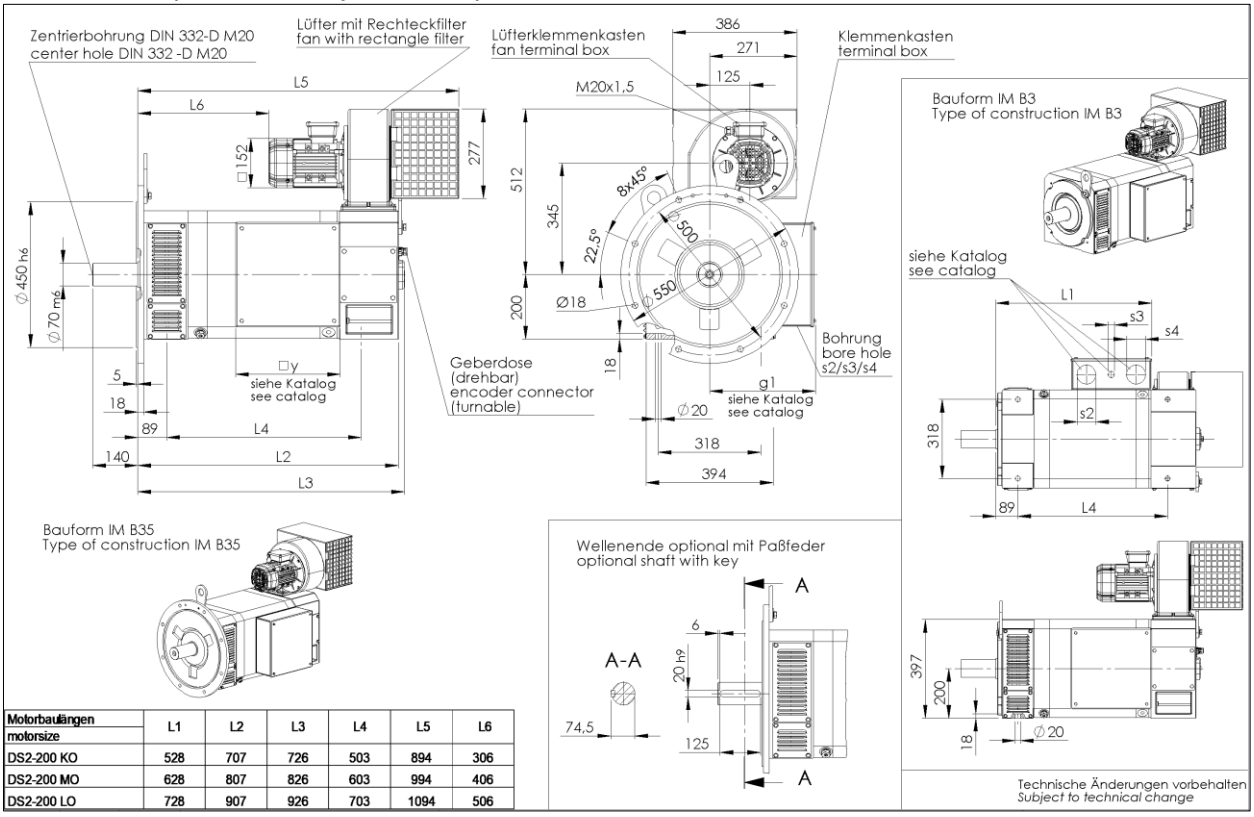
DS3-160..54W-.. (IP 54 water-cooled)



Baulänge *overall length*	L1	L2	L3	L4* (B5)	L4 (B3)
DS3-160 KO	400	510	564	452	388
DS3-160 MO	450	560	614	502	438
DS3-160 LO	500	610	664	552	488
DS3-160 BO	550	660	714	602	538

