BAUMÜLLER

INDUSTRY SOLUTIONS

Technical documentation
Three-phase synchronous motors HYG1-036,
Direct ejectors DSC1-135, Direct installation servo pump

E	5.23024.01

Technical data, motor components, declaration of conformity

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Status as of 11/2023

1. General technical data and safety notes

1.1. General safety notes

The standard version of the motors is neither suitable for operation in salty or aggressive atmospheres nor for outdoor installation. If the ambient air of ventilated motors is contaminated by dust particles or similar substances which are not reliably separated by the filter elements used, the manufacturer must be consulted in order to find a solution.

The reduction of bearing currents requires consideration of the **complete variable-speed drive system** and the actual installation! Before commissioning the motor, suitable measures must be taken depending on the application and system to reduce bearing currents. For this purpose, the motor manufacturer or, in the case of converters of other manufacturers, the converter manufacturer must be consulted.

By using **toroidal cores**, the cause of bearing current damage is counteracted, i.e. the amplitude and slope of the common mode voltage at the converter output is reduced. The use of cores is therefore a **preferred measure**. When using the toroidal cores, the three phases must be fed through the cores **without shielding** and **without PE**. The cores should be installed close to the motor connection on the **converter** and arranged in a row.

NOTE:
The assignment of the motor to a certain protection class is a standardized, short-term test procedure. This can deviate considerably from the real environmental conditions at the place of use. Depending on the environmental conditions such as the chemical nature of the dusts or the coolants used at the place of use, the evaluation of the suitability of the motor on the basis of the protection class is only possible to a limited extent (e.g. electrically conductive dusts or aggressive coolant vapors or liquids). In these cases the motor must be additionally protected by appropriate measures on the machine side.

1.2. Winding isolation

The motors are configured for the operation on converters with DC link voltages up to 640 V.

Higher DC link voltages up to 800 V are possible if voltage peaks at the motor terminals are limited to values < 1200 V by means of suitable filters in the motor supply line.

1.3. Notes on motor data

n_N	Rated speed [min^{-1}]
M_0	Standstill torque [Nm] at speed ≥ 1 min^{-1} unlimited time
I_0	Standstill effective current [A] at M_o
$M_{0,max}$	Maximum standstill torque [Nm] at maximum current [A] and speed = 0, for a short time
$I_{0,max}$	Standstill current [A] at $M_{o,\ max}$; I_{0max} is the effective value
P_N	Rated power [kW] at M_N and n_N (refer to power definition)
M_N	Rated torque [Nm]
I_N	Rated effective current [A]
$K_{E\ /\ COLD}$	Voltage constant (EMF) to [V per 1000 min^{-1}]
f_N	Rated frequency [Hz]
J	Rotor torque of inertia [kgm^2]
m	Motor weight [kg]

The specified rated power and torques at rated speed are achieved if the converter is operated with a cycle frequency in the power section of ≥ 4 kHz. A cycle frequency of > 6 kHz is recommended. The possibility of field weakening is assumed for the converters to be used.

The drive configurator ***sizemaXX*** is available under *www.baumueller.com* to configure the motors and the entire drive system.

1.4. Performance definition

1.4.1. Performance definition for air-cooled machines

The powers (torques) listed in the list apply to continuous operation (S1) at nominal speed at a maximum environmental temperature of 40 °C, when the machines are installed at less than 1000 m above sea level. If motors are to be used in an environmental temperature of more than 40 °C or at altitudes above 1000 m above sea level, the required list power P_L (list torque M_N) is the product of the factors k_1, k_2 given in the following table and the required power P (torque M).

Environmental temperature	40 °C	45 °C	50 °C	55 °C	60 °C
Correction factor k1	1	1,06	1,13	1,22	1,34
Height above sea level up to	1000 m	2000 m	3000 m	4000 m	5000 m
Correction factor k2	1	1,07	1,16	1,27	1,55

For environmental temperatures above 40 °C and for encapsulated installation of motors, consultation with the manufacturer is necessary due to the possibly required design measures for cooling.
If the environmental temperature decreases by about 10 °C per 1000 m increase in altitude with increasing installation altitude above 1000 m, no power correction is necessary (observe minimum operating temperature).

1.4.2. Performance definition for water cooled machine

The power ratings (torques) given in the list are valid for continuous operation S1 with rated speed, provided that the requirements for the cooling circuit for water-cooled motors are met!

For operation with higher coolant inlet temperatures the reduction factors in the following table must be taken into account:

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

1.5. Vibration load

The vibration behavior of the complete system at the place of use, caused by output elements, mounting conditions, alignment and installation as well as the influence of external vibrations, can lead to an increase in the vibration values at the motor.
Under certain circumstances, complete balancing of the rotor with the output element may become necessary.
In order to ensure proper function and service life, the vibration values specified in accordance with DIN ISO 10816 must not be exceeded at the specified measuring points of the motor (refer to Figure 1).

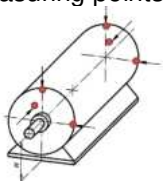


Figure 1: Measuring points for vibration measurement

The specified maximum radial and axial vibration values must be observed simultaneously. They apply to substructures that can be described as elastic. An elastic substructure is present if the lowest natural frequency of the complete 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. For rigid substructures, the manufacturer must be consulted.

Maximum <u>radial</u> vibration load:

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

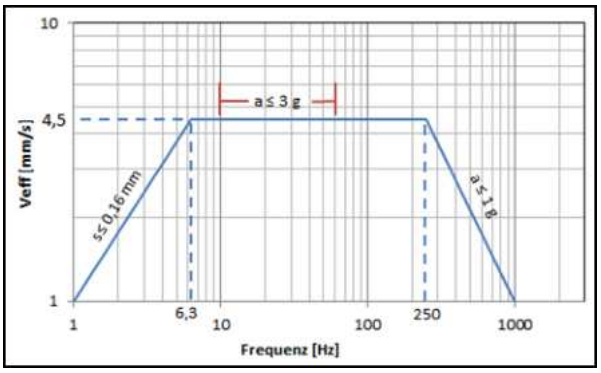


Figure: Permitted radial vibration load

Maximum <u>axial</u> oscillating load:

Peak vibration acceleration 0.225 g	> 55 Hz
Peak Vibration displacement ≤ 0.16 mm	< 6.3 Hz
Effect. Vibration velocity ≤ 4.5 mm/s	6.3-55 Hz

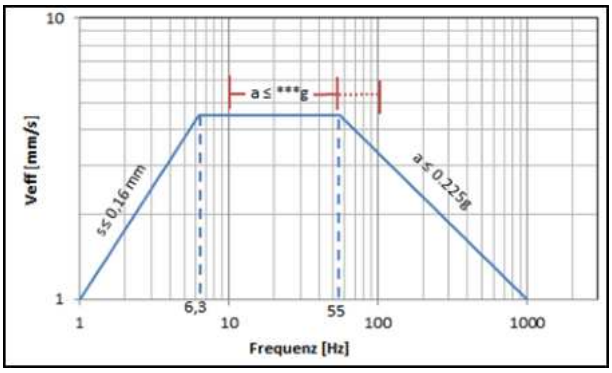


Figure: Permitted axial vibration load

Additional vibration resistance:
Vibration acceleration 3 g radial and *** g axial 10 Hz to ** Hz
The specified vibrations are additionally tolerated by the engine. However, the service life of the wearing parts (such as bearings) can be reduced.

Shock load:
If increased vibration loads in the form of shocks are present, measurements on the installed machine are required.
Based on these measurements, design revisions or evaluations are carried out with the company Baumüller.

Shock load:
For the evaluation of the vibration speed, the measuring equipment must meet the requirements of ISO 2954.
The evaluation of vibration acceleration is performed in the time domain in the frequency band from 10 Hz to 2 kHz.
If significant vibration excitations above 2kHz such as tooth mesh frequencies are to be expected, the measuring range must be adjusted accordingly. This does not change the permissible maximum values.

** HYG1-036: 100 Hz // DSC1-135: 55 Hz // DSx-56-100: 100 Hz
*** HYG1-036: 1 g // DSC1-135: 1 g // DSx-56-100: 0.5 g

2. Lines and connection technology

A pre-assembled and trailing encoder cable is used for all encoder systems. The connection on the motor side consists of a 12-pin signal round plug for resolver and at Hiperface® encoder of the company SICK as well as a 17-pin signal round plug at ECN1313/EQN1325 encoders of the company Heidenhain. The connection on the controller side consists of a 26-pin sub-D plug. The signal round connector on the motor side is available in SpeedTec design. For fully digital encoders (Hiperface DSL or EnDat 2.2) different pin assignments apply.

2.1.1. Technical data

Technical description – resolver can be trailed

- Li9YC, 1 x (2 x 0.25) + Li9Y, 2 x (2x0.25) + Li9YC11Y, 1 x (2 x 0.34), copper strand, twisted in pairs
- Sheath PUR, green; labeling with Baumüller Nuremberg and encoder cable resolver
- - 1st side: 12-pin signal round plug with 12 socket contacts
- - 2nd side: 26-pin sub-D male connector with male contacts and locking screws 4-40UNC
- Outside diameter 7.3 mm (+/- 0.3mm)
- Bending radius: r ≥ 4 x D (static), r ≥ 10 x D (dynamic)

Technical description –SinCos Hiperface®- interface and SinCos – and rectangular incremental encoder can be trailed

- Li9YC, 3 x (2 x 0.25) + Li9Y, 3 x (2 x 0.25) + Li9YC11Y, 1 x (2x0.34), copper strand, twisted in pairs
- Sheath PUR, green, labeling with Baumüller Nuremberg and encoder cable Hiperface® or incremental encoder
- - 1st side: 12-pin signal round plug with 12 socket contacts
- - 2nd side: 26-pin sub-D male connector with male contacts and locking screws 4-40UNC
- Outside diameter 9.6 mm (+/- 0.3mm)
- Bending radius: r ≥ 4 x D (static), r ≥ 10 x D (dynamic)

Technical description - EnDat® 2.1- interface can be trailed

- Li9YC, 3 x (2 x 0.25) , + Li9Y, 3 x (2 x 0.25) + Li9YC11Y, 1 x (2x0,34), copper strand, twisted in pairs
- Sheath PUR, green, labeling with Baumüller Nuremberg and encoder cable EnDat2.1®
- - 1st side: 17-pin signal round plug with 17 socket contacts
- - 2nd side: 26-pin sub-D male connector with male contacts and locking screws 4-40UNC
- Outside diameter 9.6 mm (+/- 0.3mm)
- Bending radius: r ≥ 4 x D (static), r ≥ 10 x D (dynamic)

Technical description – hybrid line with Hiperface DSL® can be trailed

- Hybrid line
- Shielding braid: tinned copper wires
- Sheath PUR, orange. Flame resistant, self-extinguishing
- - 1st side: metal round plug SpeedTec M23 8-pin for cable with 4G1.5 and 4G2.5
  Metal round plug SpeedTec M40 hybrid socket for cable with 4G2.5, 4G4 and 4G6
- - 2nd side: Metal 45°-D-sub-connector. 26-pin with electronics

2.1.2. Instructions for use

Operating temperature encoder cable resolver; SinCos Hiperface® interface; EnDat® 2.1 interface as well as SinCos and rectangular incremental encoder

Limit temperature	On the surface
Storage temperature	- 40 °C to + 80 °C
Continously moving use	- 20 °C to + 60 °C

Laying the cable at the motor
The cables must not touch the motor surface.

2.1.3. Ordering information for encoder cables for b maXX 5000

Encoder cables – pre-assembled cables with connectors

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 rectangular 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

For Hiperface DSL® Hybrid cables size 1

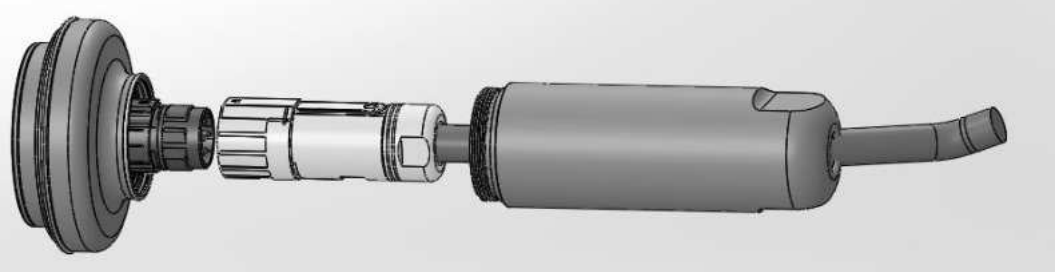
Length [m]	Nominal current 15A 4G1.5+(2x0.75) + (2x22AWG) Part number	Nominal current 20A 4G2.5+(2x1.0) + (2x22AWG) Part number
3	464201	464217
5	464202	464218
7	464203	464219
10	464204	464220
15	464205	464221
20	464206	464222
25	464207	464223
30	464208	464224
35	464209	464225
40	464210	464226
50	464211	464227
60	464212	464228

For Hiperface DSL® hybrid cable size 1.5

Length [m]	Nominal current 21A 4G2.5+(2x1.0)+(2x22AWG) Part number	Nominal current 28A 4G4.0+(2x1.0)+(2x22AWG) Part number	Nominal current 36A 4G6.0+(2x1.0)+(2x22AWG) Part number
3	464235	464278	464294
5	464236	464279	464295
7	464237	464280	464296
10	464238	464281	464297
15	464239	464282	464298
20	464240	464283	464299
25	464241	464284	464300
30	464242	464285	464301
35	464243	464286	464302
40	464244	464287	464303
50	464245	464288	464304
60	464246	464289	464305

2.1.4. Ordering information for hybrid cables for HYG1-036

Due to the high degree of protection and hygiene requirements, a special connection concept must be selected to meet these demands.
The hybrid connector is made up of two parts and consists of a standard SpeedTec connector as well as a stainless steel cap on top.



For Hiperface DSL® hybrid cables size 1

	Nominal current 15A 4G1.5+(2x0.75)+ (2x22AWG)
Length [m]	Part number
3	484676
10	484677
20	484678

2.2. Motor cables

The motor cables are highly flexible, trailing cables with overall shielding. They comply with VDE, UL and CSA regulations. The control cables are integrated as star-quad. The brake control and the connection of the temperature sensor are led out via the plug of the main connection.
All in all, the small cable cross section, low weight and uninhibited surface make the cables suitable for optimum utilization of cable trays. This enables efficient use of the cables in drag chains. Due to the overall shielding with an optical coverage > 85 % it is an EMC non-critical cable.

2.2.1. Technical data

- Resistance of the sheath to substances such as cooling lubricants, machines and gear oils
- Abrasion resistance due to specially treated surface in cable trays and drag chains
- Cable highly flexible, trailing, minimum bending radius for flexible use 12 x D
- Surface of the sheath non-blocking, silk matt
- Shield of tinned copper braiding with optical coverage of ≥ 85
- Insulation of the cores made of TPE or polyester, sheath material PUR - halogen-free
- Cable construction CFC- and silicone-free
- Behavior in case of fire flame resistant, halogen free
- Cable color in RAL 1028, melon yellow
- Marking with Baumüller logo VDE, UL and CSA symbol

Nominal voltage
- Uo/U 600 / 1000 V (power wires)
- U 24 V DC (control wires)

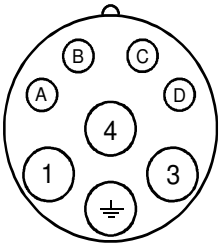
Wire labeling
- Power wires U, VV, WWW
- Control cable pairs colored as star quad with red, white, black, yellow

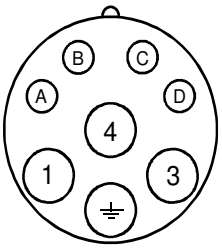
Assignment of the pairs (observe polarity!):
- rt - sw (brake)
- bl - ws (brake hybrid)
- ws - ge (temperature sensor)

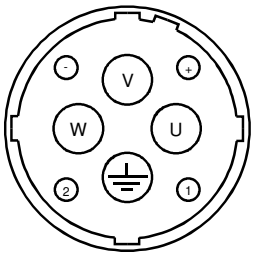
2.2.2. Main connection connector

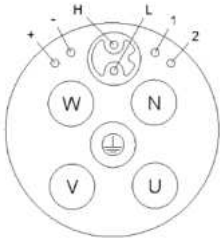
Note:
The connector size is determined by the standstill current I_0 of the motor used.
Motors with a standstill current ≤ 20 A are designed with the main connector size 1.
For a standstill current of 20 A < I_0 ≤ 36 A, the main connector size 1.5 is used.
For an I_0 > 36 A a terminal box must be used.

Pin images of the main sockets with view on the contact side of the device socket:

		Pin	Signal	Color / labeling
Size 1 $I_0 \leq 20$ A		1 ⏚ 3 4 A B C D	Phase U Protective conductor Phase V Phase W B+ B- 1R1 1R2	U green / yellow V V W W W red black white yellow

		Pin	Signal	Color / labeling
Size 1 Hybrid socket $I_0 \leq 20$ A		1 ⏚ 3 4 A B C D	Phase U Protective conductor r Phase V Phase W B+ B- +U / DSL+ GND / DSL-	U green / yellow yellow V V W W W blue white black, number 5 black, number 6

		Pin	Signal	Color / labeling
Size 1,5 $I_0 \leq 36$ A		U V W ⏚ + - 1 2	Phase U Phase V Phase W Protective conductor B+ B- 1R1 1R2	U V V W W W green / yellow yellow red black white yellow

		Pin	Signal	Color / labeling
Size 1,5 Hybrid socket $I_0 \leq 36$ A		U V W N ⏚ + - 1 2 H L	Phase U Phase V Phase W / Protective conductor B+ B- Inner shield encoder / +U / DSL+ GND / DSL-	U V V W W W / Green /yellow yellow blue white / / black, number 5 black, number 6

View to the contact side of the socket box

Cable cross section [2]	Nominal current [A][1) 2)]	Connector 540 V Size [2]	Cable diameter [2] [mm]
4×1.5 mm² + 4×0.75 mm²	15	1	11.7-12.3
4×2.5 mm² + 4×0.75 mm²	20	1	12.7-14.6
4×4 mm² + 4×0.75 mm²	28	1.5	14.2-15.4
4×6 mm² + 4×0.75 mm²	36	1.5	16.6-17.9
4x10 mm² + 4x0.75 mm²	50	1.5	20.5-21.5
4x16 mm² + 4x0.75 mm²	66	-	23.0-25.8
4x25 mm² + 2x(2x1.5 mm²)	84	-	26.3-29.7
4x35 mm² + 2x(2x1.5 mm²)	104	-	30.8-32.5

1) Current carrying capacity according to table 5 installation type C or E (VDE 0113 / EN 60 204 part 1 edition 1997). environmental temperature 40°C
2) Different regulations apply for cULus-approved motors.

2.2.3. Instructions for use

Operating temperature
The cables can be operated in a temperature range from -20 °C to +80 °C

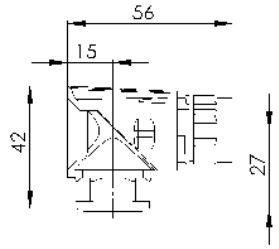
Laying the cable at the motor
The cables must not touch the motor surface.

Smallest permissible bending radii
12 x outside diameter of the cable.

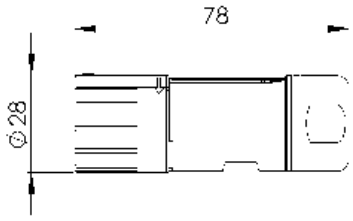
2.3. Dimensional drawings of device socket and plug

2.3.1. Main connection

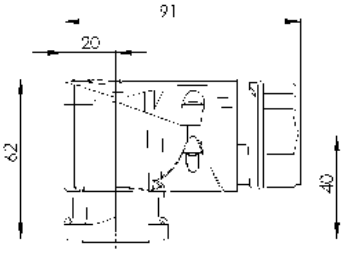
SpeedTec - Angular mounting socket rotatable
(Size 1 for current I0 to 20 A)



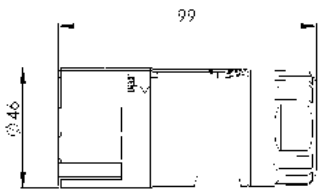
SpeedTec - Mating connector
(Size 1 for current I0 to 20 A)



SpeedTec – Angular mounting socket rotatable
(Size 1.5 for current I_0 to 36 A)

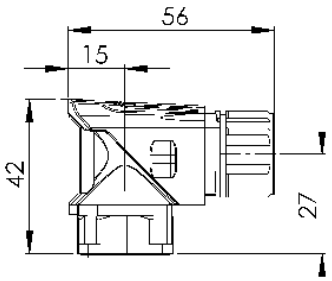


SpeedTec –Mating connector
(Size 1.5 for current I_0 to 36 A)

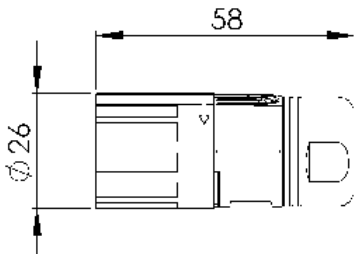


2.3.2. Encoder connection

SpeedTec – Angular mounting socket rotatable

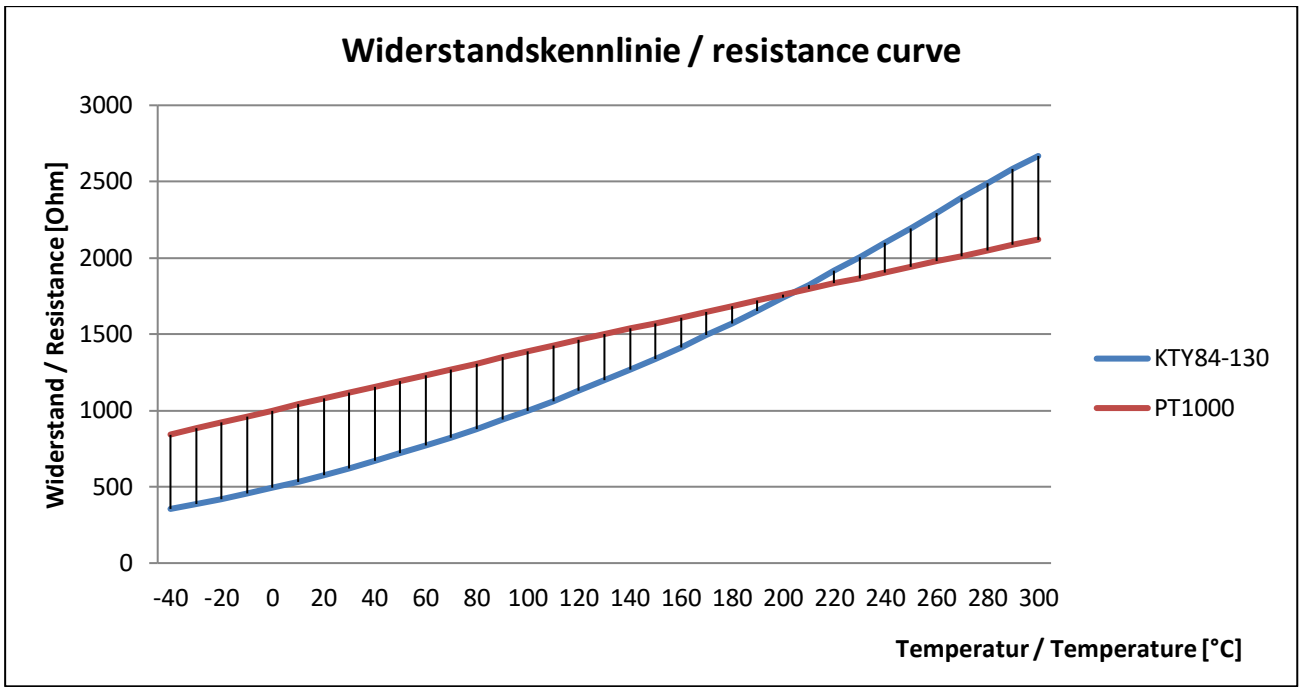


SpeedTec – Mating connector



2.4. Temperature sensor

The temperature sensor is connected via the main connection. As an option. the connection for servo motors is possible via the encoder socket. The particular version must be identified in the order code. For HDSL encoders. the encoder temperature is transmitted via the digital protocol.



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

3. Three-phase synchronous motors HYG1-036

With its stainless steel motor HYG1 Baumüller offers a high acceleration drive with a high protection class. The HYG1-036 has been developed in particular with regard to the food & beverage. as well as pharmaceutical industry. Therefore the motor has a Hygienic design in a stainless steel housing and a high dynamic performance.