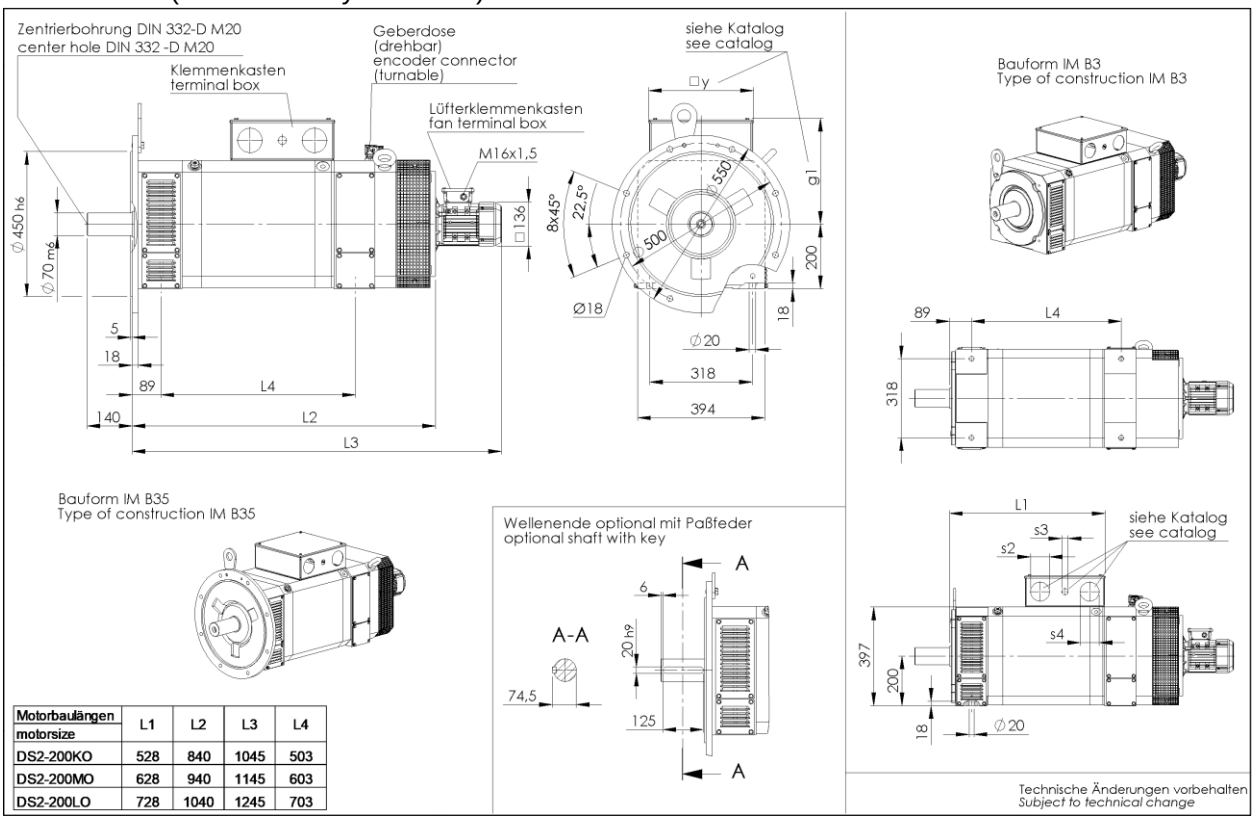
4.4. Dimension drawings DS2-200

DS2-200..23R-.. (IP 23 internally ventilated)