3.1. General technical data

Design	IM B14	Mounting position horizontal. according to EN 60034-7
	IM V18	Mounting position vertical. shaft end downwards. according to EN 60034-7
	IM V19	Mounting position vertical. shaft end upwards. according to EN 60034-7
Protection class	IP69K	Housing: Without considering the shaft feethrough with mounted mating connectors
	IP65	Shaft feedthrough: with shaft sealing ring
Connection	Main / encoder connection	Hybrid device socket 8-pin (Hiperface DSL)
	Brake	Connection in the main connection
	Temperature sensor	Generally in the HDSL protocol
Temperature sensor	PT1000	Linear temperature sensor to evaluate in the controller
Cooling type	IC 410	Surface-cooled without fan
Warming up	$\Delta\vartheta$ = 105 K	Insulation material class F according to EN 60034
Environmental temperature operating	Class 3K3/3Z12 according to DIN EN 60721-3-3:1995. but: Temperature 0-40 °C	corresponds to 0 to 40 °C at 5 % to 85 % relative humidity and an absolute humidity of 1 g/m³ to 25 g/m³ and an installation height of up to approx. 1400.
Storage	Class 1K4/1M1	according to DIN EN 60721-3-1:1995
Transport	Class 2K12/2M4	according to DIN EN 60721-3-2:1995
Surface	Unvarnishede	Stainless steel
Bearing	Drive side	Standard: ball bearing; option: roller bearing
Bearing service life	L_{10H} 20.000 h	Standard value. rolling bearings with permanent grease lubrication
Quality of vibration	A	Corresponding to DIN EN60034-14 (VDE 0530-part 14):2004-09
	B	On request (for ball bearing only)
Smooth running	N; R	Standard: Normal according to DIN 42955/ Option: Reduced according to DIN 42955[1)]
Vibration-proof up to	radial 3 g [2)]	10 Hz to 100 Hz according to EN 60068-2-6
	axial 0.5 g [2)]	10 Hz to 100 Hz according to EN 60068-2-6
Shaft end	Cylindrical	Smooth according to DIN 748; also available with feather key DIN 6885 Centering with internal thread according to DIN 332 form D
Holding brake	Option	PE – brake
Actual speed encoder	Absolute encoder	Hiperface DSL: EES37/EEM37. EKS/EKM36/ EDS/EDM35
Approvals	CE; c UL us; ; CEL; UKCA	Standard

[1] DIN EN 50347:2003-09 not applicable here. only for AC standard motors

[2] If increased vibration loads are present. measurements on site are required.
Based on these measurements. design revisions or assessments are carried out with Baumüller

3.2. Type key

HYG1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**Type**
HYG1-**XXX**XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**Overall size** 036
HYG1-XXX**XX**XXX-XX-XX-XXX-XXX-X-XX-X-XXX	**Overall length** KO SO
HYG1-XXXXX**XX**X-XX-XX-XXX-XXX-X-XX-X-XXX	**Protection type** 69 – Protection type IP69K
HYG1-XXXXXXX**X**-XX-XX-XXX-XXX-X-XX-X-XXX	**Cooling type** U - without fan
HYG1-XXXXXXXX-**XX**-XX-XXX-XXX-X-XX-X-XXX	**Nominal speed class** 10 - 1000 1/min 20 - 2000 1/min 30 - 3000 1/min 40 - 4000 1/min
HYG1-XXXXXXXX-XX-**XX**-XXX-XXX-X-XX-X-XXX	**Uzk_ DC** 54 - 540 V
HYG1-XXXXXXXX-XX-XX-**X**XX-XXX-X-XX-X-XXX	**Encoder type** a - EKS36 Hiperface DSL b - EKM36 Hiperface DSL r – EES37 Hiperface DSL s – EEM37 Hiperface DSL
HYG1-XXXXXXXX-XX-XX-X**X**X-XXX-X-XX-X-XXX	**Brake** O – without brake
HYG1-XXXXXXXX-XX-XX-XX**X**-XXX-X-XX-X-XXX	**Shaft options** A – Smooth shaft B – With feather key
HYG1-XXXXXXXX-XX-XX-XXX-**X**XX-X-XX-X-XXX	**Type main connection** B – socket box SpeedTec (PT1000 via Hiperface DSL)
HYG1-XXXXXXXX-XX-XX-XXX-X**X**X-X-XX-X-XXX	**Outlet Main connection** N – non drive side
HYG1-XXXXXXXX-XX-XX-XXX-XX**X**-X-XX-X-XXX	**Outlet Sensor connection** O - without sensor box
HYG1-XXXXXXXX-XX-XX-XXX-XXX-**X**-XX-X-XXX	**Bearing** K - Ball bearing drive side

HYG1-XXXXXXXX-XX-XX-XXX-XXX-X-**X**X-X-XXX	**Vibration quality** A - Vibration quality A B - Vibration quality B
HYG1-XXXXXXXX-XX-XX-XXX-XXX-X-X**X**-X-XXX	**Concentricity** N - Normal R – Reduced
HYG1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-**X**-XXX	**Gearbox/ pump attachment** O - without gearbox attachment and without pump attachment Z - B5 flange
HYG1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-**XXX**	**Extended version** 000 - without special design

Configuration examples:
HYG1-036SO69U-30-54-rOB-BNO-K-AN-O-000

3.3. Overview electrical data

HYG1-036..69U-.. (without fan)

Mains voltage 3 AC 000 V for converters with an uncontrolled supply

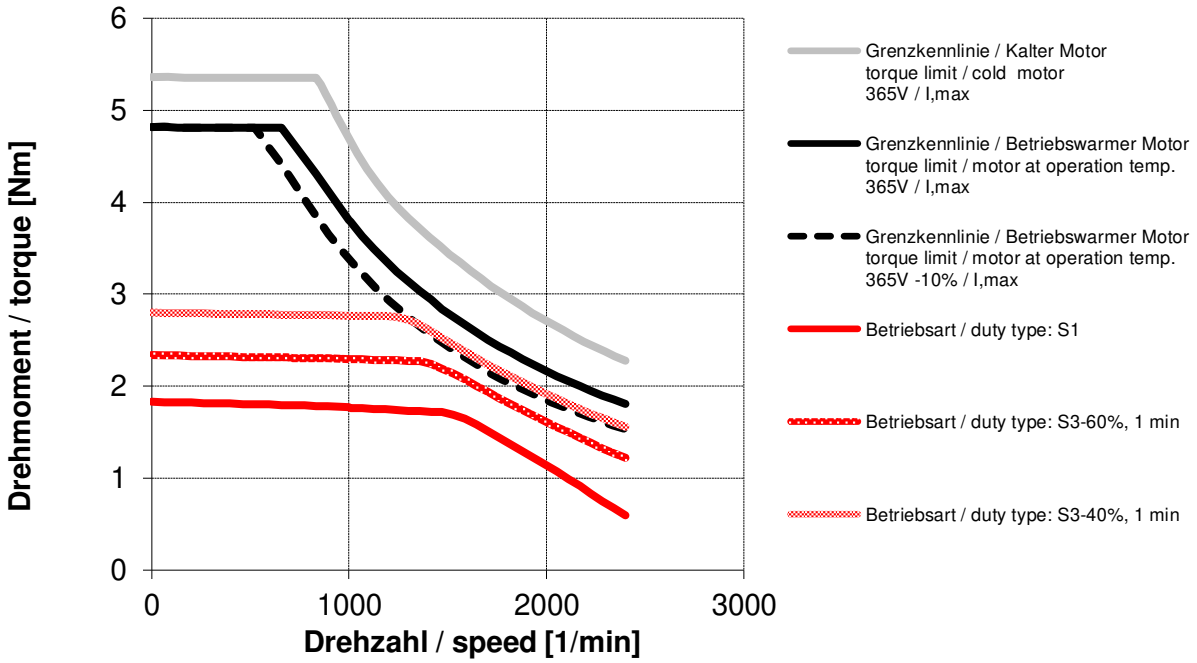
Rated speed	Motor type	Standstill torque[1)]	Standstill current[1)]	max. stand-still torque	max. stand-still current	Rated power	Rated torquet	Rated current	Voltage constant	Rated fre-quency	Rotor-inertia torque (motor)	Weight
n_N		M_0	I_0	$M_{0.max}$	$I_{0.max}$	P_N	M_N	I_N	$K_{E/cold}$	f_N	J	m
min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/_{1000\ min^{-1}}$	Hz	$kgcm^2$	kg
1000	HYG1-036KO69U-10-54	1.8	0.53	5	2.1	0.18	1.7	0.53	230	83.3	0.69	4.4
	HYG1-036SO69U-10-54	3.5	1.1	9.9	4.4	0.36	3.5	1.1	224	83.3	0.85	5.1
2000	HYG1-036KO69U-20-54	1.8	0.75	5	3	0.35	1.7	0.72	163	166.7	0.69	4.4
	HYG1-036SO69U-20-54	3.5	1.4	9.9	5.7	0.7	3.4	1.4	174	166.7	0.85	5.1
3000	HYG1-036KO69U-30-54	1.8	1.1	5	4.3	0.48	1.5	0.93	115	250	0.69	4.4
	HYG1-036SO69U-30-54	3.5	2.2	9.9	8.8	0.96	3	1.9	112	250	0.85	5.1
4000	HYG1-036KO69U-40-54	1.8	1.5	5	6	0.52	1.2	1.1	81.5	333.3	0.69	4.4
	HYG1-036SO69U-40-54	3.5	2.8	9.9	11.3	1.03	2.5	2	87.1	333.3	0.85	5.1

3.4. Motor characteristice

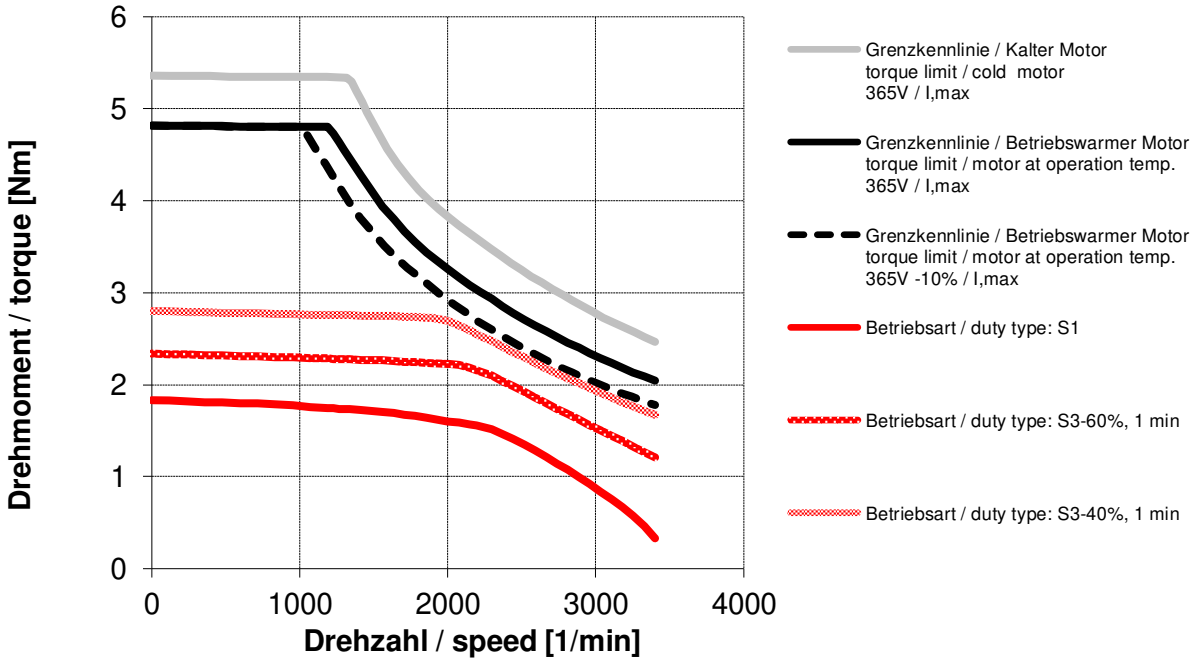
Definition

Cold motor	Environmental temperature (0°C to 40°C)
Motor at operating temperature	Continuous operation (S1) with nominal data of the motor or cyclical operation with corresponding effective performance --> Environmental temperature + delta heating (105K)

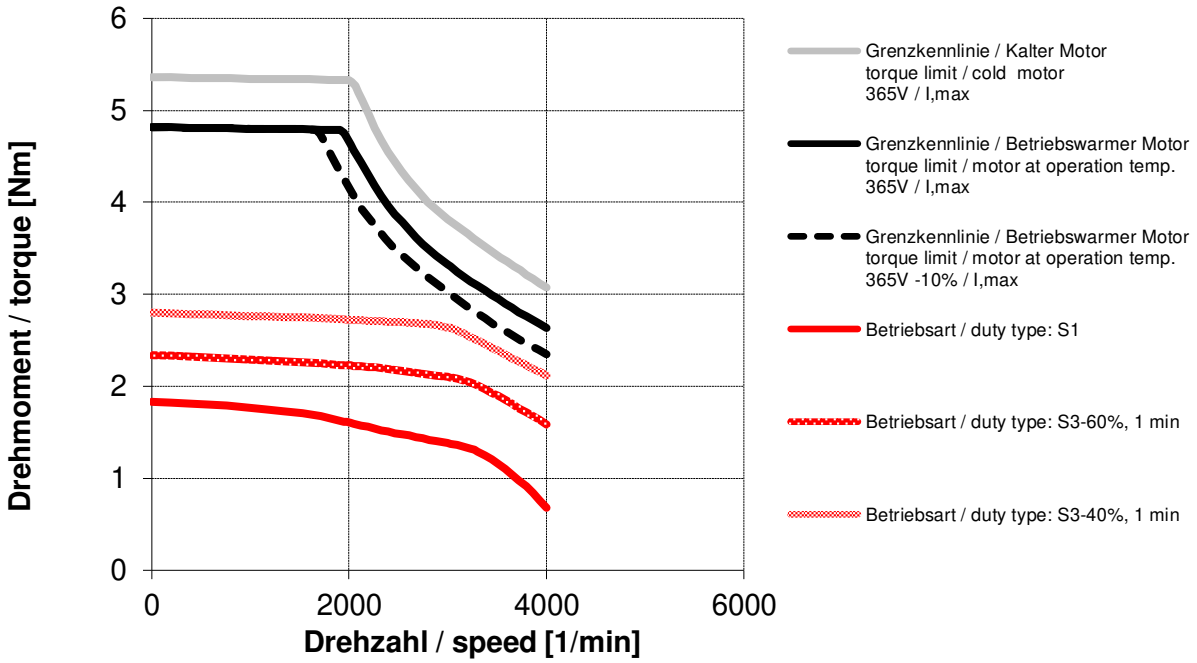
HYG1-036KO69U-10-54



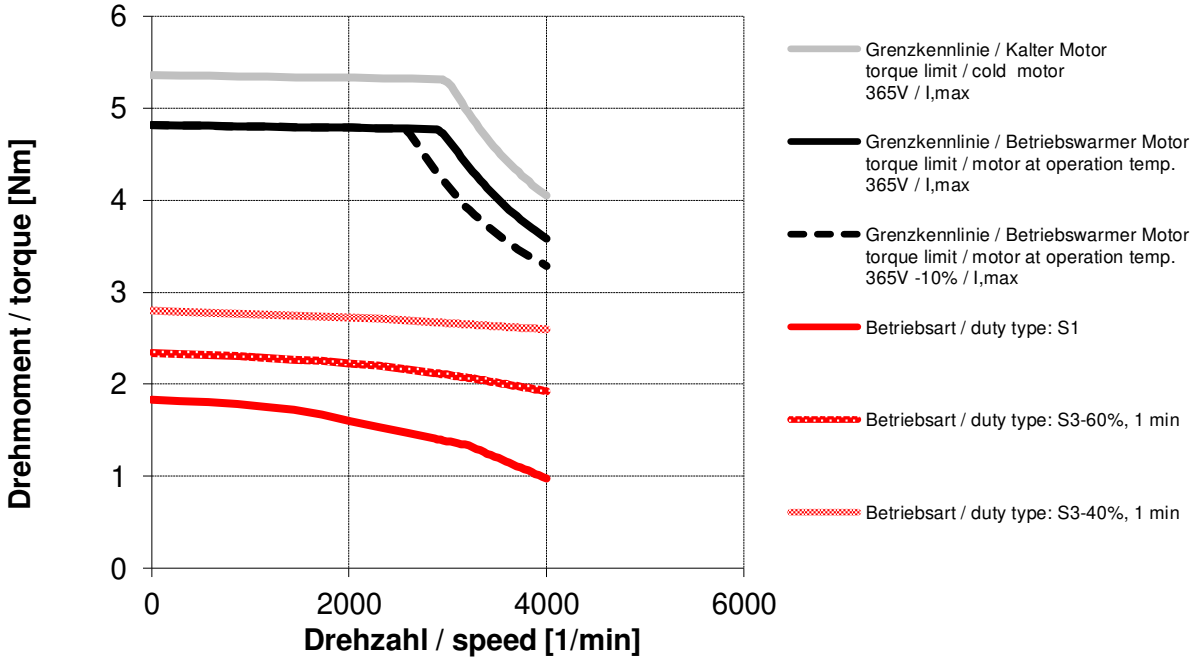
HYG1-036KO69U-20-54



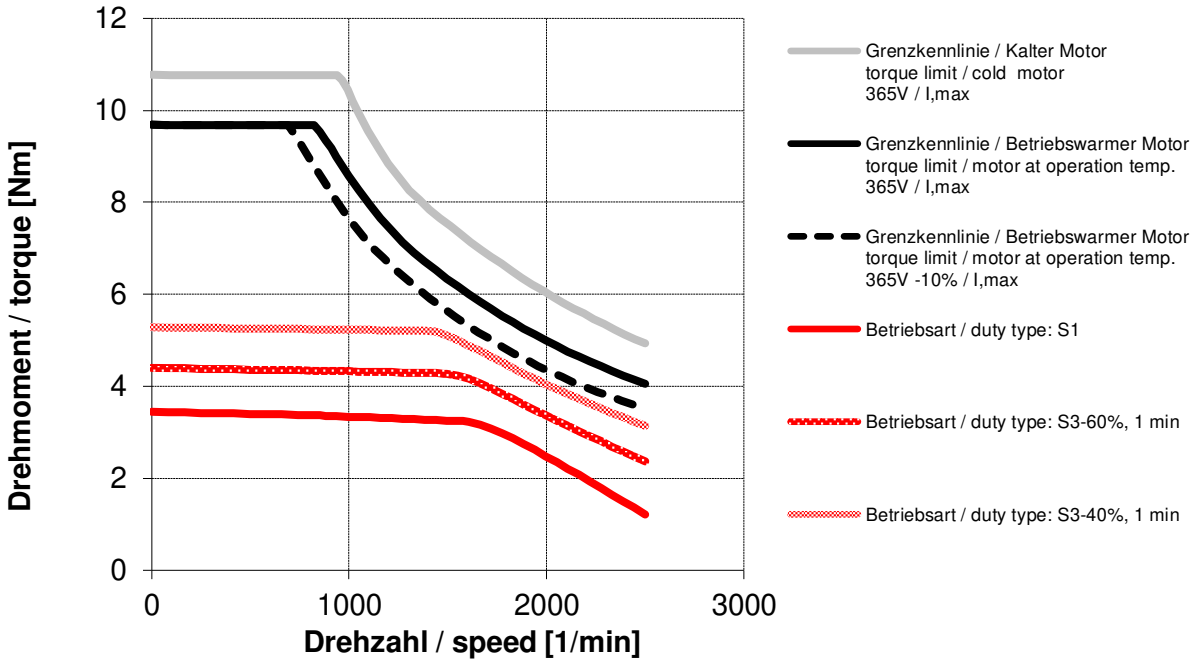
HYG1-036KO69U-30-54



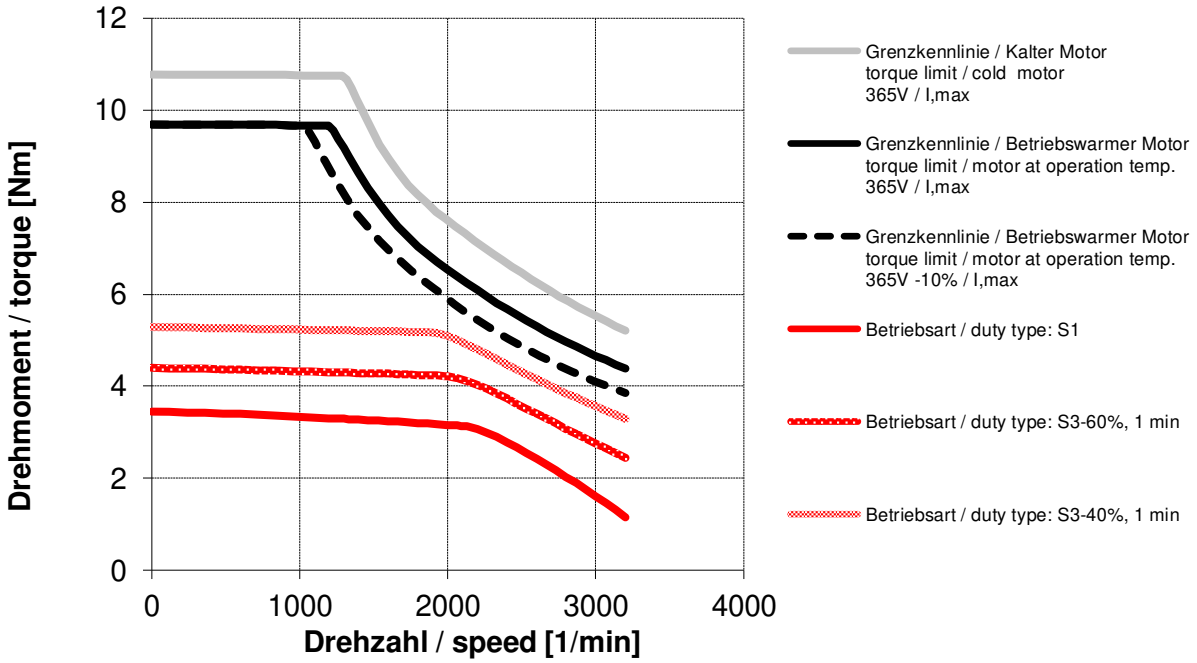
HYG1-036KO69U-40-54



HYG1-036SO69U-10-54



HYG1-036SO69U-20-54



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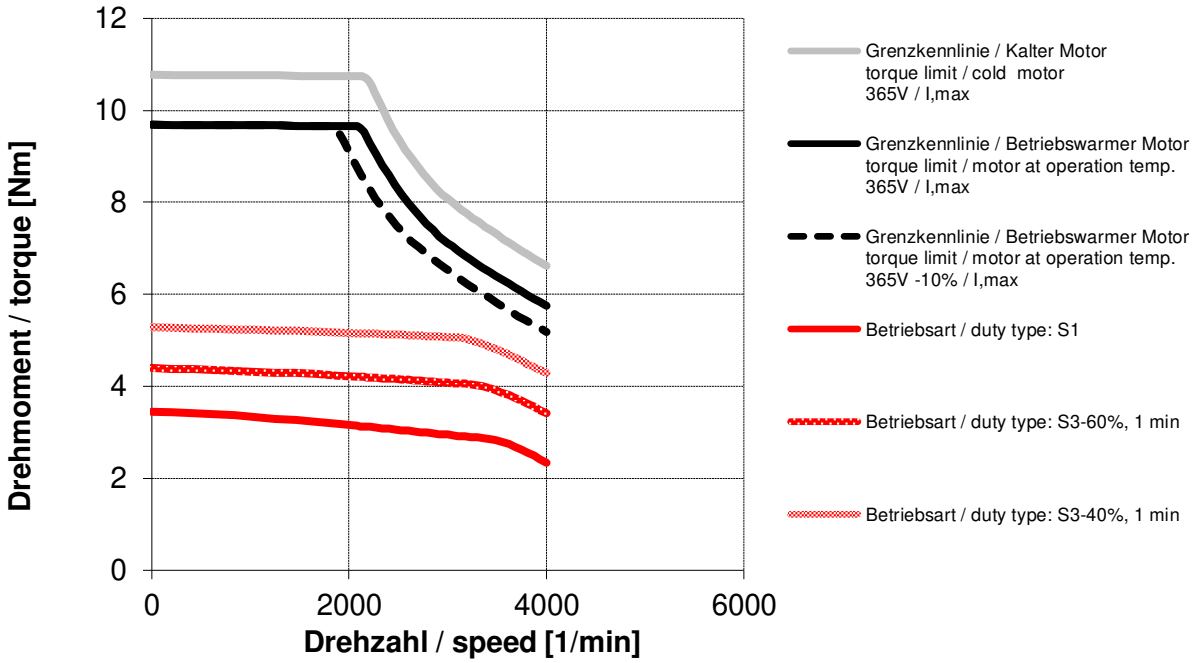