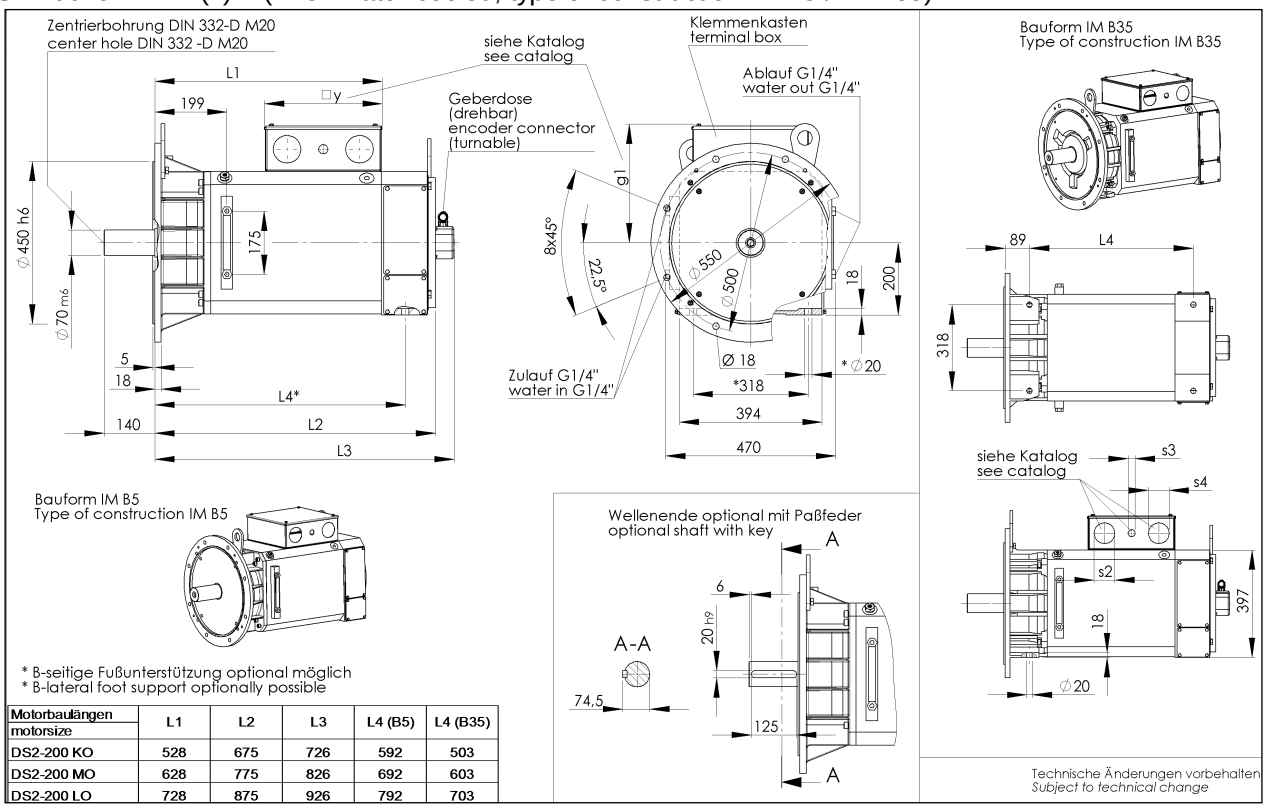
Motorbaulängen motorsize	L1	L2	L3	L4	L5	L6
DS2-200 KO	528	707	726	503	894	306
DS2-200 MO	628	807	826	603	994	406
DS2-200 LO	728	907	926	703	1094	506

DS2-200..23A-.. (IP 23 internally ventilated)



Motorbaulängen / motorsize	L1	L2	L3	L4
DS2-200KO	528	840	1045	503
DS2-200MO	628	940	1145	603
DS2-200LO	728	1040	1245	703

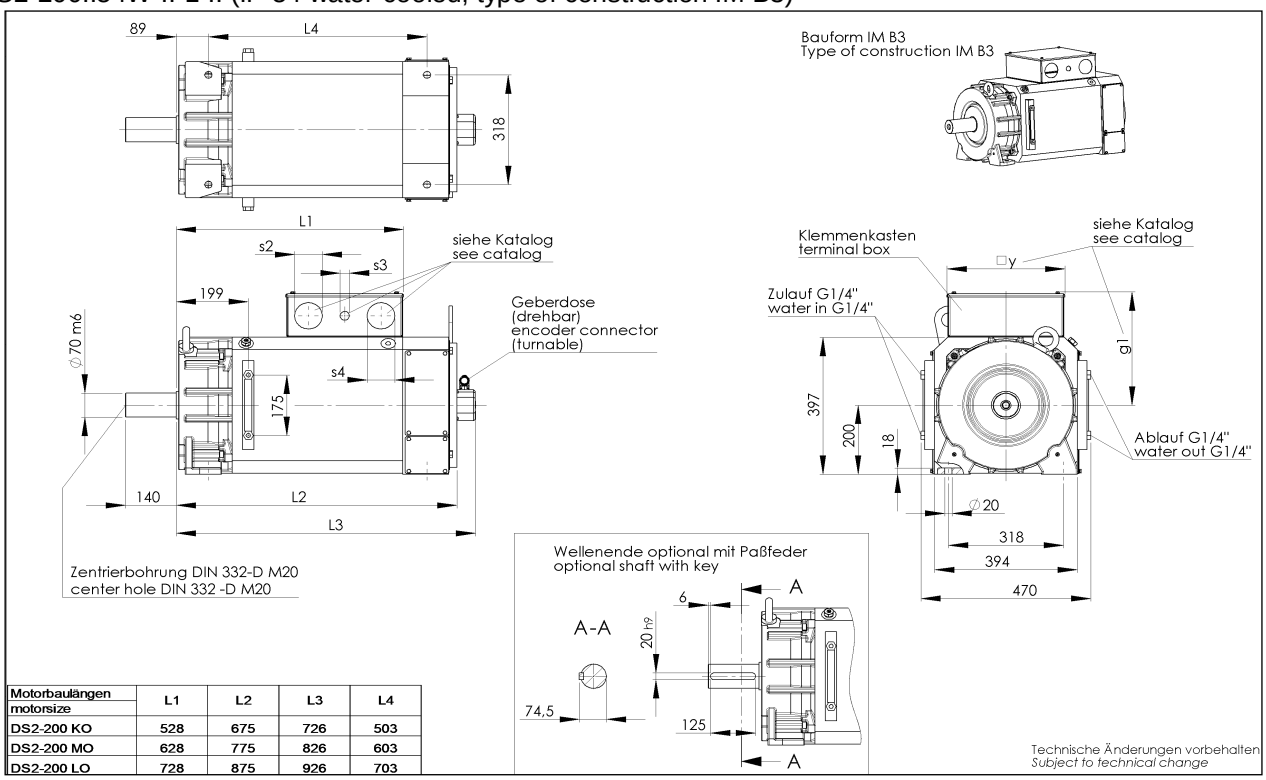
DS2-200..54W-..-2(7)-.. (IP 54 water-cooled, type of construction IM B5 / IM B35)



* B-seitige Fußunterstützung optional möglich
* B-lateral foot support optionally possible

Motorbaulängen / motorsize	L1	L2	L3	L4 (B5)	L4 (B35)
DS2-200 KO	528	675	726	592	503
DS2-200 MO	628	775	826	692	603
DS2-200 LO	728	875	926	792	703

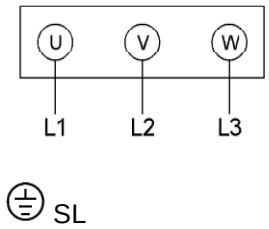
DS2-200..54W-..-1-.. (IP 54 water-cooled, type of construction IM B3)



Motorbaulängen motorsize	L1	L2	L3	L4
DS2-200 KO	528	675	726	503
DS2-200 MO	628	775	826	603
DS2-200 LO	728	875	926	703

4.5. Main connection – Terminal box

4.5.1. Terminal marking

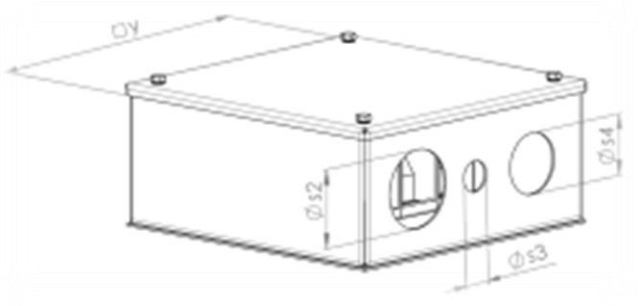


Terminal marking
Connection diagram

U V W	Power connection
1R1/ 1R2	Termal sensor (PT1000)
2R1/ 2R2	Termal sensor reserve (PT1000)
SL	Protective conductor

4.5.2. Terminal box version

The terminal box sizes can vary depending on the nominal motor current.
Information on the assignment of currents, bore sizes for screw fittings and connector bolt sizes can be found in the following section. EMC glands should be used.



No.	Cable entry point		Terminal	Thread	
	□ y [mm]	g1 [mm] see dimension sheets in sect. 4		s2 [mm]	s3 [mm]
10	197	206	3 x M8	1 x M25x1.5	1 x M25x1.5
12	197	206	3 x M8	1 x M40x1.5	1 x M25x1.5
14	197	206	3 x M8	1 x M63x1.5	1 x M25x1.5
16	243	228	3 x M8	2 x M63x1.5	1 x M25x1.5
20	258	250	3 x M8	2 x M25x1.5	1 x M25x1.5
22	258	250	3 x M8	2 x M40x1.5	1 x M25x1.5
24	258	250	3 x M8	2 x M63x1.5	1 x M25x1.5
26	258	250	3 x M10	2 x M63x1.5	1 x M25x1.5
27	318	302	3 x M10	2 x M75x1.5	1 x M25x1.5
28	318	302	3 x M12	2 x M75x1.5	1 x M25x1.5