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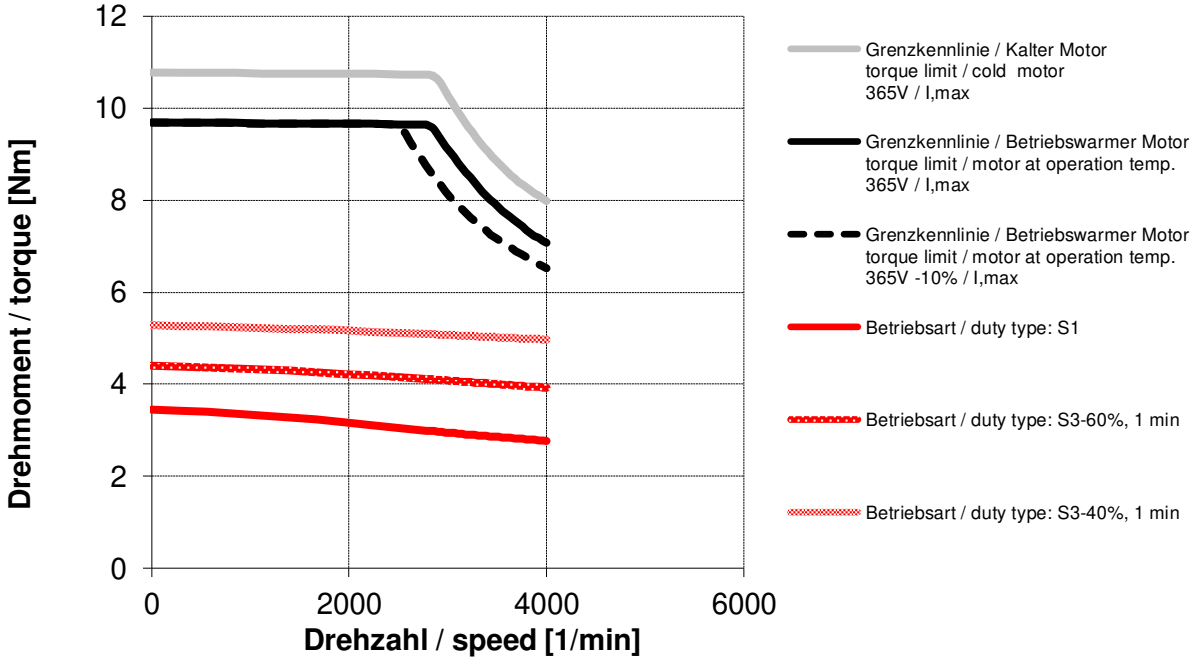
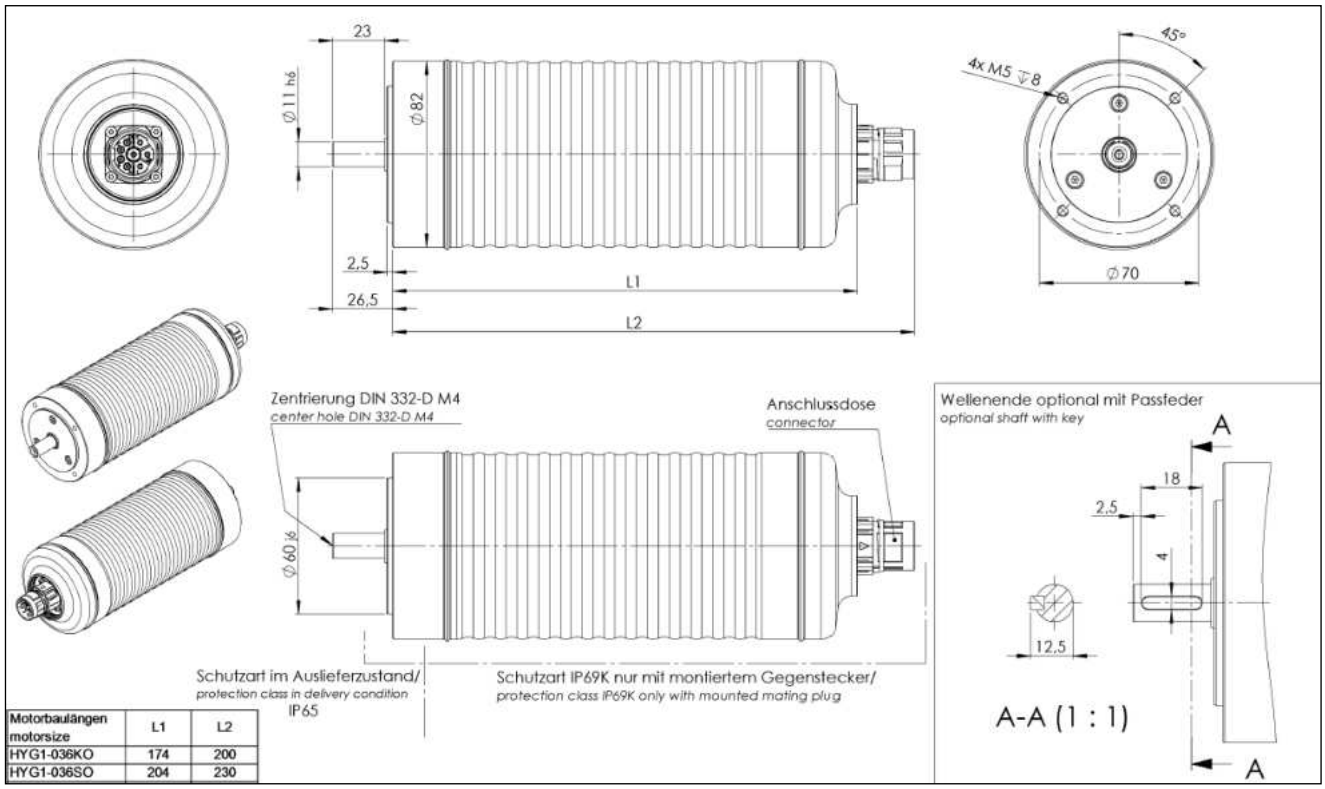


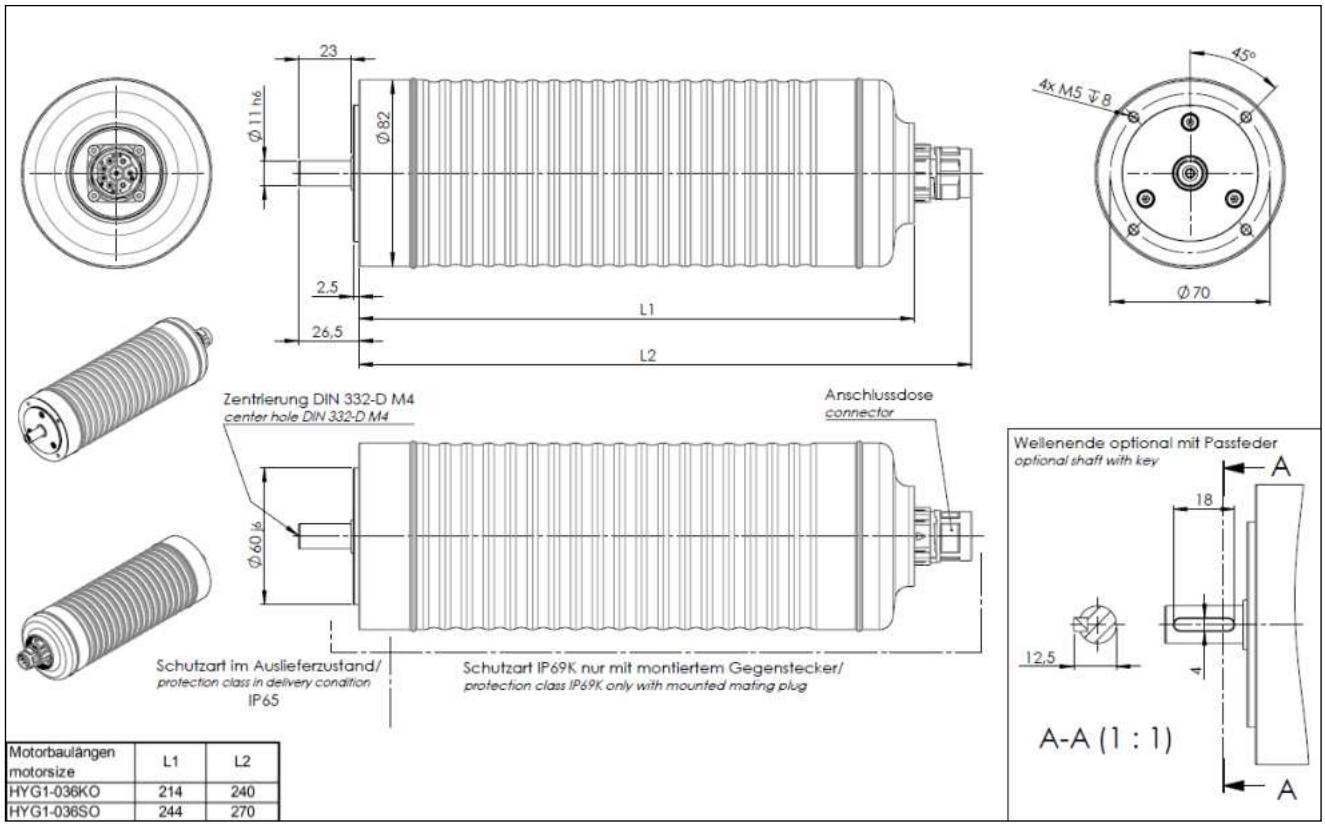
3.5. Dimensional drawings

Dimension drawings HYG1-036….U-..-..-.O.-.NO-.-..-O-000
Version IM B14



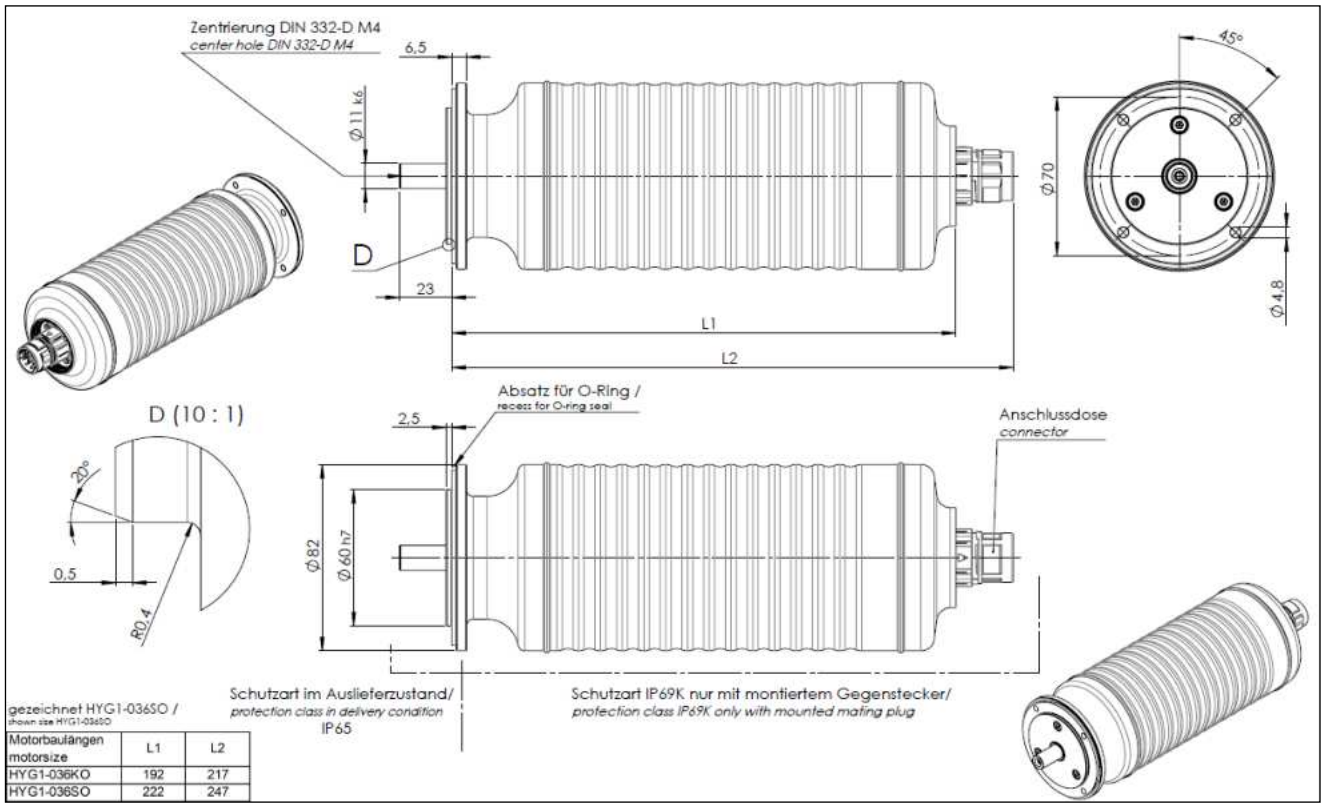
Motorbaulängen motorsize	L1	L2
HYG1-036KO	174	200
HYG1-036SO	204	230

Dimension drawings HYG1-036….U-..-..-.B.-.NO-.-..-O-000
Version IM B14



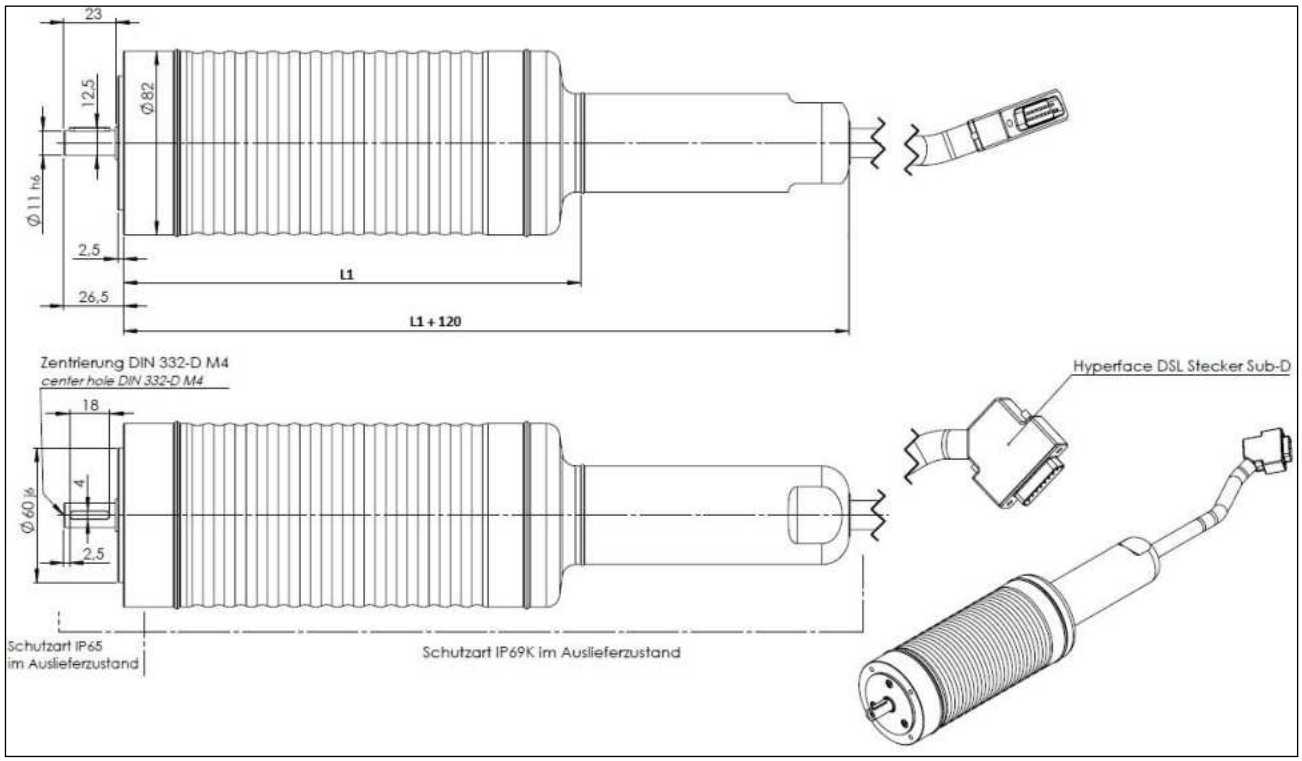
Motorbaulängen motorsize	L1	L2
HYG1-036KO	214	240
HYG1-036SO	244	270

Dimension drawings HYG1-036….U-..-..-.O.-.NO-.-..-Z-000
Version IM B5



Motorbaulängen motorsize	L1	L2
HYG1-036KO	192	217
HYG1-036SO	222	247

Dimension drawings **HYG1-036….U-..-..-.O.-.NO-.-..-O-000**
With mounted connection technology



3.6. Holding brake HYG1-036

The motors can be equipped with a holding brake on request. The holding brakes are backlash-free permanent magnet brakes. The brakes operate according to the closed-circuit current principle. i.e. the brake is applied when the motor is switched off (or if the operating voltage fails). The brakes are dimensioned for an operating voltage of 24 VDC. The technical data of the brake manufacturer apply at room temperature.

The motors are available with the following holding brakes:

Motor type	**HYG1-036**
Minimum static holding torque [Nm] bei 120 °C	4
Nominal dynamic holding torque [Nm] at 120 °C	3.5
Maximum switching energy [J] per brake of n = 3000 min^{-1}	220
Connection values [V] (+6 % / -10 %)	24
Power input [W]	12
Inertia torque [$kgcm^2$]	0.18
Switching time on [ms] Ventilation; at basic air gap	35
Switching time off [ms] Braking; at basic air gap	2.5

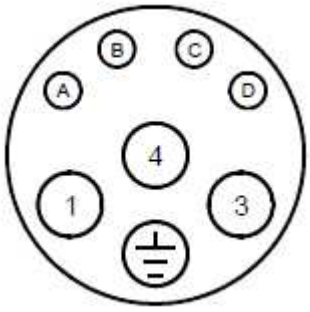
All brakes are not safety brakes in the sense that a torque reduction cannot occur due to interference factors which cannot be influenced. Depending on the application. the relevant accident prevention regulations as well as the basic safety and health requirements of Annex I of the Machinery Directive and the harmonized European standards are to be observed.
Approximately 2000 braking operations can be carried out for emergency stop or in case of power failure.
(Condition: Maximum external inertia torque = motor inertia torque and nmax type-related;
max. braking operations / hour < 20; equally distributed).

3.7. Encoder options

3.7.1. EES37/EEM37 Hiperface DSL® (Fa. SICK)

	EES37	EEM37
Number of absolutely resolved revolutions	1 (15 bit)	4096 (15 bit)
Code type for the absolute values	Binary	
Interface signals	Digital. RS-485	
Positioning values/rotation	32.768	
Maximum angular acceleration	500.000 rad/s²	
Maximum operating speed	12.000 1/min	
Power supply	7…12 V	
Current consumption without load	≤ 150 mA	
Shock according to DIN EN 60068-2-27 (6 ms)	980 m/s²	
Vibration according to DIN EN 60068-2-6 (10-2000 Hz)	490 m/s²	
Operating temperature	-40°C…+115°C	

Connection EES37/EEM37 DSL Hiperface



Pin	Signal
1	U
3	V
4	W
⏚	GN / GE
A	B+
B	B-
C	+U / DSL+
D	GND / DSL-

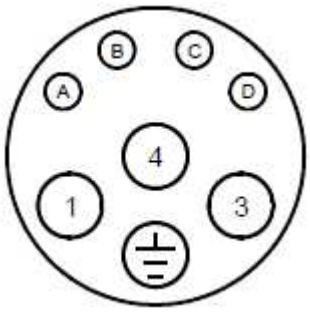
View on the contact side of the device socket size 1

The configuration options of Hiperface DSL encoders with different motor versions can be found in the product configurator. The encoders can be used up to a cable length of 60 m.

3.7.2. EKS36/EKM36 Hiperface DSL® (Fa. SICK)

	EKS36	EKM36
Number of absolutely resolved revolutions	1 (18 bit)	4096 (18 bit)
Code type for the absolute values	Binary	
Interface signals	Digital. RS-485	
Positioning values/rotation	262.144	262.144
Maximum angular acceleration	12.000 1/min	9.000 1/min
Power supply	7…12 V	
Current consumption without load	≤ 150 mA	≤ 150 mA
Shock according to DIN EN 60068-2-27 (6 ms)	980 m/s²	
Vibration according to DIN EN 60068-2-6 (10-2000 Hz)	490 m/s²	
Operating temperature	-20°C…+115°C	

Connection EKS36/EKM36 DSL Hiperface



Pin	Signal
1	U
3	V
4	W
⏚	GN / GE
A	B+
B	B-
C	+U / DSL+
D	GND / DSL-

View on the contact side of the device socket size 1

View on the contact side of the device socket size 1.5

The configuration options of Hiperface DSL encoders with different motor versions can be found in the product configurator. The encoders can be used up to a cable length of 60 m.

4. Direct ejectors DSC1-135

The direct ejector DSC1 of Baumüller offers a compact and high acceleration. The DSC1-135 has been designed with particular attention to the plastics industry and here designed as ejector drive.
Therefore. the motor has a compact design and high dynamics via a special bearing for compensation of the axial process forces.
Plastics machinery manufacturers also benefit from a special mechanical interface for the spindle connection and the high overload capacity of the motor.

4.1. General technical data

Type	IM B5	Mounting position horizontal. according to EN 60034-7
Protection class	IP64	Standard
Connection	Main connection	Terminal box or built-in power box
	Encoder connection	Encoder connection in SpeedTec version
	Temperature sensor	Standard in the main connection
Temperature sensor	PT1000	Linear temperature sensor for evaluation in the controller
Cooling type	IC 3W7	Water-cooled machine
Warming up	$\Delta\vartheta$ = 105 K	Insulation material class F according to EN 60034
Environmental conditions in the company	Class 3K3/3Z12 acc. DIN EN 60721-3-3. exception: temperature range 0-40 °C	corresponds to 0 to 40 °C at 5 % to 85 % relative humidity and an absolute humidity of 1 g/m³ to 25 g/m³ and an installation height of up to about 1400 m.
Environmental conditions during long-term storage	Class 1K2/1M1 acc. DIN EN 60721-3-1. exception: temperature range -15-60 °C	corresponds to -15 to 60 °C at 5 % to 85 % relative humidity and an absolute humidity of 1 g/m³ to 25 g/m³; at temperatures below 3 °C. the cooling water must be emptied
Environmental conditions during transport	Class 2K12/2M4 acc. DIN EN 60721-3-2. exception: temperature range -15-60 °C	corresponds to -15 to 60 °C at 5 % to 85 % relative humidity and an absolute humidity of 1 g/m³ to 25 g/m³; at temperatures below 3 °C. the cooling water must be emptied
Surface	Black matt	RAL 9005
Bearing	A - side	Four point bearing with relubrication device
	Non drive side	Ball bearing. fixed bearing
	B - side	Angular contact ball bearing with permanent grease lubrication
Bearing operating life	L_{10h} 20.000 h	Guide value for angular contact ball bearings with permanent grease lubrication
		For four point contact bearings. the rating life is calculated using the load cycle
Vibration quality	A	According to DIN EN60034-14 (VDE 0530-part 14):2004-09
Smooth running	N	Standard: Normal DIN SPEC 42955 issued 1981*
Vibration resistance	radial 3g / axial 1g**	10 Hz to 55 Hz according to EN 60068-2-6;
Flange	Acc. IEC- Norm	-Centering diameter f7 fit
Shaft end	Spindle shaft	
Actual speed encoder	SRM50	Standard. for other options refer to chapter encoder
Approvals	CE; cULus ; CEL; UKCA	

*) DIN EN 50347:2003-09 not applicable here. only for AC standard motors

**) If increased vibration loads are present. measurements on site are required.
Based on these measurements. design revisions or assessments are carried out with Baumüller

4.2. Water cooling

4.2.1. Cooling water quality

The cooling water must meet the following specifications:

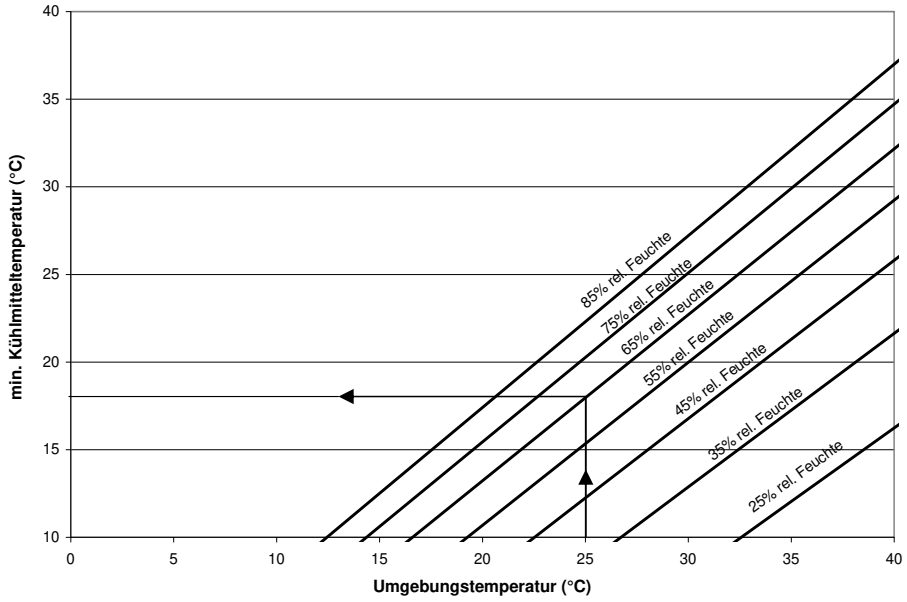
Conditions	Unit	Value
Maximum permissible system pressure	bar	6
Temperature of the coolant – for motor	°C	10 to 25
pH-value (at 20°C)	---	6.5 to 9
Total hardness	mmol/l	1.43 to 2.5
Chloride - Cl^-	mg/l	< 200
Sulphate - SO_4^{2-}	mg/l	< 200
Oil	mg/l	< 1
Permissible particle size solid foreign bodies or particles (such as sand)	mm	< 0.1

Clear water free of impurities and floating particles must be used as coolant.