No.	Cable entry point		Terminal	Thread		
	□ y [mm]	g1 [mm] see dimension sheets in sect. 4		s2 [mm]	s3 [mm]	s4 [mm]
30	215	270	3x M6	2x Ø40.5	1x Ø25.5	-
32	255	280	3x M10	2x Ø64	1x Ø25.5	-
34	315	290	3x M12	2x Ø76[1)]	1x Ø25.5	-
40	295	328	3x M10	1x Ø64	1x Ø25.5	-
42	295	328	3x M10	2x Ø64	1x Ø25.5	-
44	325	328	3x M12	2x Ø76[1)]	1x Ø25.5	-
46	365	363	3x M16	6x Ø51	1x Ø25.5	2xØ40.5

[1)] Cable shield with cable terminal routed to housing in the terminal box.

4.5.3. Position of the terminal boxes and outlet direction of the main connection

The terminal box is located on the N-side. The following terminal box positions are possible:

- Terminal box at top
- Terminal box on left (with view toward D-side on the shaft end)
- Terminal box on right (with view toward D-side on the shaft end)

It is possible to configure the main connection in the following outlet directions depending on the position of the terminal box (see also product configurator).

Size 100-132

Cooling type	**Position Terminal box**	**Outlet direction of main connection**				
		Top	Bottom	Left[3)]	Right[3)]	N-side
Radially mounted external fan[1)]	Top	-	-	☒	☒	☒[2)]
	Left [3)]	☒	☒	-	-	☒
	Right [3)]	☒	☒	-	-	☒
Water cooling	Top	-	-	☒	☒[2)]	☒
	Left [3)]	-	-	-	-	-
	Right [3)]	-	-	-	-	-
Axially mounted external fan	Top	-	-	☒	☒[2)]	
	Left [3)]	☒	☒	-	-	-
	Right [3)]	☒	☒	-	-	-

[1)] If a motor with a radial blower is installed, the position of the terminal box depends on the position of the cooling system (e.g. it is not possible to position terminal box at the top if the cooling system is at the top)

[2)] Preferred variant

[3)] With a view toward D-side on shaft end

Size 160-200:

Cooling type	Position Terminal box	Outlet direction of main connection			
		Top	Bottom	Left [3]	Right [3]
Radially mounted external fan [1]	Top	-	-	☒	☒
	Left [3]	☒	☒	-	-
	Right [3]	☒	☒[2]	-	-
Water cooling	Top	-	-	☒	☒[2]
	Left [3]	-	-	-	-
	Right [3]	-	-	-	-
Axially mounted / integrated external fan	Top	-	-	☒	☒[2]
	Left [3]	☒	☒	-	-
	Right [3]	☒	☒	-	-

[1] If a motor with a radial blower is installed, the position of the terminal box depends on the position of the cooling system (e.g. it is not possible to position terminal box at the top if the cooling system is at the top)

[2] Preferred variant

[3] With a view toward D-side on shaft end

5. Commissioning and maintenance instructions

For information on commissioning the motors, please request a copy of the corresponding commissioning and maintenance manuals TAM713.

6. EU-Declaration of Conformity

BAUMÜLLER

EU-Konformitätserklärung
gemäß

- **Richtlinie 2014/35/EU (Niederspannungsrichtlinie)**

  Richtlinie 2014/30/EU (EMV-Richtlinie)

Hersteller

Baumüller Nürnberg GmbH
Ostendstr. 80 - 90
90482 Nürnberg
Deutschland
Tel. +49 9 11 54 32 - 0
Fax: +49 9 11 54 32 - 1 30
E-Mail: mail@baumueller.de
Internet: www.baumueller.de

Hiermit erklären wir, dass die nachfolgend genannten Produkte aufgrund ihrer Konzeption, Konstruktion und Bauart in der von uns in Verkehr gebrachten Ausführung den Anforderungen der oben genannten Richtlinien einschließlich der zum Zeitpunkt der Erklärung geltenden Änderungen entsprechen.

Hinweise:

1. Bei Umbau oder Änderungen am Produkt verliert diese Erklärung mit sofortiger Wirkung ihre Gültigkeit.

2. Diese Erklärung bescheinigt die Übereinstimmung mit der genannten Richtlinie, stellt aber keine Zusicherung von darüber hinaus gehenden Produkteigenschaften dar.