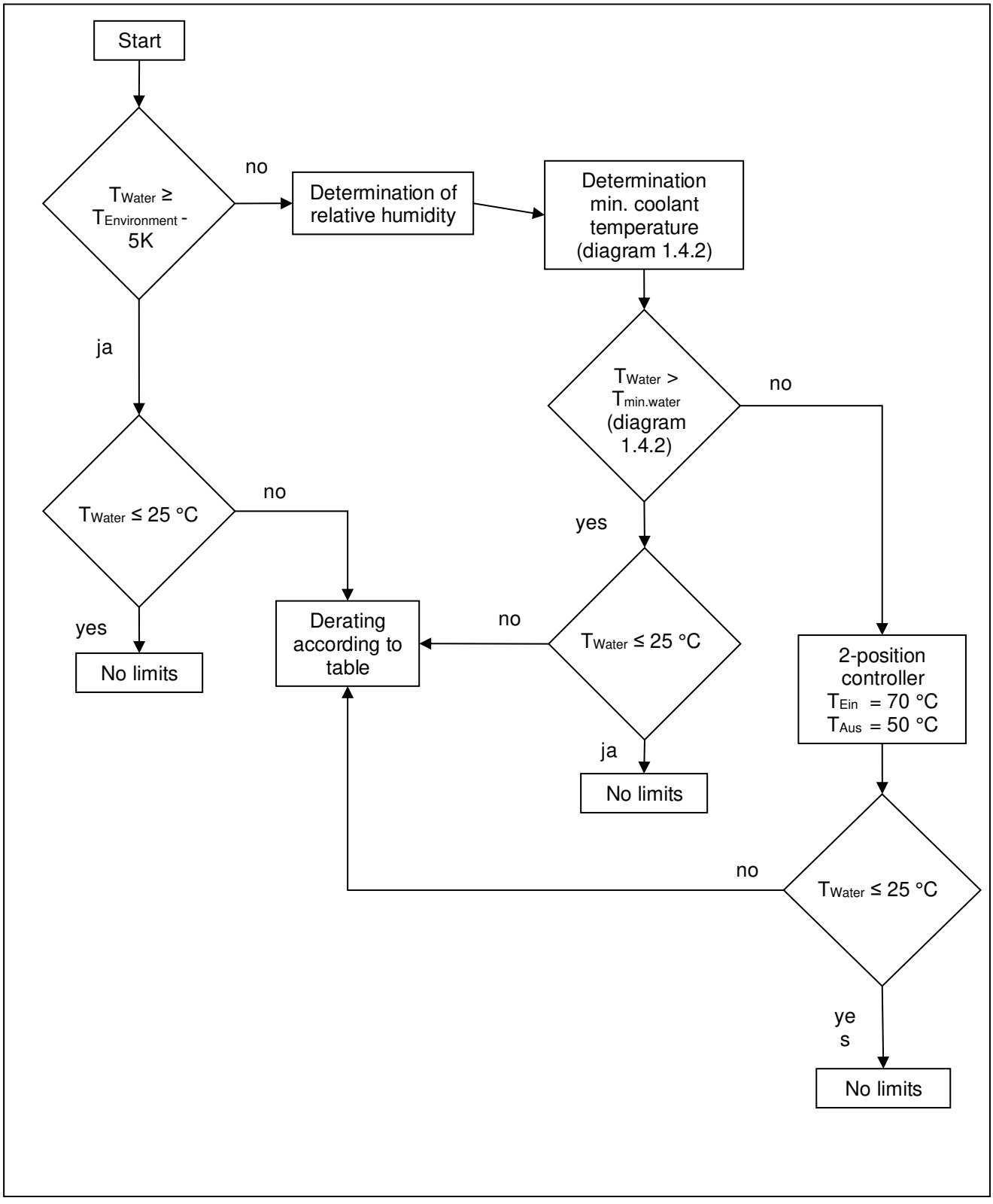
Note:
If the specific heat capacity is reduced. e.g. by adding glycol. there will be a reduction in performance depending on the mixing ratio.

Using hydraulic oil (HLP 46) results in a reduction in nominal power of 20 to 25% compared to water cooling. depending on length and speed. The basis is an inlet temperature of 35°C for both cooling media and an identical volume flow. The pressure drop is higher when using hydraulic oil. The exact performance data are available on request.

4.2.2. Min. coolant temperature in dependence of the environmental conditions



The permissible temperature of the coolant depends on the relative air humidity during operation and the ambient temperature. For example. at an ambient temperature of 25°C and a relative humidity of 65%. a minimum coolant inlet temperature of 18°C is permissible. The characteristics shown in the diagram are limit characteristics. In the example. a coolant inlet temperature of greater than 18°C should therefore be selected. If the minimum permissible coolant inlet temperature is not reached. the 2-position controller of Baumüller drive electronics is to be used to avoid condensation.



Note:
If the motor is not running for a longer period of time. the coolant supply must be interrupted to prevent condensation. Furthermore. at environmental temperatures < 3°C and when the motor is at a standstill for a longer period. the coolant must be drained to prevent frost damage. Consult the manufacturer if antifreezing agents are to be used.

4.2.3. Information on the required cooling volume flows

Motor type	Volume flow [l/min]	Pressure loss ± 15 % [bar]	Warming up [K]	Max. coolant pressure [bar]	Connection (2x) [mm]
DSC1-135SO..W	9	0.72	3.1	6	Stainless steel pipe Ø10
DSC1-135LO..W	9	0.88	4.5	6	Stainless steel pipe Ø10

Depending on the motor temperature. which is measured by the temperature sensor. an individual control of the inlet valve is possible.

Note:
The specified cooling volume flows refer to the highest speed of the respective engine lengths.
An individual cooling unit design based on the motor power loss (PV = PN /ηN-PN) is possible. The cooling unit must be dimensioned so that the cooling capacity corresponds to the motor power loss and 100% of the heat loss is dissipated via the coolant.

Additives for corrosion protection and germ protection must be added in sufficient quantities. The type and admixture of the additives depends on the respective recommendations of the manufacturers of these additives and the respective ambient conditions.

4.2.4. Materials in contact with media in the motor

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

Cooling system: stainless steel
Water connections: As standard. the motors are delivered with a stainless steel pipe Ø10x1 mm without additional connection technology. Optionally. the water connection can be made with a Ø10 cutting ring screw connection. Please indicate this option with your order including order code

4.3. Type key

DSC1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**Type**
DSC1-**XXX**XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**Size** 135
DSC1-XXX**XX**XXX-XX-XX-XXX-XXX-X-XX-X-XXX	**Length** SO LO
DSC1-XXXXX**XX**X-XX-XX-XXX-XXX-X-XX-X-XXX	**Degree of protection** 64 – degree of protection: IP64
DSC1-XXXXXXX**X**-XX-XX-XXX-XXX-X-XX-X-XXX	**Cooling type** W – Water cooling
DSC1-XXXXXXXX-**XX**-XX-XXX-XXX-X-XX-X-XXX	**Nominal speed class** 10 - 1000 1/min 15 - 1500 1/min
DSC1-XXXXXXXX-XX-**XX**-XXX-XXX-X-XX-X-XXX	**Uzk_ DC** 54 - 540 V
DSC1-XXXXXXXX-XX-XX-**X**XX-XXX-X-XX-X-XXX	**Encoder type** E - SRM50 G - EQN1325

DSC1-XXXXXXXX-XX-XX-X**X**X-XXX-X-XX-X-XXX	**Brake** O – without brake
DSC1-XXXXXXXX-XX-XX-XX**X**-XXX-X-XX-X-XXX	**Shaft options** W – Spindle shaft
DSC1-XXXXXXXX-XX-XX-XXX-**X**XX-X-XX-X-XXX	**Type main connection** M – Terminal box (PT1000 in the main connection) B – Device socket SpeedTec (PT1000 on the main connection)
DSC1-XXXXXXXX-XX-XX-XXX-X**X**X-X-XX-X-XXX	**Outgoing main connection** D - DE (drive side) N - NDE (Non drive side) on request P - Pivoted (turnable)
DSC1-XXXXXXXX-XX-XX-XXX-XX**X**-X-XX-X-XXX	**Outgoing encoder connection** T – Top – straight socket P - Pivoted– angled socket
DSC1-XXXXXXXX-XX-XX-XXX-XXX-**X**-XX-X-XXX	**Bearing** V – 4-point bearing with lubrication Drive side
DSC1-XXXXXXXX-XX-XX-XXX-XXX-X-**X**X-X-XXX	**Vibration quality** A – Vibration quality A
DSC1-XXXXXXXX-XX-XX-XXX-XXX-X-X**X**-X-XXX	**Concentricity** N - Normal
DSC1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-**X**-XXX	**Gear/ pump installation** O - without gear and pump installation
DSC1-XXXXXXXX-XX-XX-XXX-XXX-X-XX-X-**XXX**	**Extended version** 000 - without special version AP1 – Water connection with cutting ring screwing XXX - special version (internal coding) Special coding is alphanumeric

4.4. Overview electric data

DSC1-135..64W-.. (water-cooled)

Power supply 3 AC 400 V for converters with uncontrolled supply

Rated speedl	Motor type	Standstill torque[1)]	Stand still torque[1)]	max. stand still torque	max. stand still torque	Rated power[1)]	Rated torque[1)]	Rated current[1)]	Voltage constant	Rated fre-quency	Rotor-inertia torque (motor)[2)]	Weight[3)]
n_N		M_0	I_0	$M_{0.max}$	$I_{0.max}$	P_N	M_N	I_N	$K_{E/kalt}$	f_N	J	m
min^{-1}		Nm	A	Nm	A	kW	Nm	A	$V/_{1000\ min^{-1}}$	Hz	kgm^2	kg
1000	DSC1-135SO64W-10-54	130	34	265	111	12	120	31.8	264	133.3	0.0853	146
	DSC1-135LO64W-10-54	305	63	520	170	23	220	57	342	133.3	0.0868	186
1500	DSC1-135SO64W-15-54 [1)]	130	51	265	165	17	110	44.7	176	200	0.0853	146
	DSC1-135SO64W-15-54 [2)]	96	36	265	165	14	88	36	176	200	0.0853	146
	DSC1-135LO64W-15-54 [3)]	305	95	515	260	34	215	76	225	200	0.0868	186

1) with terminal box

2) with power mounting socket size 1.5

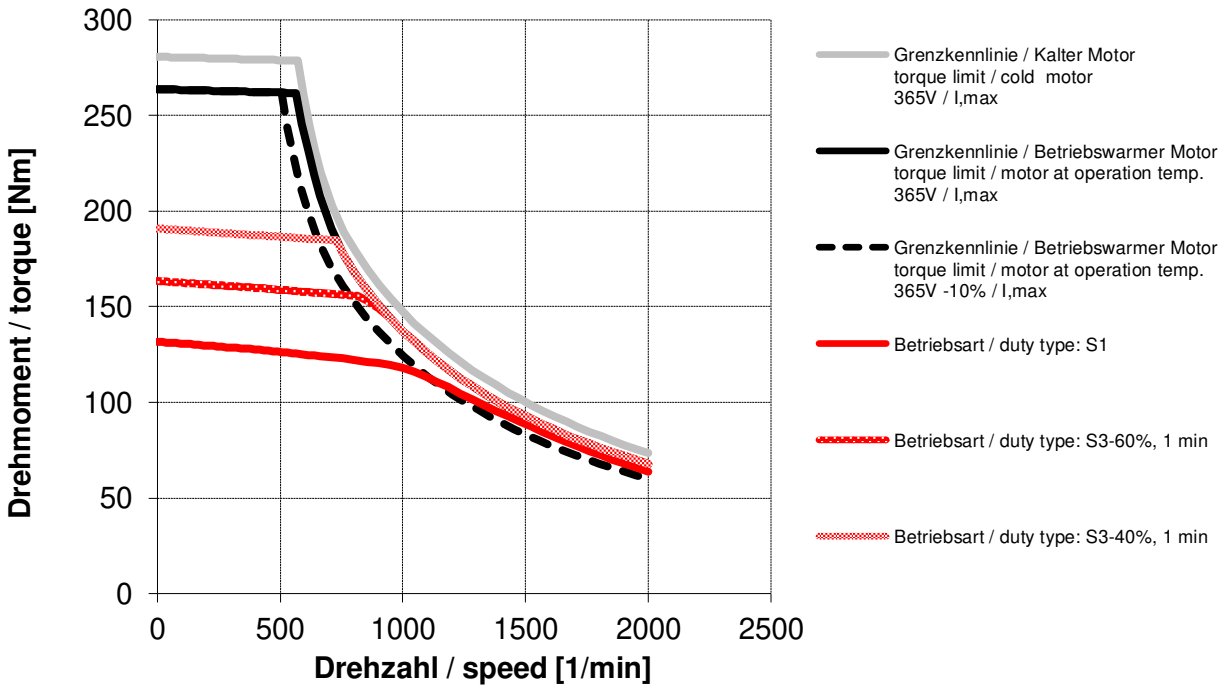
3) recommended main connection cable TOPFLEX® MOTOR EMV 1/1 4G 35mm² with cable gland M40 HSK-M-EMV-D for cURus applications

4.5. Motor characteristics

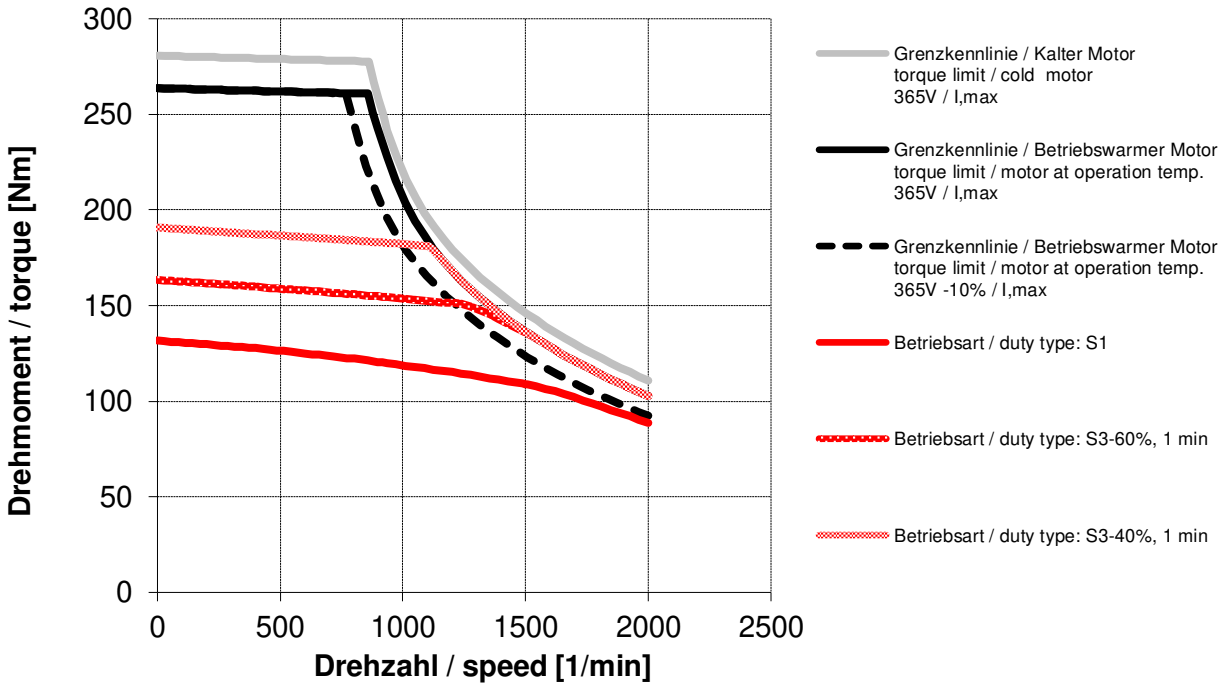
Definition

Cold motorr	Environmental temperature (0°C to 40°C)
Warmed-up motor	Continuous operation (S1) with nominal data of the motor or cyclic operation with accordant effective performance --> environmental temperature + delta warming up (105K)

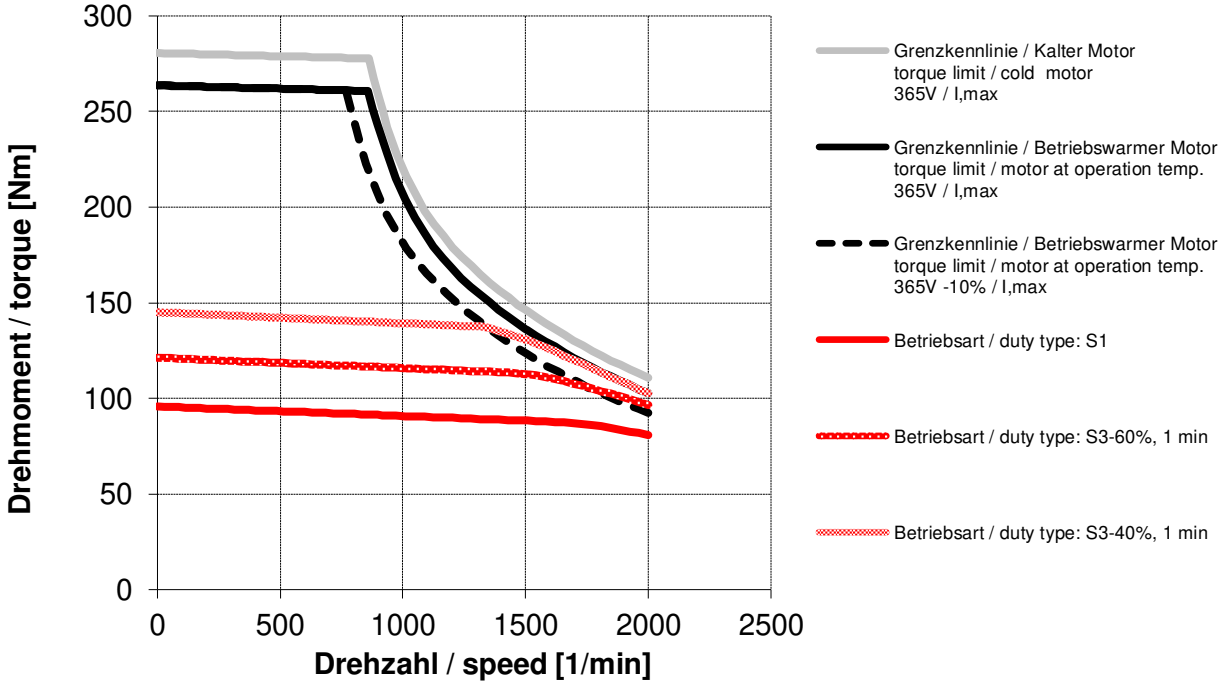
DSC1-135SO64W-10-54



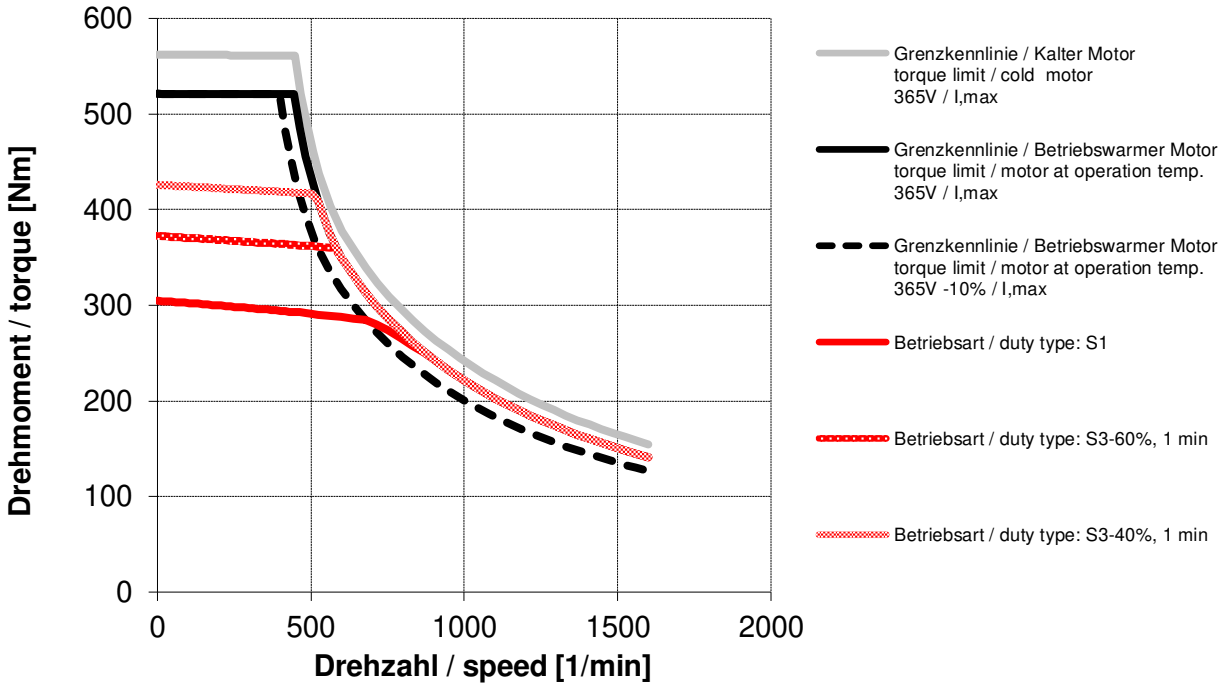
DSC1-135SO64W-15-54..M (with terminal box)



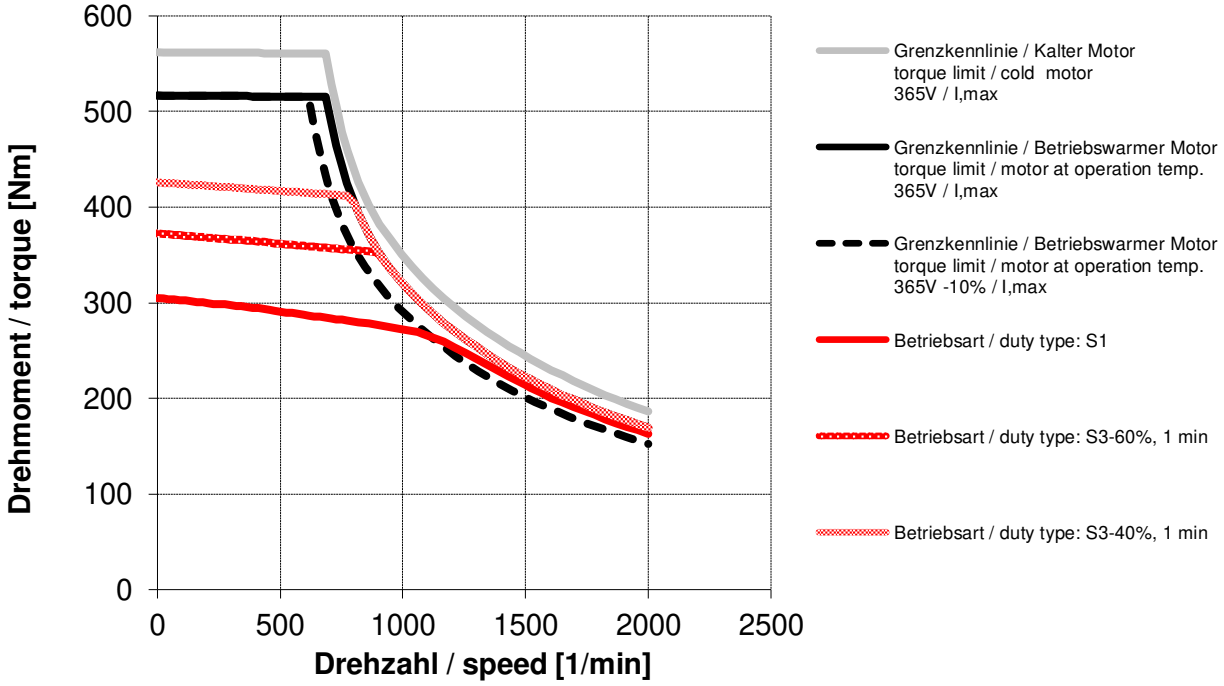
DSC1-135SO64W-15-54..B (with power mounting socket 1.5)



DSC1-135LO64W-10-54



DSC1-135LO64W-15-54



4.6. Bearing

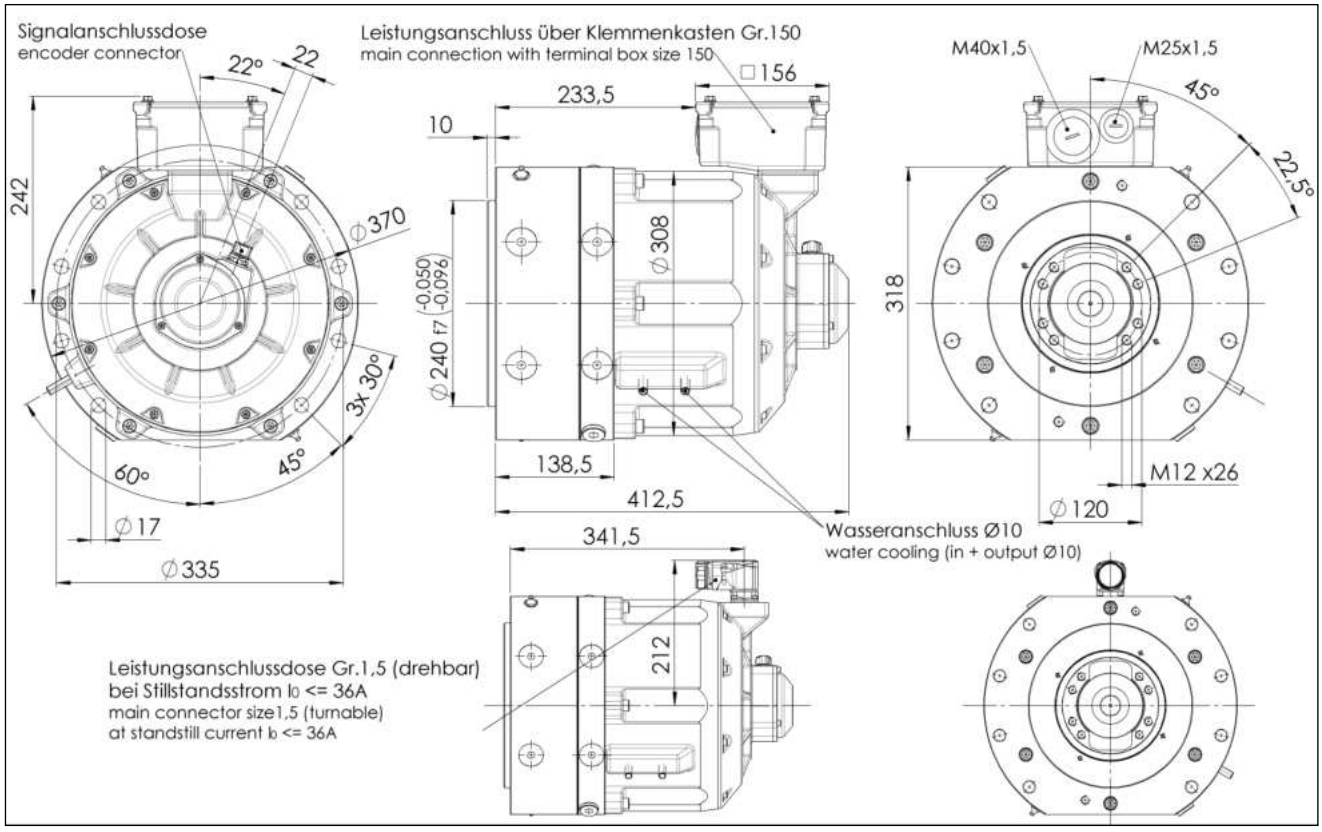
On the drive side. the four point bearing QJ 228 CN and the bearing grease Klüberquiet BQ 72-72 are used. On the basis of assumed load cycles and a bearing grease temperature of 70 °C. the following service life calculations result.

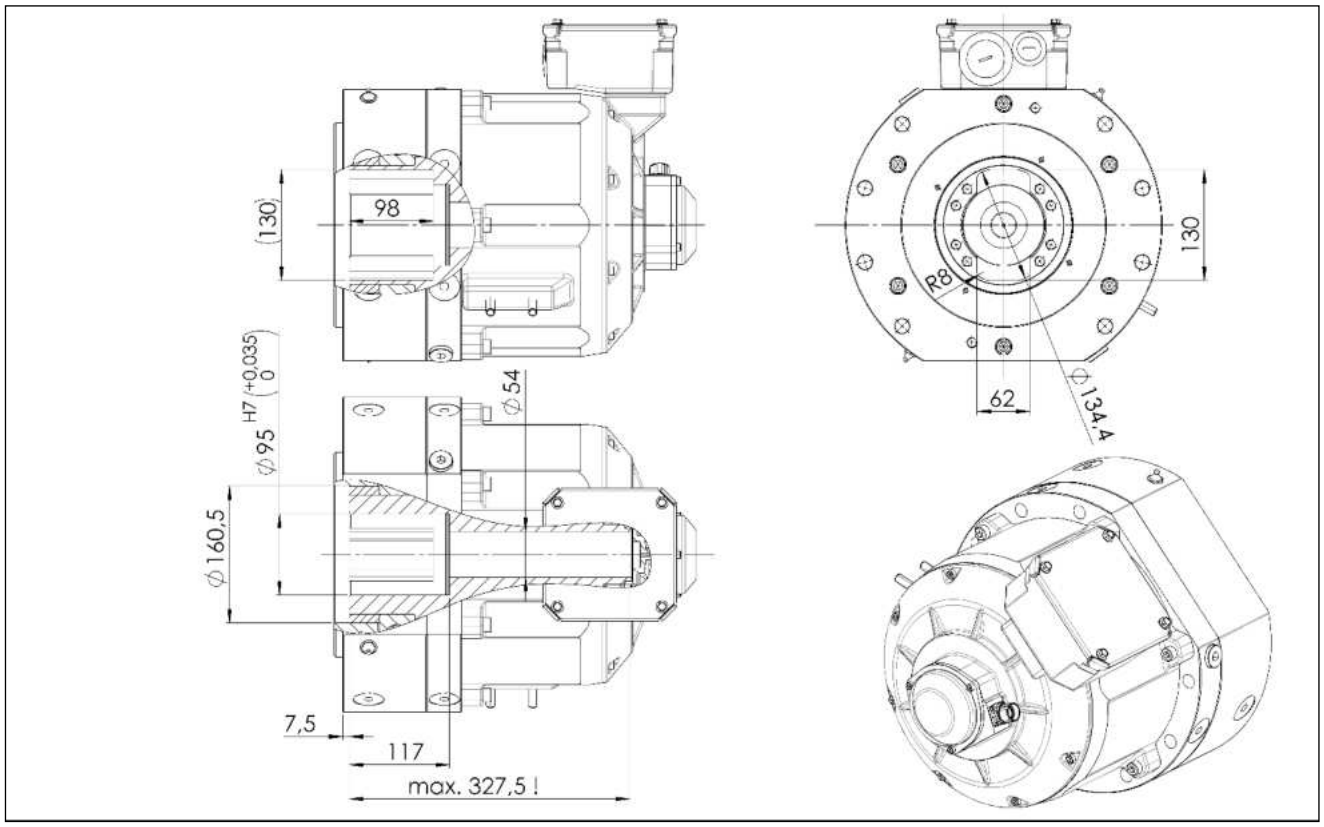
	Stroke	Force	v_{max}	Cycle without break	Lifecycle	Cycles
	[mm]	[kN]	[mm/s]	[s]	[h]	[Mio.]
DSC1-135SO	200	100	400	1.2	50.000	150
DSC1-135LO	230	135	400	1.6	15.700	35
DSC1-135LO	30	135	400	0.6	9.500	57

The non drive side angular contact ball bearing 7209-B-XL-2RS-TVP has a lifetime lubrication for which a service life of 20.000 hours is defined.

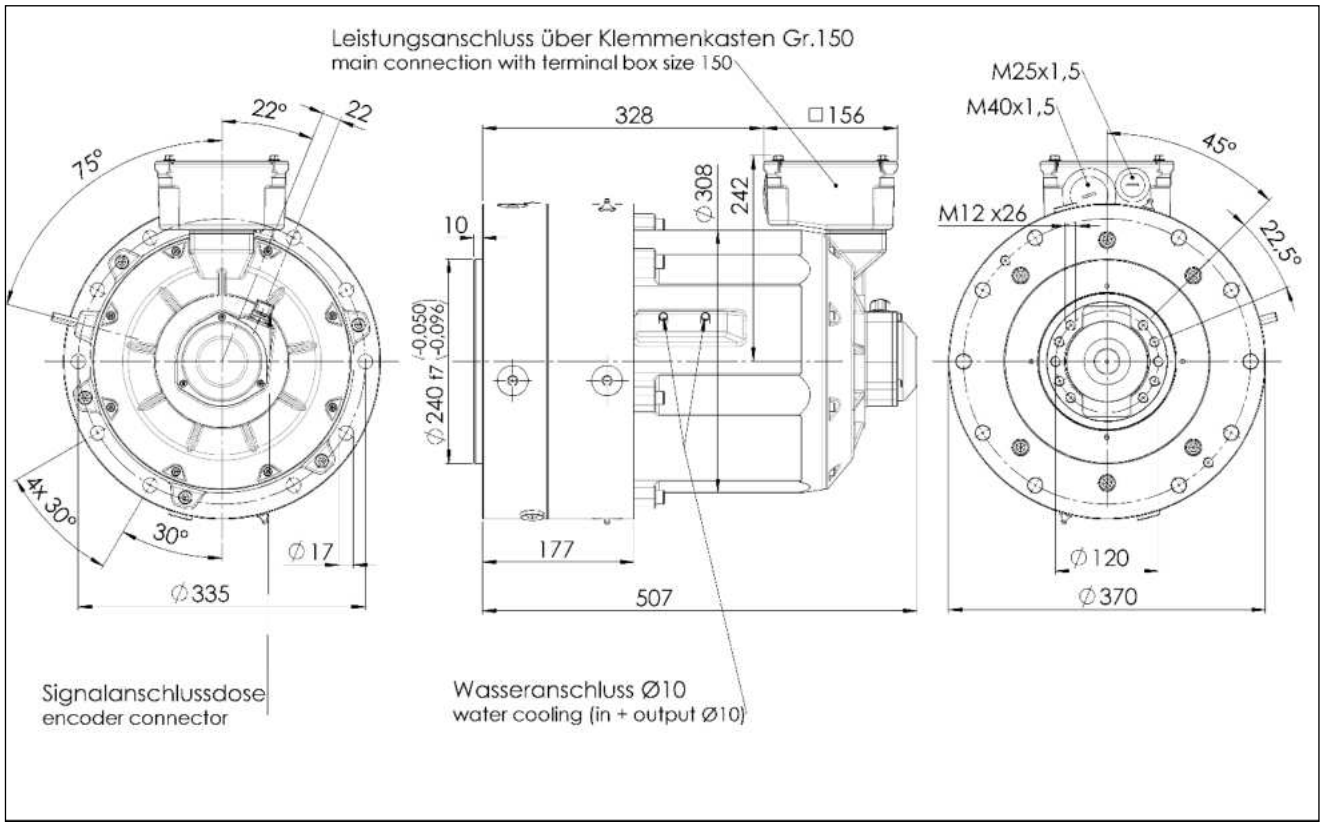
4.7. Dimension sheets

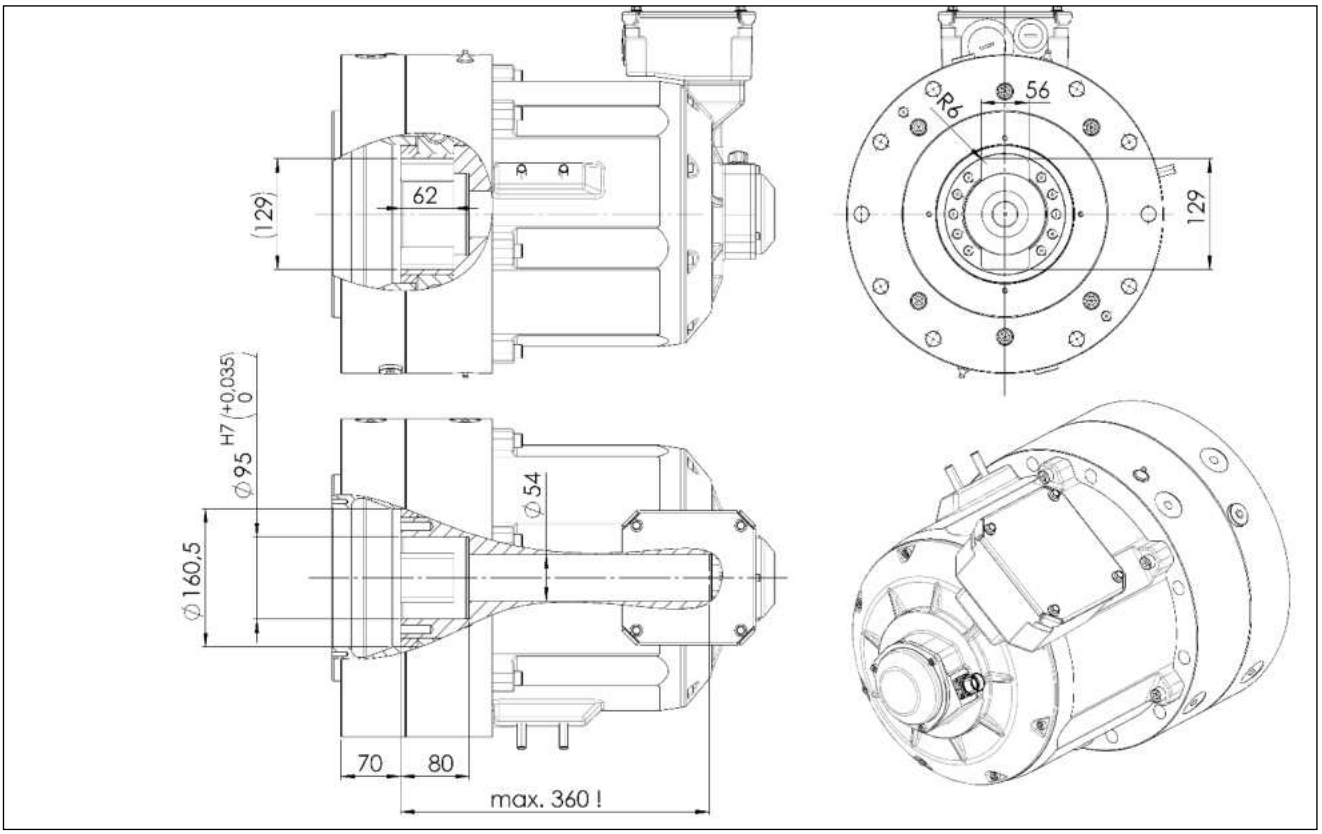
Dimension sheet DSC1-135SO64W-..-..-.OW-.DP-V-AN-O-000
Construction IM B5





Dimension sheet DSC1-135LO64W-..-..-.OW-MDP-V-AN-O-000
Construction IM B5




(129)
62
R6
56
129
H7 (+0,035)
0
Ø95
Ø54
Ø160,5
70
80
max. 360 !

4.8. Encoder options

4.8.1. SINCOS SRM50 (SICK)

	SRM50
Number of sine and cosine periods per revolution	1.024
Number of steps per revolution	32.768
Number of absolutely resolved revolutions	4.096
Code type for the absolute value	binaryr
Output frequency of the sine. cosine signals	0-200 kHz
Error limits for evaluation of sine and cosine signals; integral non-linearity	+/- 45“
Non-linearity within a sine. 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 Vss
Output signal	serial RS 485.
asynchronous. half-duplex	
Operating voltage range	7-12 V
Operating current without load	80 mA
Shock according to DIN EN 60068-2-27	980 m/s² (10 ms)
Vibration according to DIN EN 60068-2-6 (10-2000 Hz)	196 m/s²

SRM50 connection

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

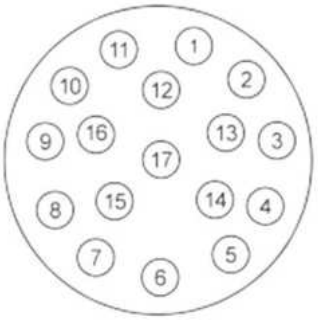
View on the contact side of the device socket

NOTE:
This encoder is an ESD-sensitive component.
The technical data are specifications of the encoder manufacturer.

4.8.2. EQN1325 (Heidenhain)

Number of sine and cosine period per revolution	2.048
System accuracy	± 20“
Number of the absolutely resolved revolutions	4.096 (12 bit)
Code type for the absolute value	EnDat 2.1
Sampling limit frequency or limit frequency	0-200 kHz
Positioning values/revolution	8.192 (13 bit)
Working speed up to which the absolute position can be defined	12.000 1/min
Maximum operating speed (1/min)	12.000 1/min
Voltage supply	3.6-14 V
Current consumption without load	≤ 200 mA
Shock according to DIN EN 60068-2-27 (6 ms)	≤ 2.000 m/s²
Vibration according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 300 m/s²

EQN1325 connection



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.

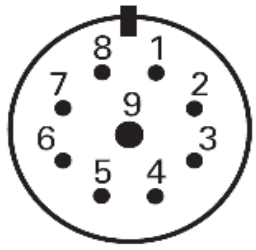
View on the contact side of the device socket

NOTE:
This encoder is an ESD-sensitive component.
The technical data are specifications of the encoder manufacturer.

4.8.3. EQN1337 (Heidenhain)

System Accuracy	± 20“
Number of absolutely resolved revolutions	4.096 (12bit)
Code type for the absolute value	EnDat 2.2
Position values/revolution	33.554.432 (25 bit)
Working speed up to which the absolute position can be formed	12.000 1/min
maximum operating speed	12.000 1/min
Power supply	3.6…14 V
Current consumption without load	≤ 200mA
Shock according to DIN EN 60068-2-27 (6 ms)	≤ 2000 m/s²
Vibration according to DIN EN 60068-2-6 (55-2000 Hz)	≤ 300 m/s²

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 device socket

NOTE:
This encoder is an ESD-sensitive component.
The technical data is information from the encoder manufacturer.

5. Direct installation servo pump

In the latest development. the hydraulic pump is mounted directly on the motor with a toothing. Coupling and pump support as with classic servo pump versions are thereby not necessary. which has the advantage of a shorter installation length and therefore a smaller installation space for the machine. The direct installation also means the elimination of mechanical parts. The machine builder benefits from lower storage costs and a reduction in
reduced assembly effort.

The direct mounting is in the advanced and performance line available.

5.1. Advanced Line – Direct installation with grase lubrication

With the advanced line. Baumüller offers a mechanical motor interface for direct pump attachment from various manufacturers.
A guideline value for the grease relubrication interval of the gear pairing can be set at approximately 5.000h.
The technical data of the motors and their configuration options can be found in the corresponding motor catalogs.

The following motor-pump combinations are possible.

Pump motor matrix	Motor size 56	Motor size 71	Motor size 100	Motor size 132
Bosch: Type: PGH2 (5-8cm³)	DSC1	-	-	
Bosch: Type: PGH3 (11-16cm³) ***Voith:*** Type: IPV3 (4-10cm³)	-	DSC1	-	
Bosch: Type: PGH4 (20-50cm³) ***Voith:*** Type: IPV4 (13-32cm³) ***Eckerle:*** Type: EIPC3 (20-64cm³)	-	DSC1	DSD2..U/O DS2..W	
Bosch: Type: PGH5 (63-250cm³) ***Voith:*** Type: IPV5 (32-64cm³) IPV6 (64-125cm³) ***Eckerle:*** Type: EIPC5 (64-100cm³) EIPC6 (125-250cm³)				DSD2..W DS2..W

5.1.1. Ordering information

The type key conception of the accordant motor series is valid. The shaft and flange option is coded as follows:

Flange option:

standard configuration | special

DSD2-100XX64W-XX-54-XOX-XXX-K-AN-**Z**-XXX

Z.... Flange prepared for advanced line

Shaft option:

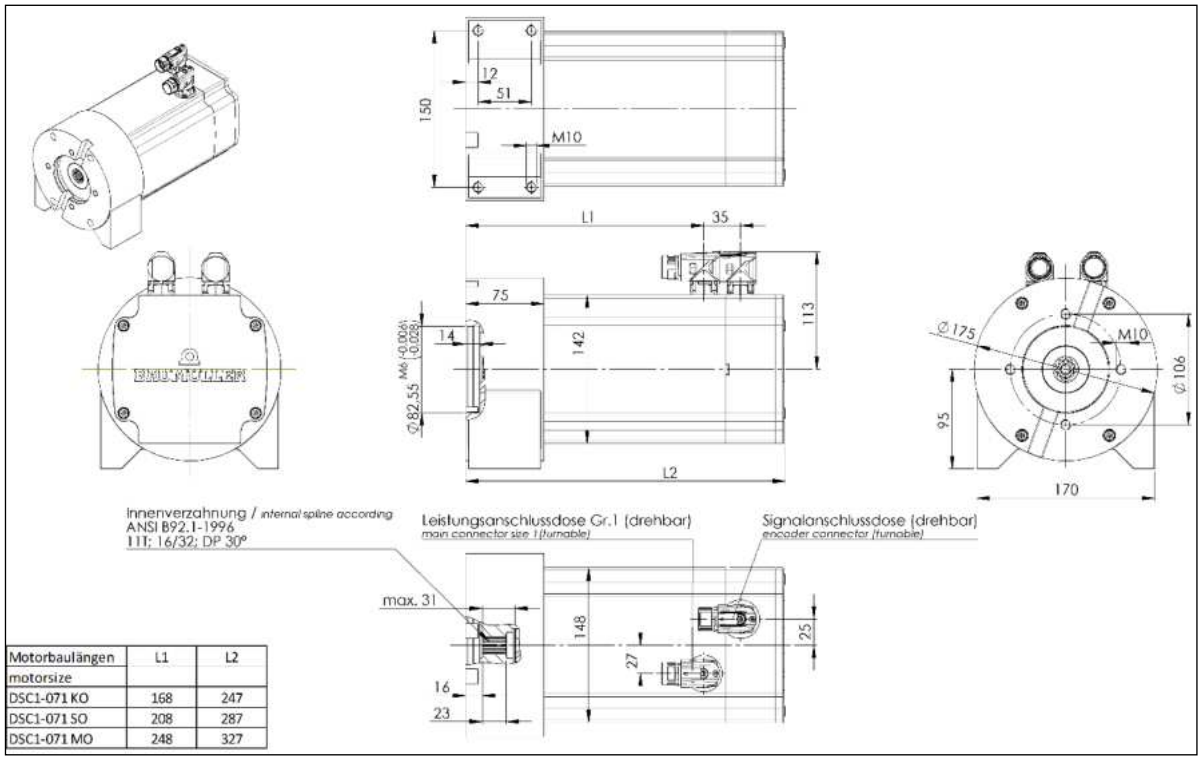
standard configuration | special

DSD2-100XX64W-XX-54-XO**K**-XXX-K-AN-X-XXX

Coding	Description	Pump
K	Internal gearing. ANSI B92.1a. 11T 16/32 DP30°	PGH3. IPV3
O	Internal gearing. ANSI B92.1a. 15T 16/32 DP30°	PGH4. EIPC3. IPV4
M	Internal gearing, ANSI B92.1a, 14T 12/24 DP30°	EIPC5, IPV5
Y	Internal gearing. ANSI B92.1a. 9T 16/32 DP30°	PGH2
Q	Internal gearing, ANSI B92.1a, 17T 12/24 DP30°	PGH5, EIPC6, IPV6