3. Diese Konformitätserklärung wird unter der alleinigen Verantwortung des Herstellers ausgestellt.

Angewandte harmonisierte Normen:

- EN 60034-1:2010 + Cor.:2010
  Drehende elektrische Maschinen – Teil 1:
  Bemessung und Betriebsverhalten
- EN IEC 60034-5:2020
  Drehende elektrische Maschinen – Teil 5:
  Schutzarten aufgrund der Gesamtkonstruktion von drehenden elektrischen Maschinen (IP-Code) – Einteilung
- EN 60034-6:1993
  Drehende elektrische Maschinen – Teil 6:
  Einteilung der Kühlverfahren (IC-Code)

(Wird fortgesetzt auf der nächsten Seite ...)

EU-Declaration of Conformity
according

- **Directive 2014/35/EU (Low-voltage-directive)**

  Directive 2014/30/EU (EMC-directive)

Manufacturer

Baumüller Nürnberg GmbH
Ostendstr. 80 - 90
90482 Nürnberg
Germany
Tel. +49 9 11 54 32 - 0
Fax: +49 9 11 54 32 - 1 30
E-Mail: mail@baumueller.de
Internet: www.baumueller.de

We declare, that the products referred to in the following conform in their concept, construction and design as lauched by us to the above mentioned directives and their respective changes which were valid at the point of declaration.

Notes:

1. By modifying or alternating the device(s) this declaration immediately becomes invalid.

2. This declaration confirms the compliance with the directive listed, but it is no covenant of any further product properties.

3. This declaration of conformity is issued under the sole responsibility of the manufacturer.

Applied harmonised standards:

- EN 60034-1:2010 + Cor.:2010
  Rotating electrical machines – Part 1:
  Rating and performance
- EN IEC 60034-5:2020
  Rotating electrical machines – Part 5:
  Degree of protection provided by the integral design of rotating electrical machines (IP-Code) – Classification
- EN 60034-6:1993
  Rotating electrical machines – Part 6:
  Methods of cooling (IC-Code)

(To be continued on the next page ...)

(... Fortsetzung von der vorherigen Seite)

- EN 60034-9:2005 + A1:2007
  Drehende elektrische Maschinen – Teil 9:
  Geräuschgrenzwerte
- EN IEC 60034-14:2018
  Drehende elektrische Maschinen – Teil 14:
  Mechanische Schwingungen von bestimmten Maschinen mit einer Achshöhe von 56 mm und höher – Messung, Bewertung und Grenzwerte der Schwingstärke . Für Rollenlagermotore gelten : In Anlehnung an EN 60034-14 Angabe oder Angaben gemäß Kundenvereinbarung .
- EN 61800-5-1:2007 + A1:2017
  Elektrische Leistungsantriebssysteme mit einstellbarer Drehzahl – Teil 5-1:
  Anforderungen an die Sicherheit – Elektrische, thermische und energetische Anforderungen
- EN 60204-1:2018
  Sicherheit von Maschinen - Elektrische Ausrüstung von Maschinen - Teil 1:
  Allgemeine Anforderungen

(... continued from the previous page)

- EN 60034-9:2005 + A1:2007
  Rotating electrical machines – Part 9:
  Noise limits
- EN IEC 60034-14:2018
  Rotating electrical machines – Part 14:
  Mechanical vibration of certain machines with shaft heights 56 mm and higher – Measurement, evaluation and limits of vibration severity . The following applies to roller bearing motors : Based on EN 60034-14 requirement or requirements according to customer agreement .
- EN 61800-5-1:2007 + A1:2017
  Adjustable speed electrical power drive systems – Part 5-1:
  Safety requirements – Electrical, thermal and energy
- EN 60204-1:2018
  Safety of machinery - Electrical equipment of machines - Part 1:
  General requirements

Markenname: Baumüller
Produktbezeichnung: Drehstrommotor

Brand Name: Baumüller
Product Name: AC motor

Produkt / Product (x): optionaler Buchstabe / optional character {x, y}: alternative Buchstaben oder Zahlen / alternative characters	**Jahr der erstmaligen CE-Kennzeichnung / Year of first CE marking**
DS2-100XXXXX-XX-X-XXX-X-XXX-XXX-XX-X-XXX **DS2-132XXXXX-XX-X-XXX-X-XXX-XXX-XX-X-XXX** **DS2-160XXXXX-XX-X-XXX-X-XXX-XXX-XX-X-XXX** **DS2-200XXXXX-XX-X-XXX-X-XXX-XXX-XX-X-XXX**	**2013**