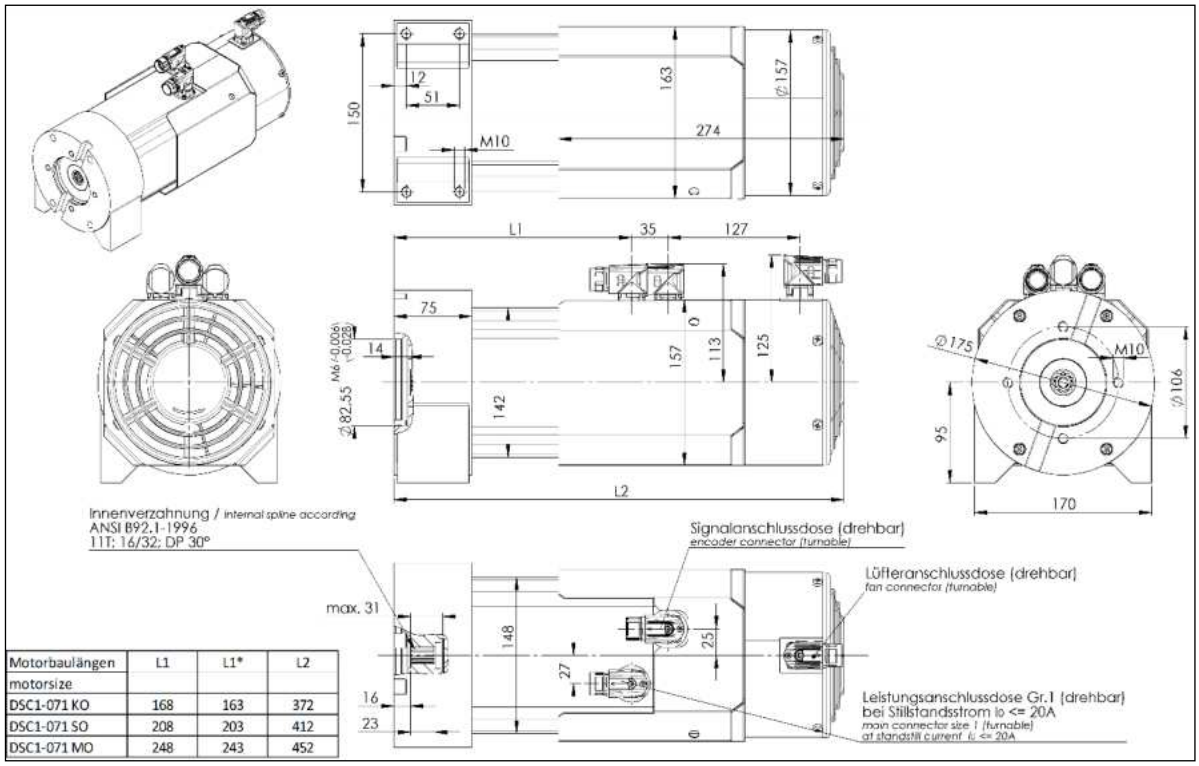
5.1.2. Motor size 071 for direct installation with PGH3 / IPV3

DSC1-071..U

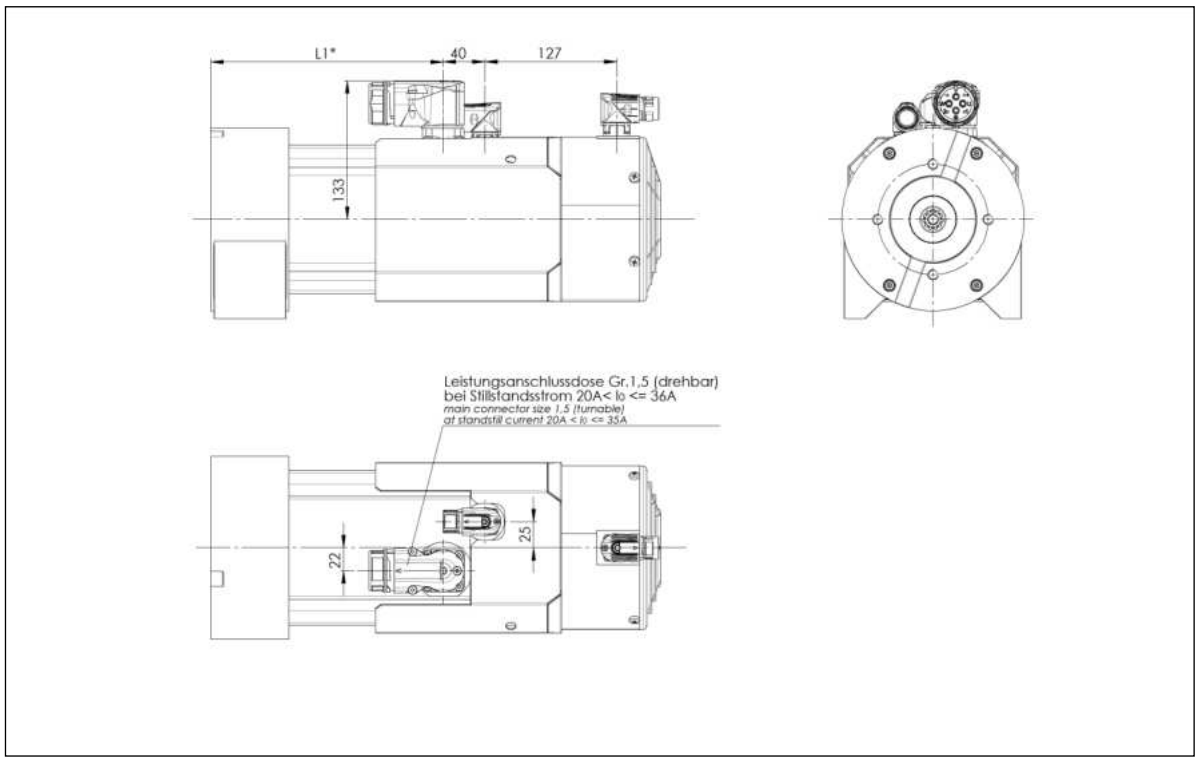


Motorbaulängen motorsize	L1	L2
DSC1-071 KO	168	247
DSC1-071 SO	208	287
DSC1-071 MO	248	327

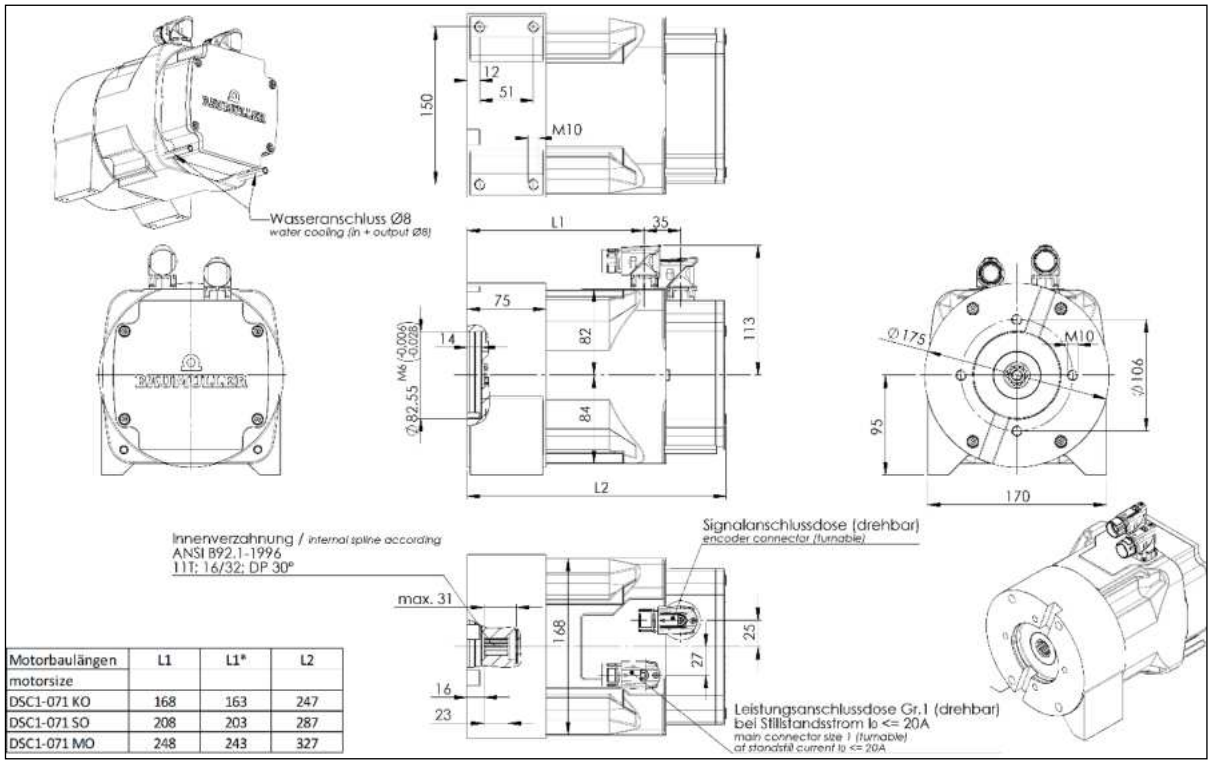
DSC1-071..O



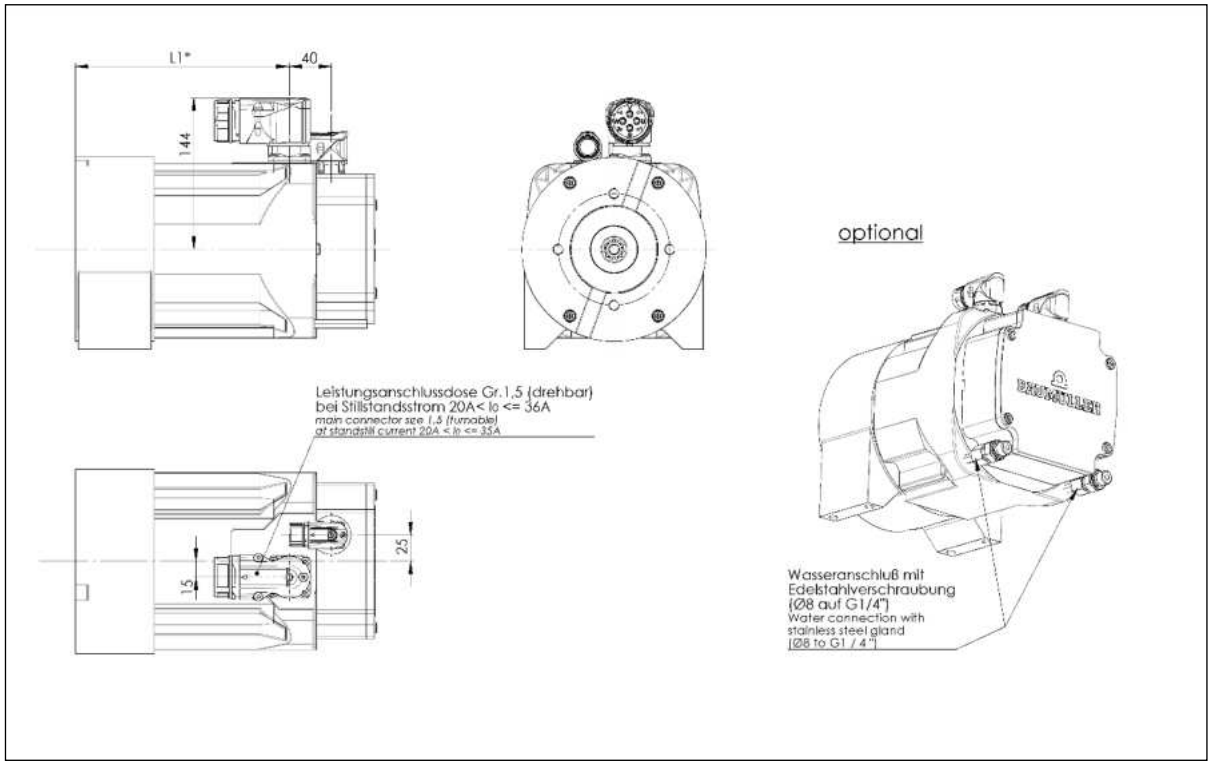
Motorbaulängen	L1	L1*	L2
motorsize			
DSC1-071 KO	168	163	372
DSC1-071 SO	208	203	412
DSC1-071 MO	248	243	452



DSC1-071..W

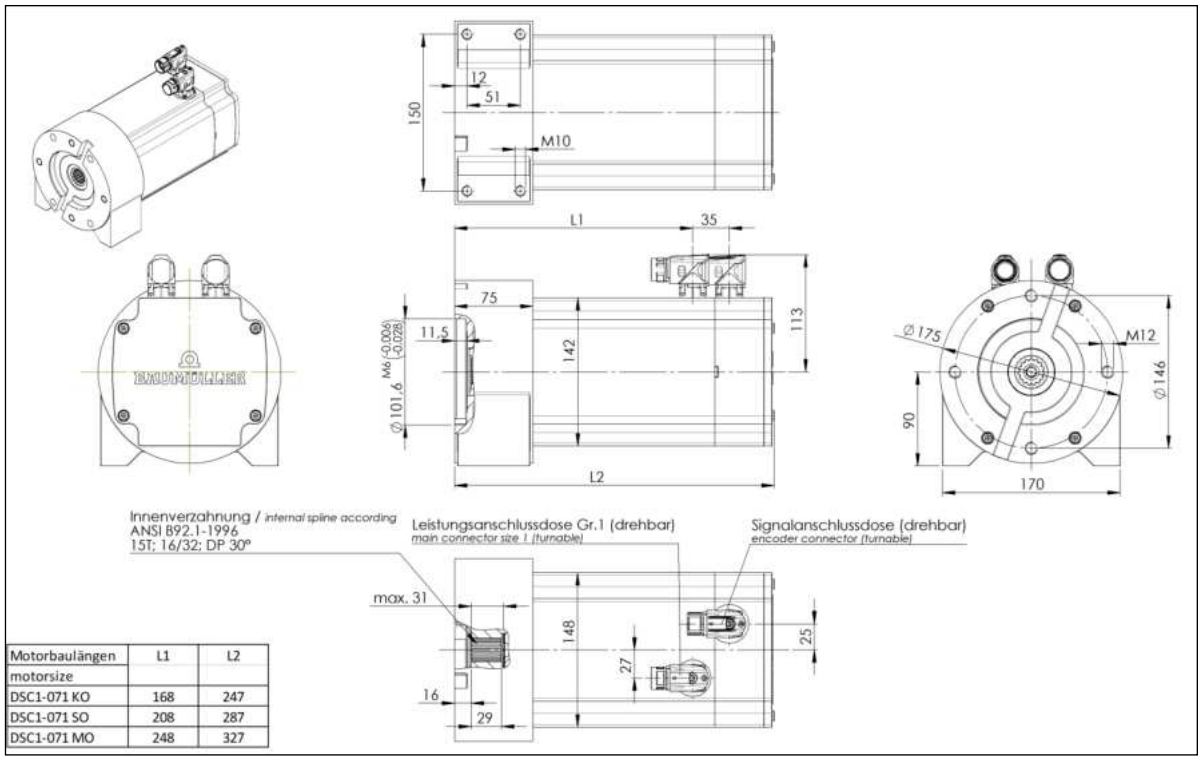


Motorbaulängen	L1	L1*	L2
motorsize			
DSC1-071 KO	168	163	247
DSC1-071 SO	208	203	287
DSC1-071 MO	248	243	327



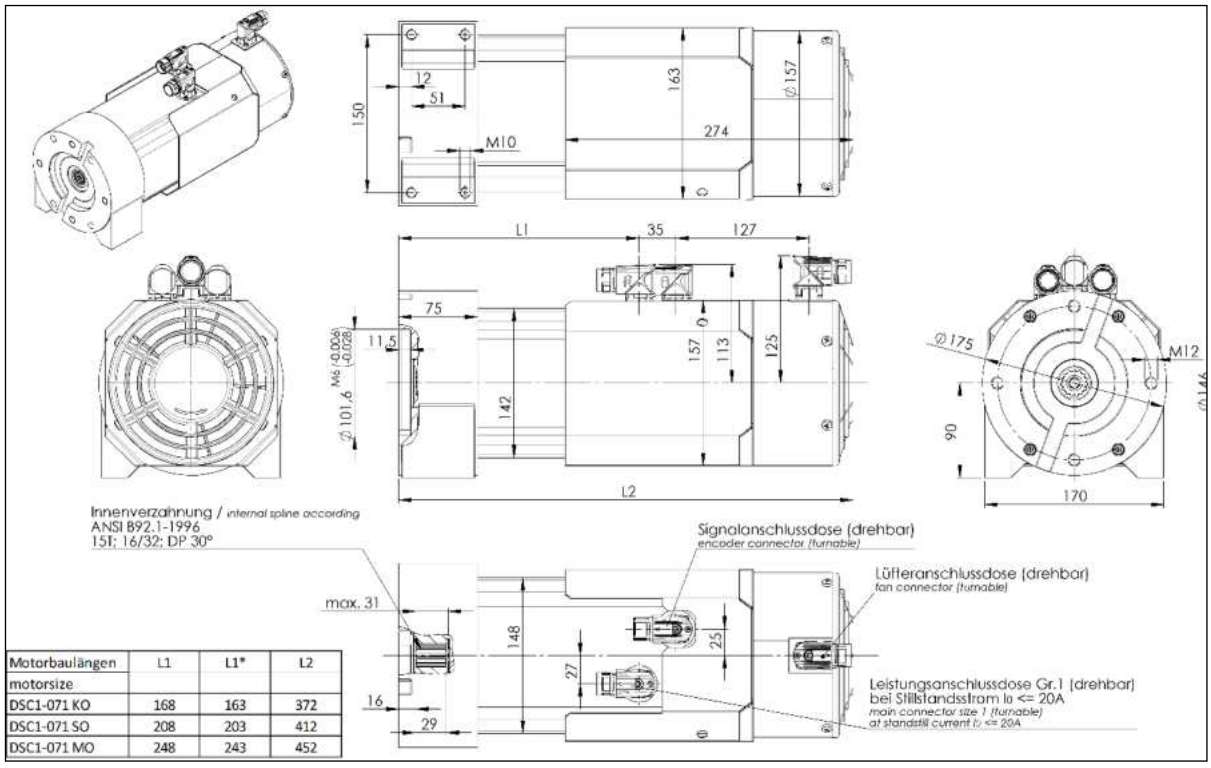
5.1.3. Motor size 071 for direct installation with PGH4 / IPV4 / EIPC3

DSC1-071..U

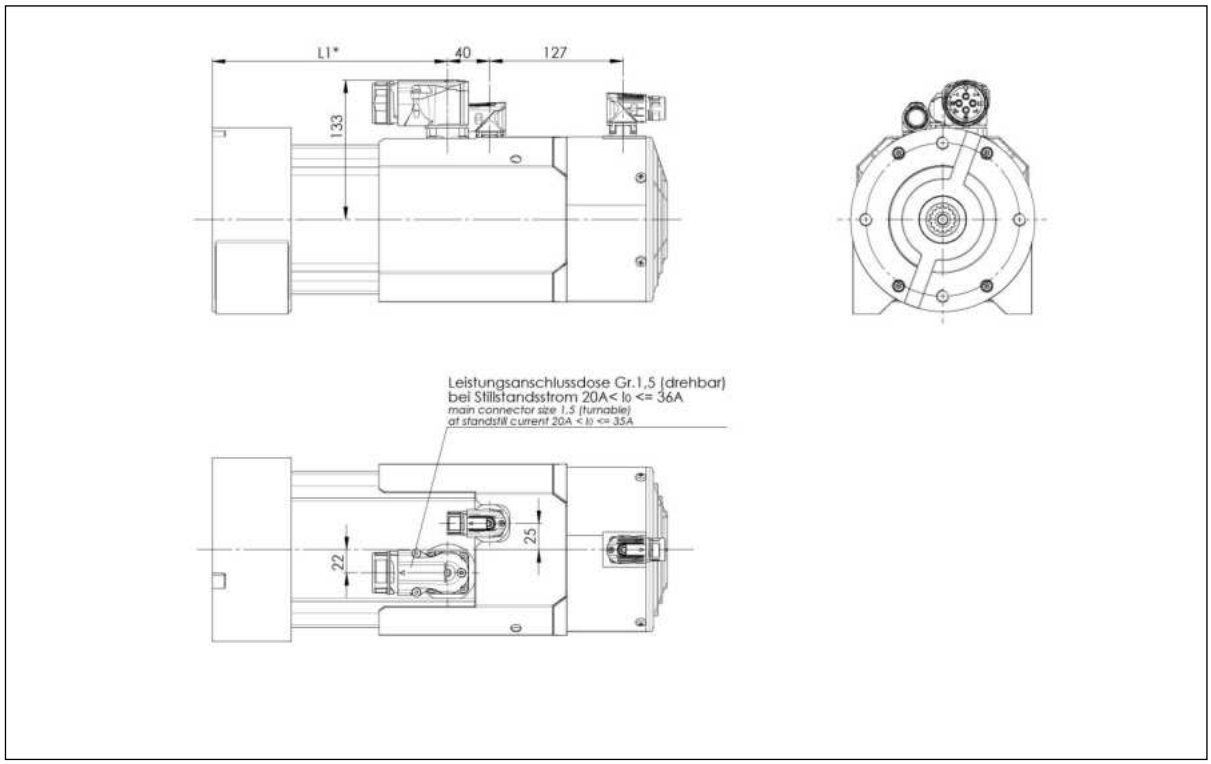


Motorbaulängen	L1	L2
motorsize		
DSC1-071 KO	168	247
DSC1-071 SO	208	287
DSC1-071 MO	248	327

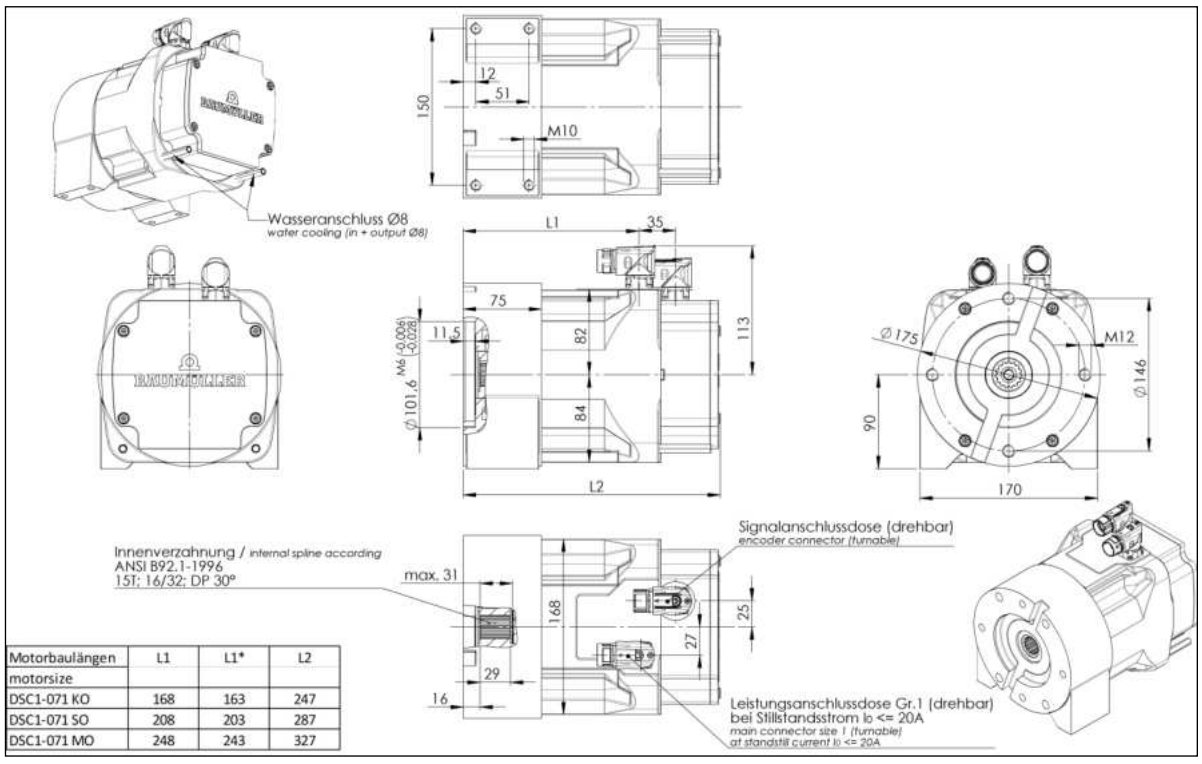
DSC1-071..O



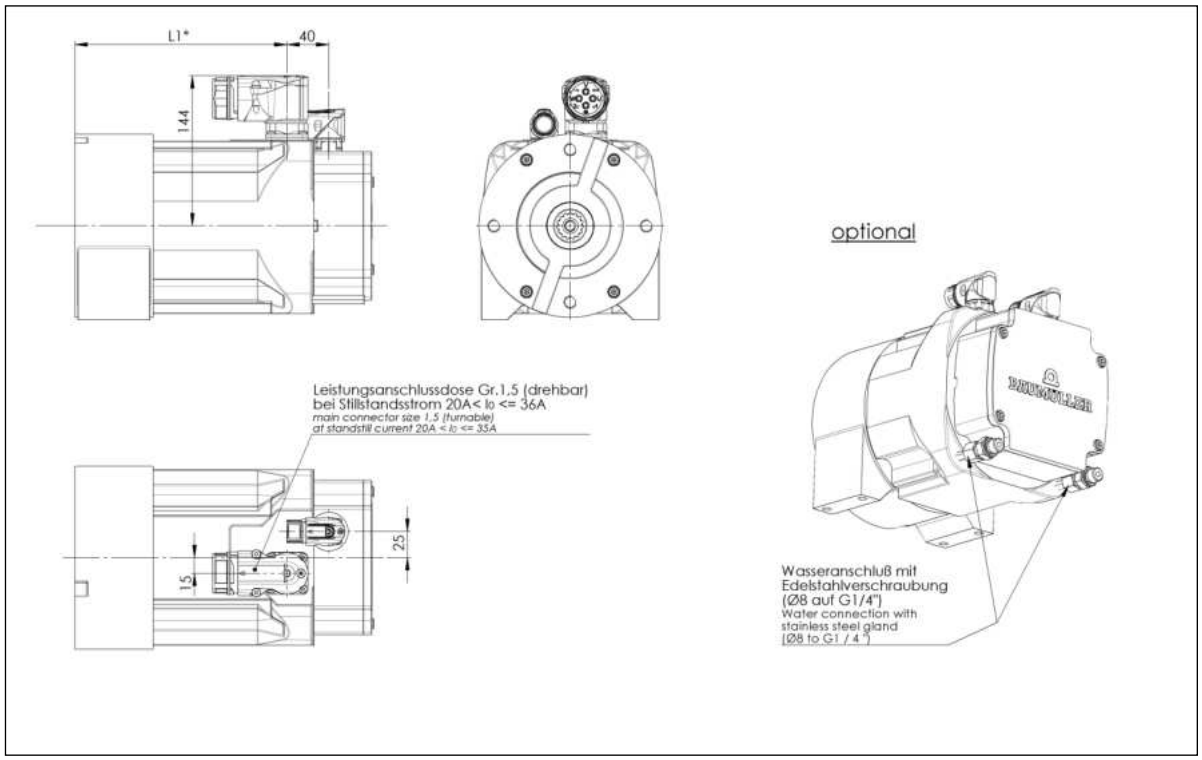
Motorbaulängen	L1	L1*	L2
motorsize			
DSC1-071 KO	168	163	372
DSC1-071 SO	208	203	412
DSC1-071 MO	248	243	452



DSC1-071..W

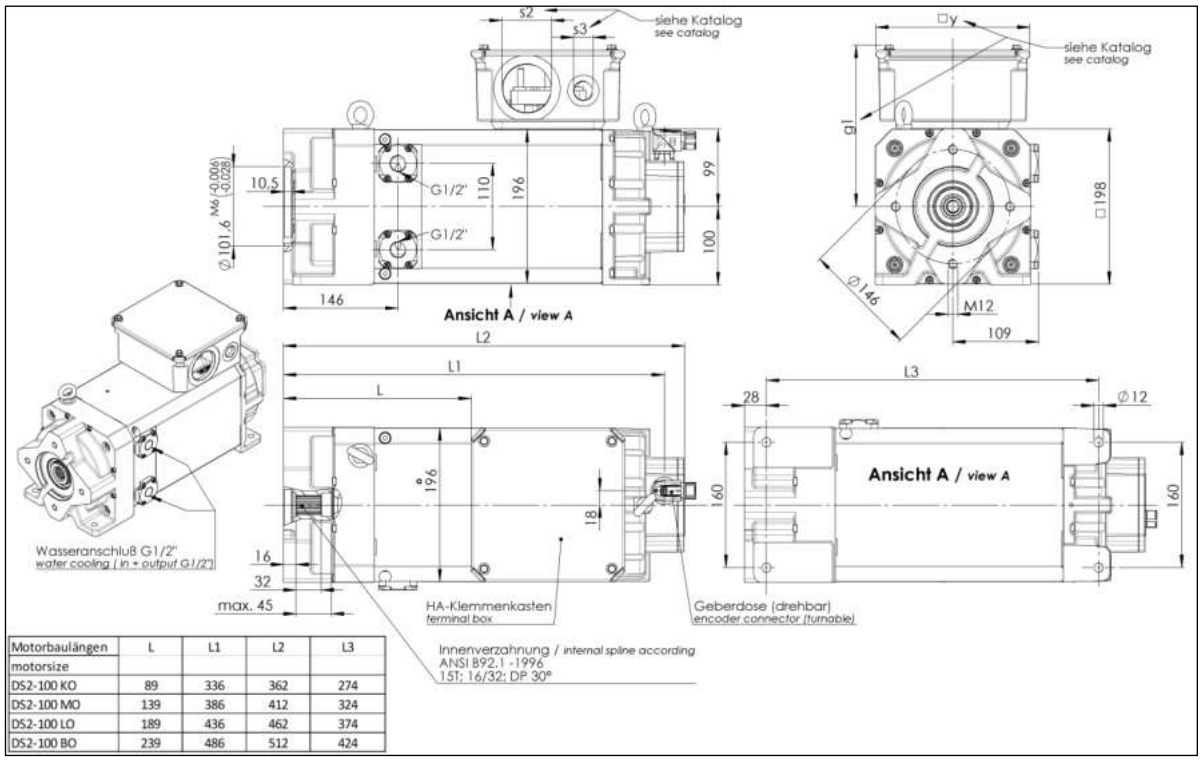


Motorbaulängen	L1	L1*	L2
motorsize			
DSC1-071 KO	168	163	247
DSC1-071 SO	208	203	287
DSC1-071 MO	248	243	327



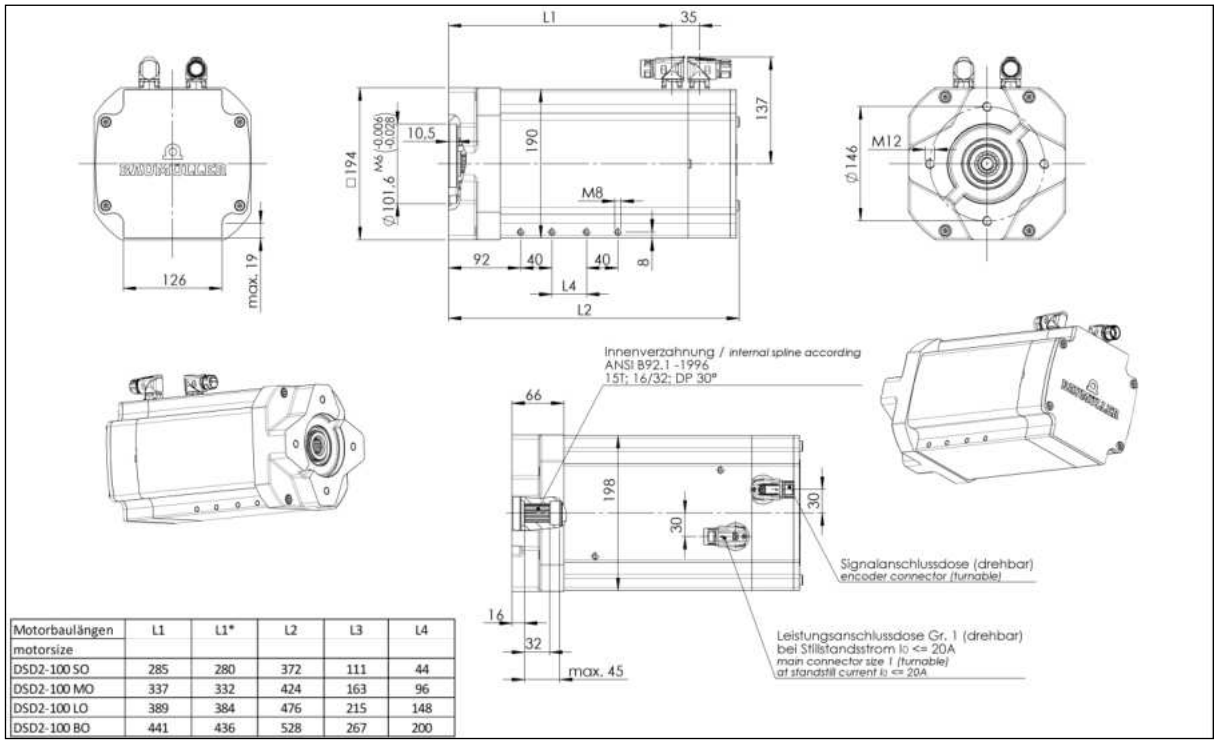
5.1.4. Motor size 100 for the direct installation with PGH4 / IPV4 / EIPC3

DS2 100..W

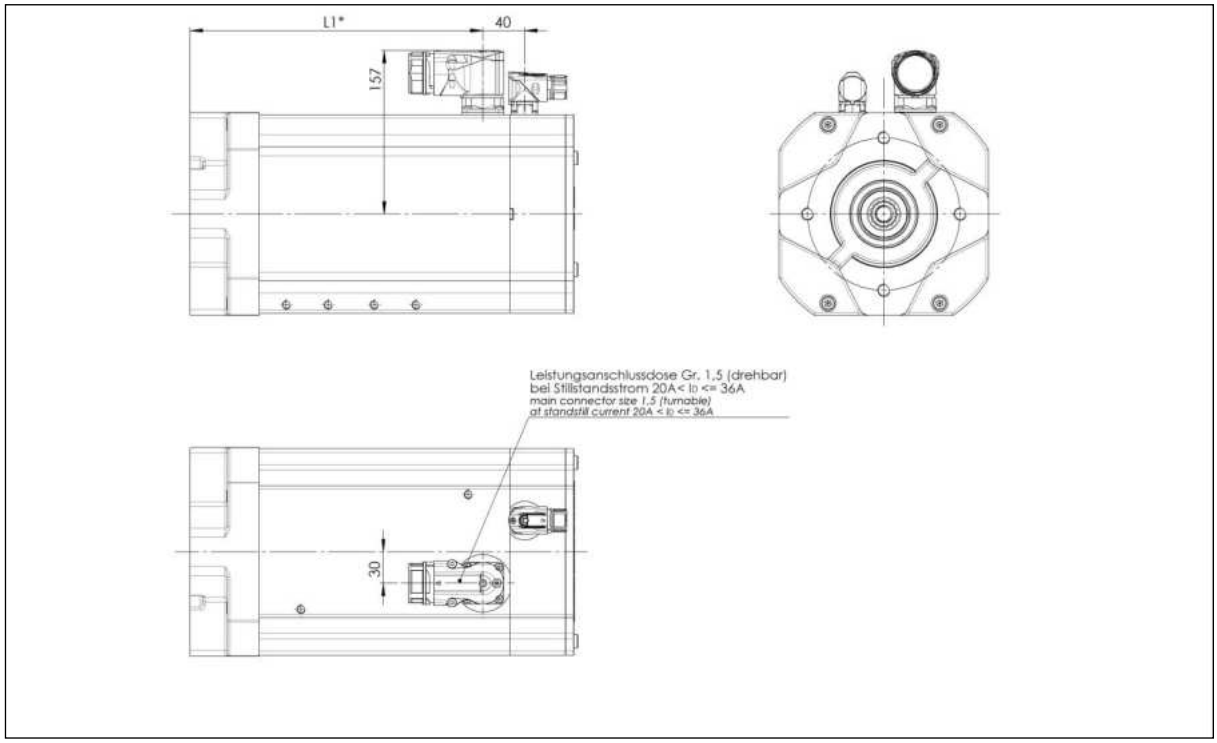


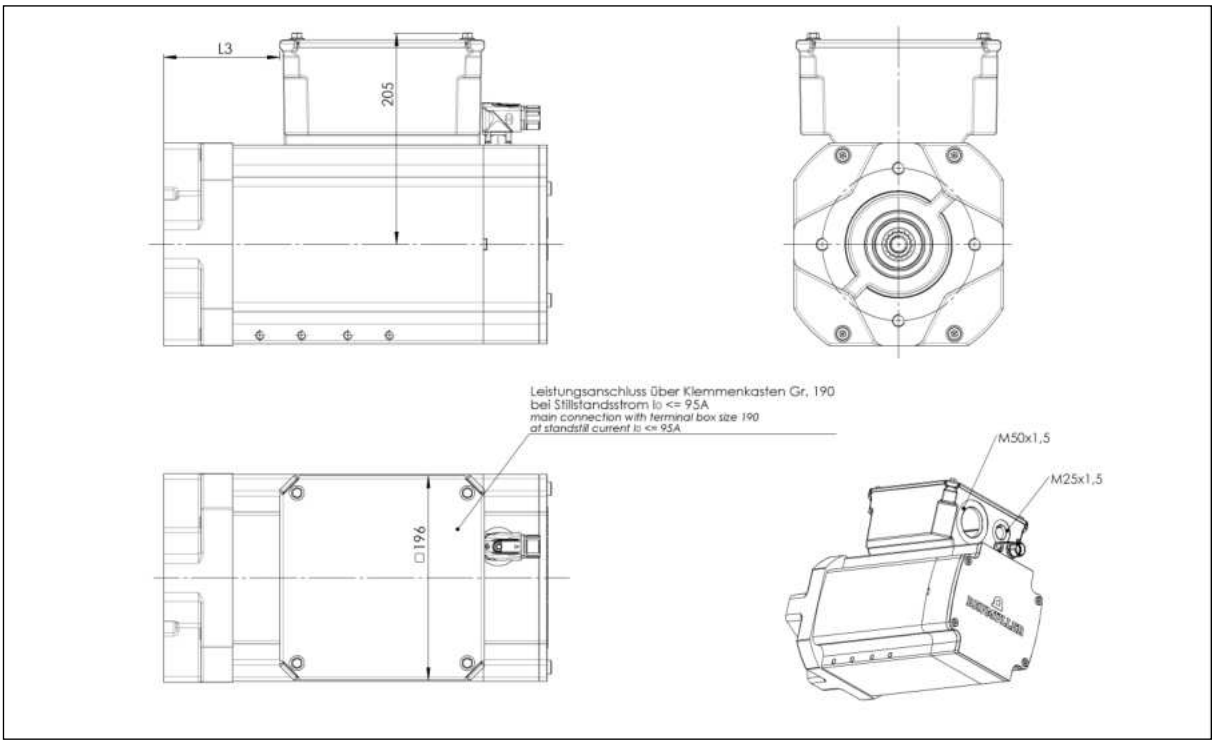
Motorbaulängen motorsize	L	L1	L2	L3
DS2-100 KO	89	336	362	274
DS2-100 MO	139	386	412	324
DS2-100 LO	189	436	462	374
DS2-100 BO	239	486	512	424

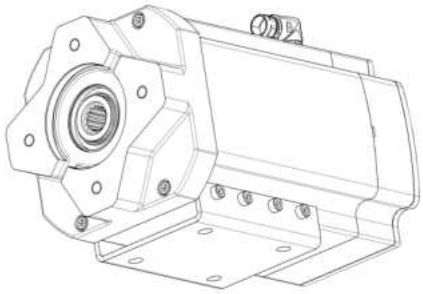
DSD2-100..U



Motorbaulängen	L1	L1*	L2	L3	L4
motorsize					
DSD2-100 SO	285	280	372	111	44
DSD2-100 MO	337	332	424	163	96
DSD2-100 LO	389	384	476	215	148
DSD2-100 BO	441	436	528	267	200

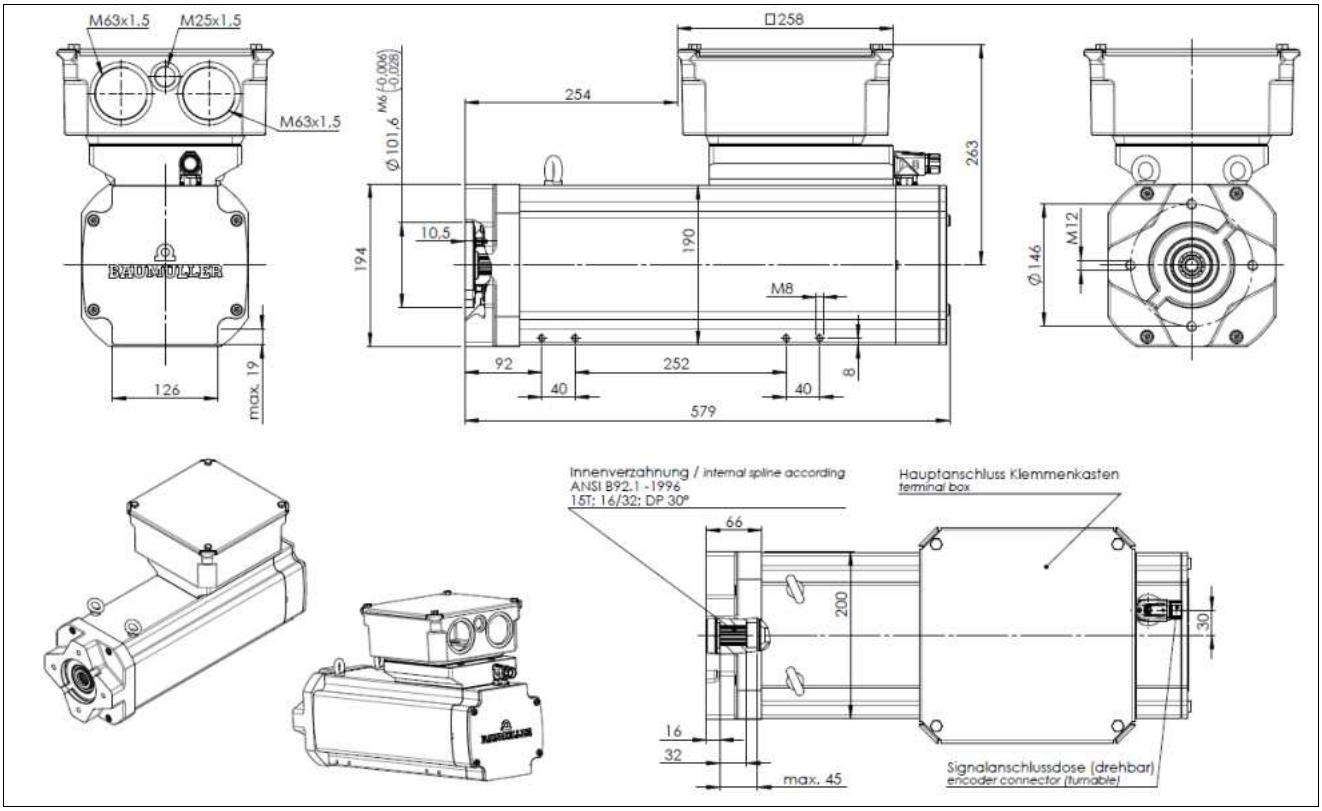




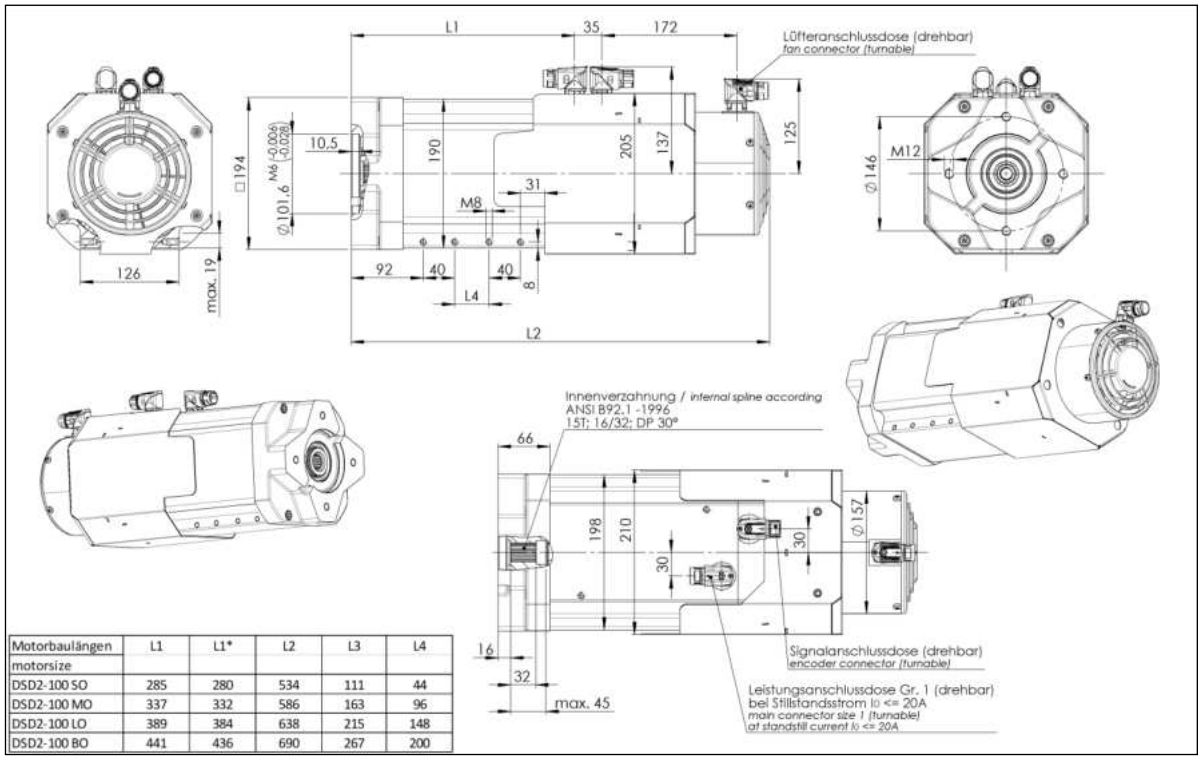


A mounting cassette can be fitted to the M8 housing drilling holes by the customer.
Damping elements can in turn be attached to this.