Nürnberg, 11.01.2022

i.V. Michael Veeh

Entwicklungsleiter Motoren
Manager R&D Motors

Dr.-Ing. Michael Wengler

Geschäftsführer
Director

CE

BAUMÜLLER

EU-Konformitätserklärung
gemäß

- **Richtlinie 2014/35/EU**
  (Niederspannungsrichtlinie)

  Richtlinie 2014/30/EU
  (EMV-Richtlinie)

Hersteller

Baumüller Nürnberg GmbH
Ostendstr. 80 - 90
90482 Nürnberg
Deutschland
Tel. +49 9 11 54 32 - 0
Fax: +49 9 11 54 32 - 1 30
E-Mail: mail@baumueller.de
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- EN 60034-5:2001 + A1:2007
  Drehende elektrische Maschinen – Teil 5:
  Schutzarten aufgrund der Gesamtkonstruktion von drehenden elektrischen Maschinen (IP-Code) – Einteilung
- EN 60034-6:1993
  Drehende elektrische Maschinen – Teil 6:
  Einteilung der Kühlverfahren (IC-Code)

(Wird fortgesetzt auf der nächsten Seite ...)

EU-Declaration of Conformity
according

- **Directive 2014/35/EU**
  (Low-voltage-directive)

  Directive 2014/30/EU
  (EMC-directive)

Manufacturer

Baumüller Nürnberg GmbH
Ostendstr. 80 - 90
90482 Nürnberg
Germany
Tel. +49 9 11 54 32 - 0
Fax: +49 9 11 54 32 - 1 30
E-Mail: mail@baumueller.de
Internet: www.baumueller.de

We declare, that the products referred to in the following conform in their concept, construction and design as lauched by us to the above mentioned directives and their respective changes which were valid at the point of declaration.

Notes:

1. By modifying or alternating the device(s) this declaration immediately becomes invalid.

2. This declaration confirms the compliance with the directive listed, but it is no covenant of any further product properties.

3. This declaration of conformity is issued under the sole responsibility of the manufacturer.

Applied harmonised standards:

- EN 60034-1:2010 + Cor.:2010
  Rotating electrical machines – Part 1:
  Rating and performance
- EN 60034-5:2001 + A1:2007
  Rotating electrical machines – Part 5:
  Degree of protection provided by the integral design of rotating electrical machines (IP-Code) – Classification
- EN 60034-6:1993
  Rotating electrical machines – Part 6:
  Methods of cooling (IC-Code)

(To be continued on the next page ...)

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(... Fortsetzung von der vorherigen Seite)

- EN 60034-9:2005 + A1:2007
  Drehende elektrische Maschinen – Teil 9:
  Geräuschgrenzwerte
- EN IEC 60034-14:2018
  Drehende elektrische Maschinen – Teil 14:
  Mechanische Schwingungen von bestimmten Maschinen mit einer Achshöhe von 56 mm und höher – Messung, Bewertung und Grenzwerte der Schwingstärke
- EN 61800-5-1:2007 + A1:2017
  Elektrische Leistungsantriebssysteme mit einstellbarer Drehzahl – Teil 5-1:
  Anforderungen an die Sicherheit – Elektrische, thermische und energetische Anforderungen
- EN 60204-1:2018
  Sicherheit von Maschinen - Elektrische Ausrüstung von Maschinen - Teil 1:
  Allgemeine Anforderungen

(... continued from the previous page)

- EN 60034-9:2005 + A1:2007
  Rotating electrical machines – Part 9:
  Noise limits
- EN IEC 60034-14:2018
  Rotating electrical machines – Part 14:
  Mechanical vibration of certain machines with shaft heights 56 mm and higher – Measurement, evaluation and limits of vibration severity
- EN 61800-5-1:2007 + A1:2017
  Adjustable speed electrical power drive systems – Part 5-1:
  Safety requirements – Electrical, thermal and energy
- EN 60204-1:2018
  Safety of machinery - Electrical equipment of machines - Part 1:
  General requirements

Markenname: Baumüller **Produktbezeichnung:** Drehstrommotor	**Brand Name:** Baumüller **Product Name:** AC motor
Jahr der erstmaligen CE-Kennzeichnung: 2021	**Year of first CE marking:** 2021
Produkt	**Product**

DS3-160 [A bis/to Z][A bis/to Z][0 bis/to 9][0 bis/to 9][A bis/to Z] - [0 bis/to 9][0 bis/to 9] - [0 bis/to 9] - [0 bis/to 9 oder/or A bis/to Z][A bis/to Z][A bis/to Z] - [0 bis/to 9 oder/or A bis/to Z] - [A bis/to Z][A bis/to Z][A bis/to Z] - [A bis/to Z][A bis/to Z][A bis/to Z] - [A bis/to Z][A bis/to Z] - [A bis/to Z] or + [0 bis/to 9 oder/or A bis/to Z][0 bis/to 9 oder/or A bis/to Z][0 bis/to 9 oder/or A bis/to Z]

Nürnberg, 30.06.2021

Dr.-Ing. Michael Wengler
Geschäftsführer
Director

i.V. Michael Veeh
Entwicklungsleiter Motoren
Manager R&D Motors

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7. UKCA-Declaration of Conformity

UK CA

BAUMÜLLER

UKCA-Declaration of Conformity according

- **Electrical Equipment Regulation 2016 (Statutory Instrument 2016/1101)**
- **Electromagnetic Compability Regulation 2016 (Statutory Instrument 2016/1091)**

Manufacturer

Baumüller Nürnberg GmbH
Ostendstr. 80 - 90
90482 Nürnberg
Germany
Phone +49 9 11 54 32 - 0
Fax: +49 9 11 54 32 - 1 30
E-Mail: mail@baumueller.de
Internet: www.baumueller.de

Branch office UK

Baumüller (UK) Ltd.
Units 2&3, Aurora Stockport, Baecon Way
SK3 0EF Romiley
United Kingdom
Phone: +44 161 432 78 24
Fax: +44 161 432 8493
E-Mail: mail@baumueller.co.uk
Internet: www.baumueller-services.com/uk

We declare, that the products referred to in the following conform in their concept, construction and design as lauched by us to the above mentioned directives and their respective changes which were valid at the point of declaration.

Notes:

1. *By modifying or alternating the device(s) this declaration immediately becomes invalid.*
2. *This declaration confirms the compliance with the directive listed, but it is no covenant of any further product properties.*
3. *This declaration of conformity is issued under the sole responsibility of the manufacturer.*
4. *responsibility of the manufacturer This motor series isn't in scope of guideline 2005/32/EG*

Applied harmonised standards:

- **BS EN 60034-1:2010**
  Rotating electrical machines – Part 1:
  Rating and performance
- **BS EN 60034-5:2020**
  Rotating electrical machines – Part 5:
  Degrees of protection provided by the integral design of rotating electrical machines (IP code). Classification
- **BS EN 60034-6:1994**
  Rotating electrical machines – Part 6:
  Methods of cooling (IC-Code)
- **BS EN 60034-9:2005**
  Rotating electrical machines – Part 9:
  Noise limits
- **BS EN IEC 60034-14:2018**
  Rotating electrical machines – Part 14:
  Mechanical vibration of certain machines with shaft heights 56 mm and higher. Measurement, evaluation and limits of vibration severity. The following applies to roller bearing motors : Based on EN 60034-14 or requirements according to customer agreement.

(To be continued on the next page ...)

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- **BS EN 61800-5-1:2007 + A11:2021**
  Adjustable speed electrical power drive systems – Part 5-1:
  Safety requirements – Electrical, thermal and energy

- **BS EN 60204-1:2018**
  Safety of machinery - Electrical equipment of machines - Part 1:
  General requirements

Brand Name: Baumüller
Product Name: AC motor

Produkt / Product (x): optionaler Buchstabe / optional character (x, y): alternative Buchstaben oder Zahlen / alternative characters	**Jahr der erstmaligen CE-Kennzeichnung / Year of first CE marking**
DS 3 Phase AC Servomotoren **DS (x)(x)-xxx-x-x-x** **GN(A,F)xxxx(S,M,L)N** **DSC1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX** **DSH1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX** **DSP1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX** **HYG1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX** **DS2--XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX** **DSD2-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX** **DST2-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX** **DA1- XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX**	**2022**

Nürnberg, 05.04.2022

Dr.-Ing. Michael Wengler
Director

ppa. Matthias Barth
Manager R&D

HOUSE OF AUTOMATION

Baumüller Nürnberg GmbH

Ostendstraße 80 – 90 · 90482 Nürnberg · Germany
Phone: +49 (0) 911 5432 - 0 · Fax: +49 (0) 911 5432 - 130
www.baumueller.com