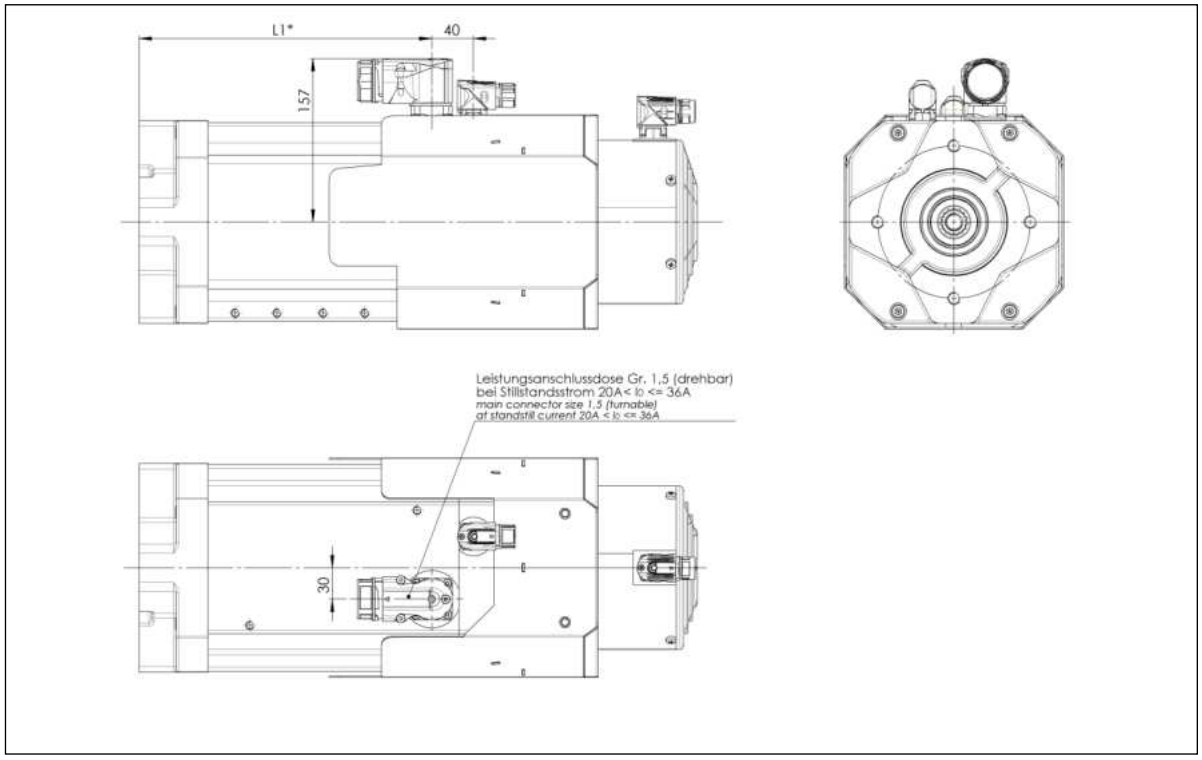
DSD2-100XO..U

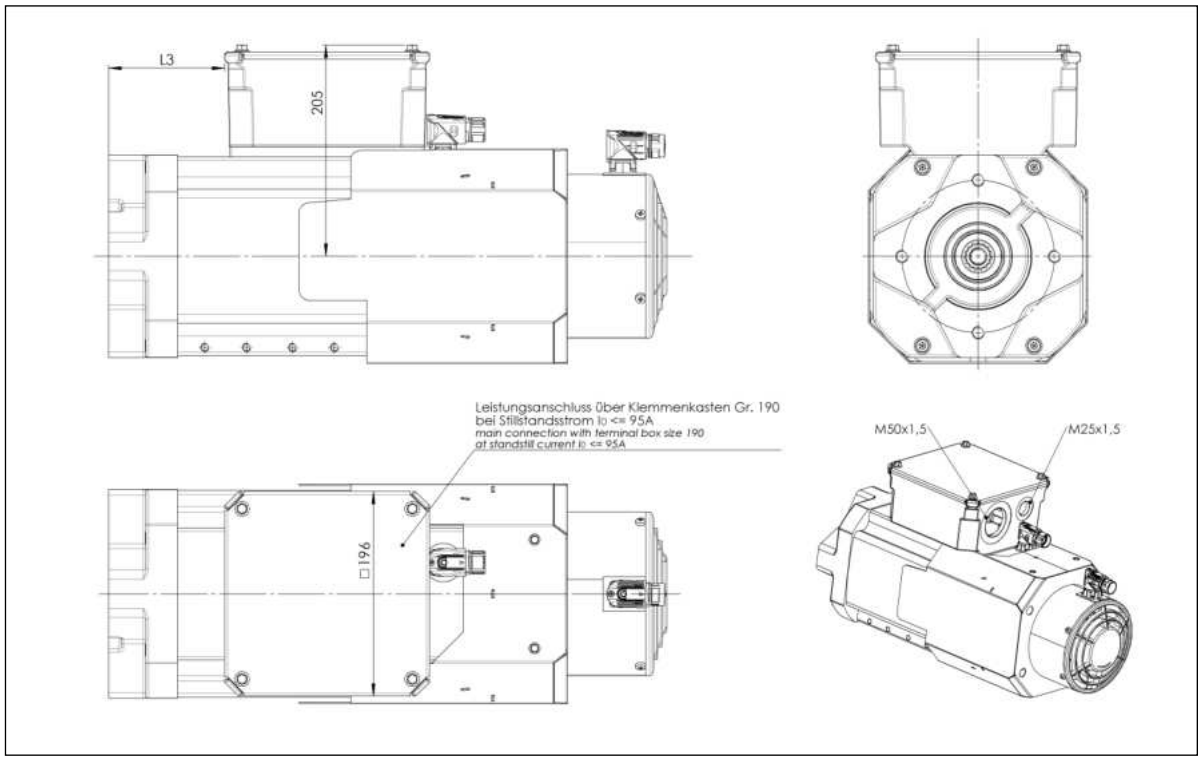

M63x1.5
M25x1.5
M63x1.5
BAUMÜLLER
126
max. 19
□258
254
263
M6 (-0.006 -0.026)
Ø 101.6
194
10.5
190
M8
92
252
40
40
8
579
M12
Ø 146
Innenverzahnung / internal spline according ANSI B92.1 -1996
15T; 16/32; DP 30°
Hauptanschluss Klemmenkasten
terminal box
66
200
30
16
32
max. 45
Signalanschlussdose (drehbar)
encoder connector (turnable)

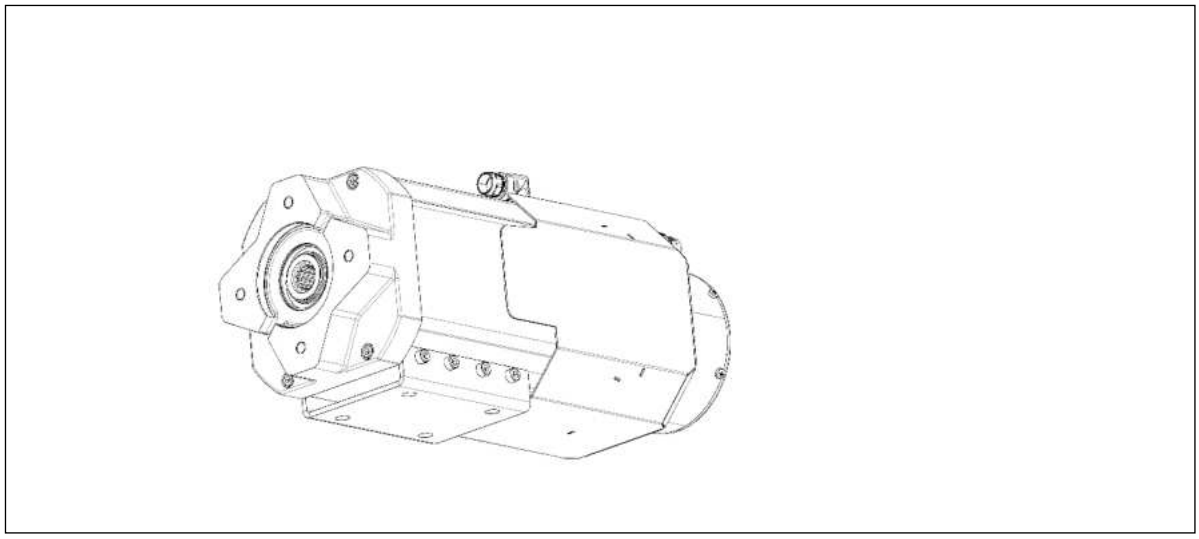
DSD2-100..O



Motorbaulängen	L1	L1*	L2	L3	L4
motorsize					
DSD2-100 SO	285	280	534	111	44
DSD2-100 MO	337	332	586	163	96
DSD2-100 LO	389	384	638	215	148
DSD2-100 BO	441	436	690	267	200

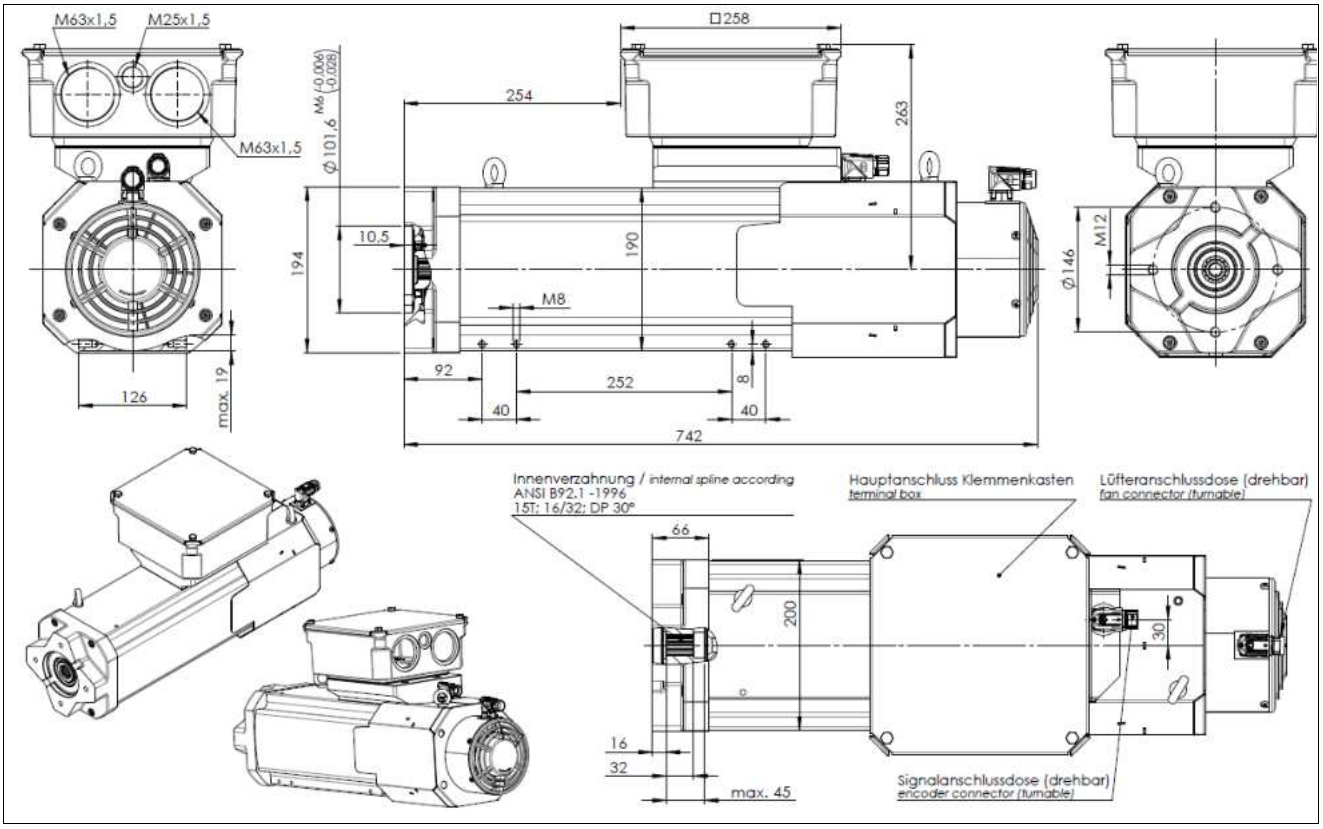






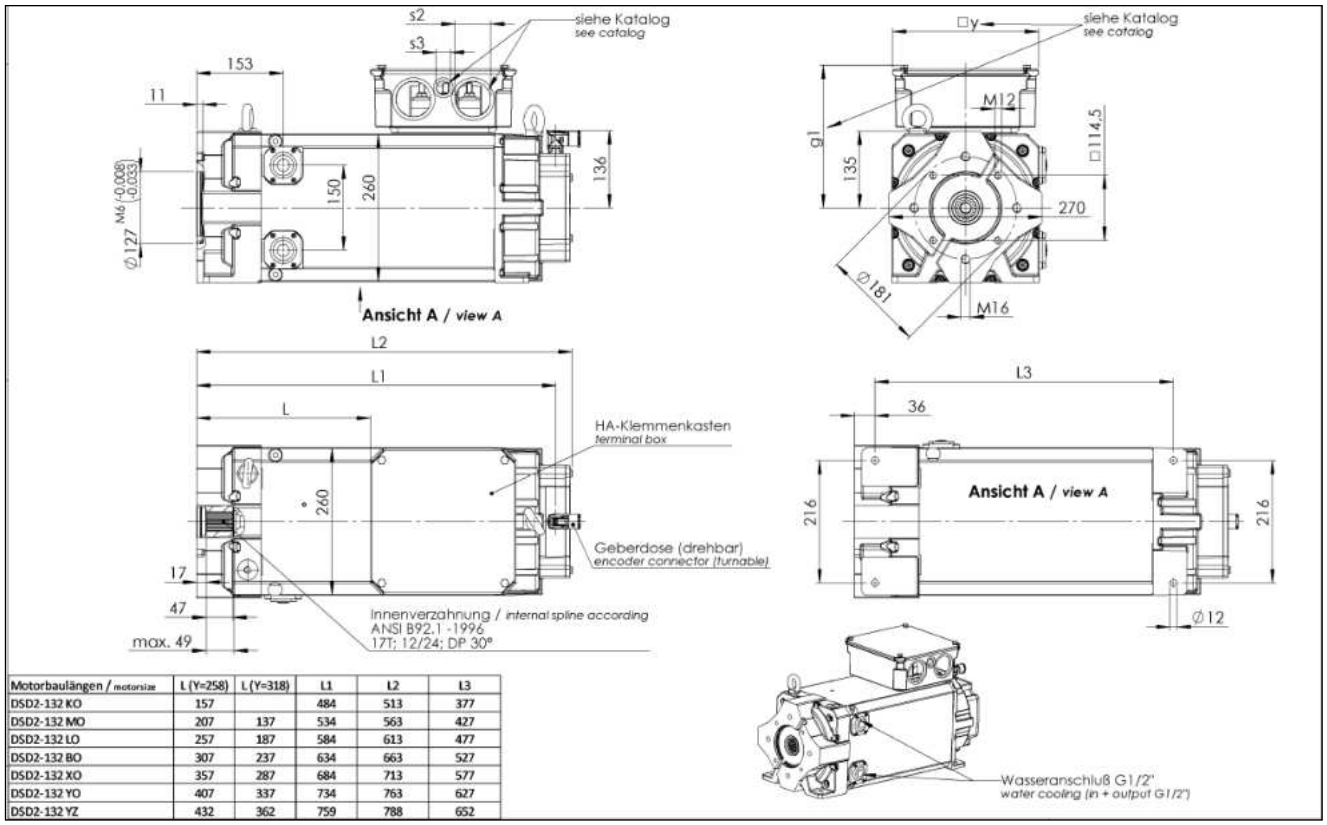
A mounting cassette can be fitted to the M8 housing drilling by the customer.
Damping elements can be attached to this in turn.

DSD2-100XO..O


M63x1,5
M25x1,5
M63x1,5
M6 (-0,006 -0,028)
Ø101,6
□258
254
263
10,5
194
190
M8
92
252
40
40
742
126
max. 19
M12
Ø146
Innenverzahnung / internal spline according ANSI B92.1 -1996
15T; 16/32; DP 30°
Hauptanschluss Klemmenkasten
terminal box
Lüfteranschlussdose (drehbar)
fan connector (turnable)
66
200
30
16
32
max. 45
Signalanschlussdose (drehbar)
encoder connector (turnable)

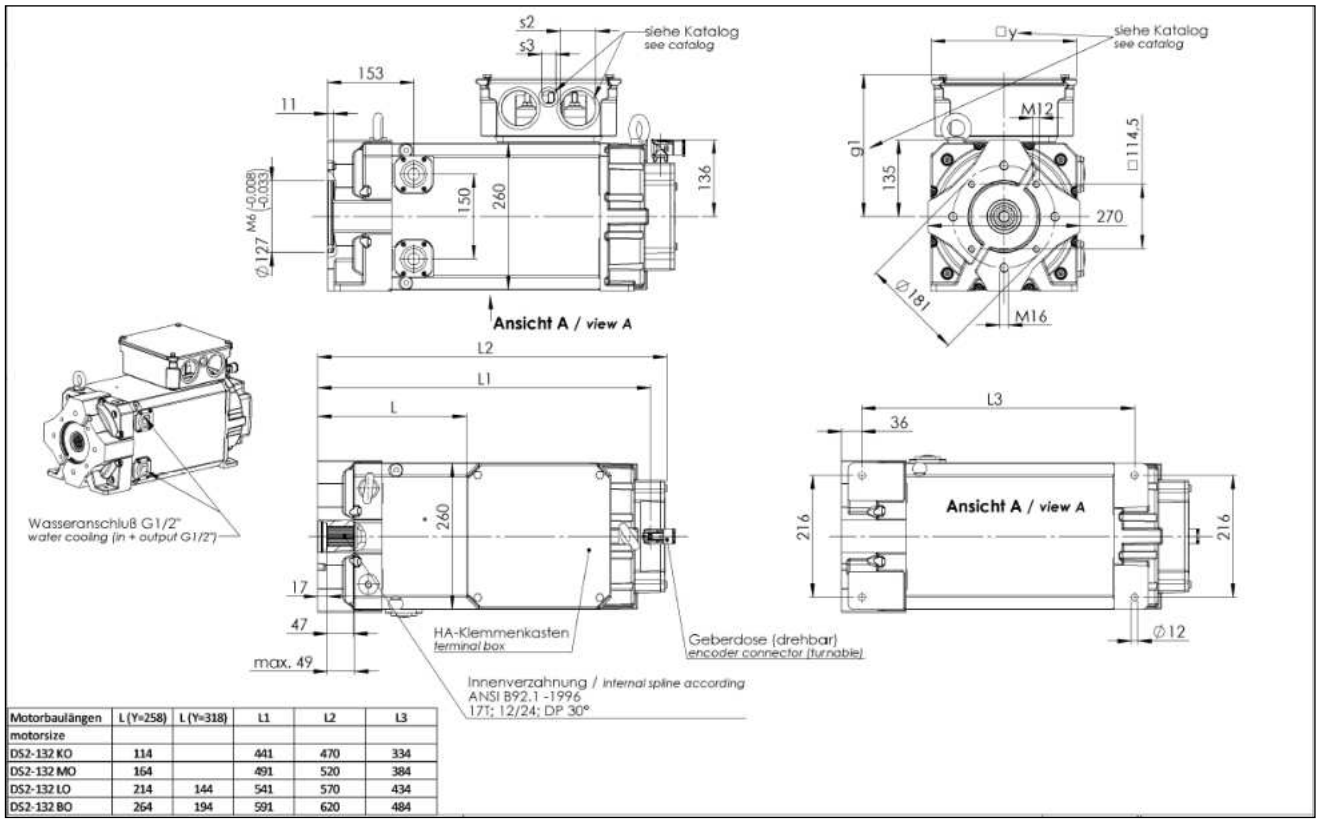
5.1.5. Motor size 132 for direct installation with PGH5

DSD2-132..W



Motorbaulängen / motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DSD2-132 KO	157		484	513	377
DSD2-132 MO	207	137	534	563	427
DSD2-132 LO	257	187	584	613	477
DSD2-132 BO	307	237	634	663	527
DSD2-132 XO	357	287	684	713	577
DSD2-132 YO	407	337	734	763	627
DSD2-132 YZ	432	362	759	788	652

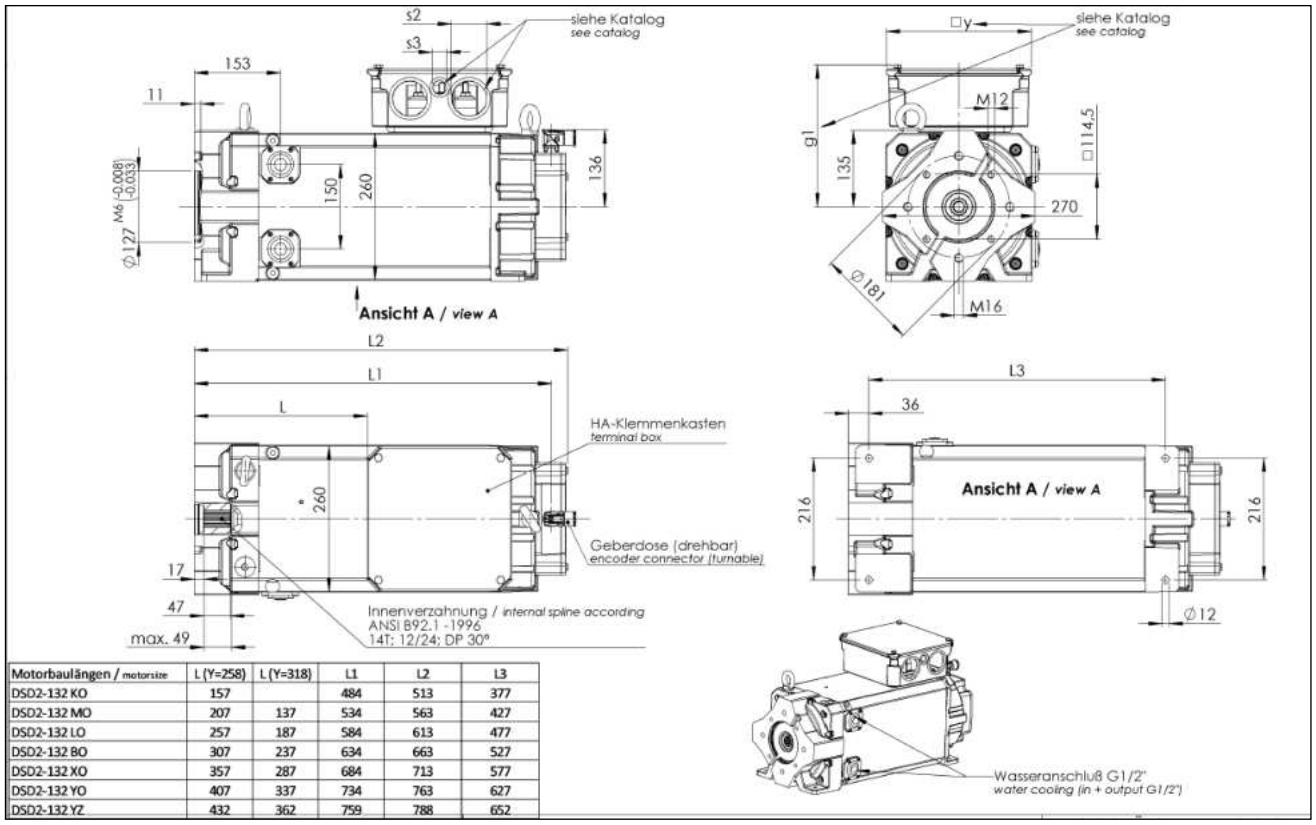
DS2-132..W



Motorbaulängen	L (Y=258)	L (Y=318)	L1	L2	L3
motorsize					
DS2-132 KO	114		441	470	334
DS2-132 MO	164		491	520	384
DS2-132 LO	214	144	541	570	434
DS2-132 BO	264	194	591	620	484

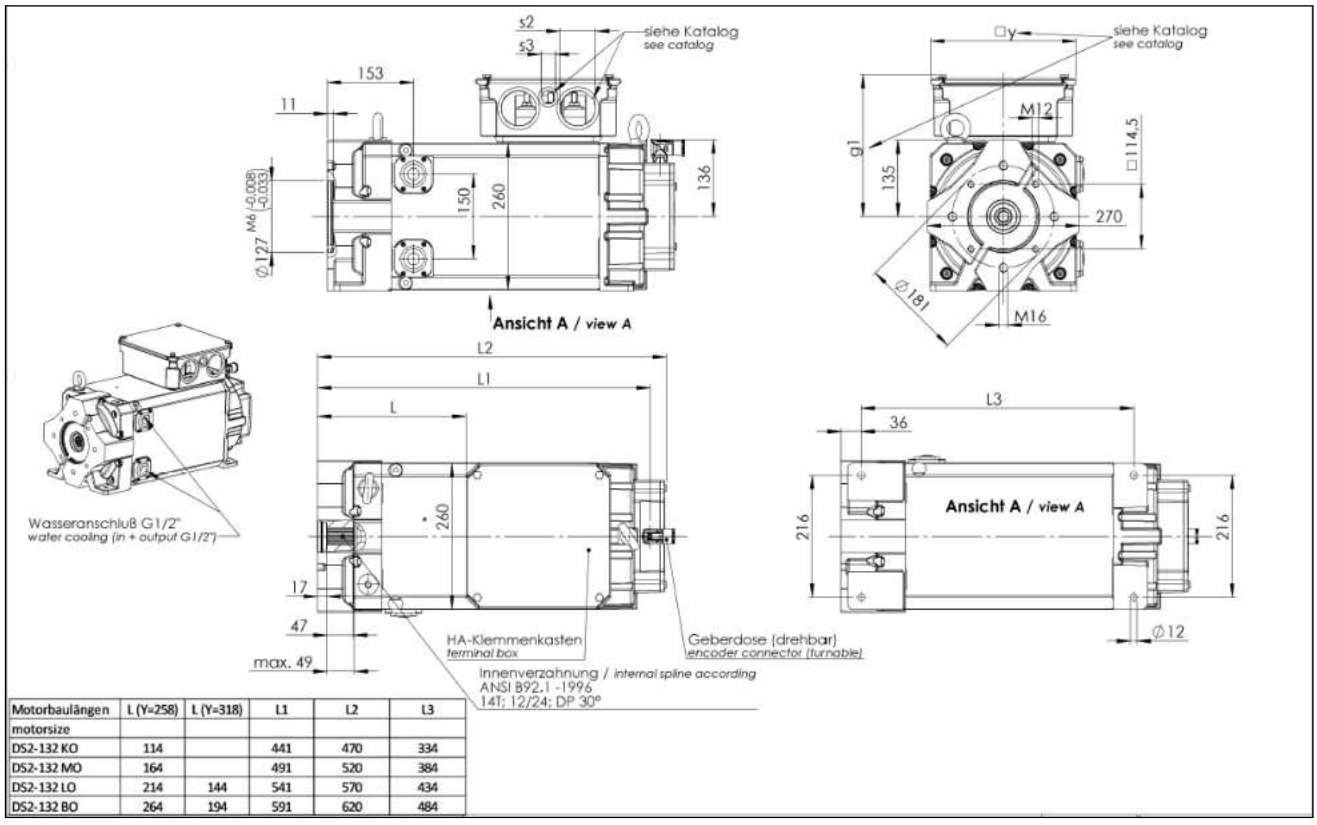
5.1.6. Motor size 132 for direct installation with IPV5, EIPC5

DSD2-132..W



Motorbaulängen / motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DSD2-132 KO	157		484	513	377
DSD2-132 MO	207	137	534	563	427
DSD2-132 LO	257	187	584	613	477
DSD2-132 BO	307	237	634	663	527
DSD2-132 XO	357	287	684	713	577
DSD2-132 YO	407	337	734	763	627
DSD2-132 YZ	432	362	759	788	652

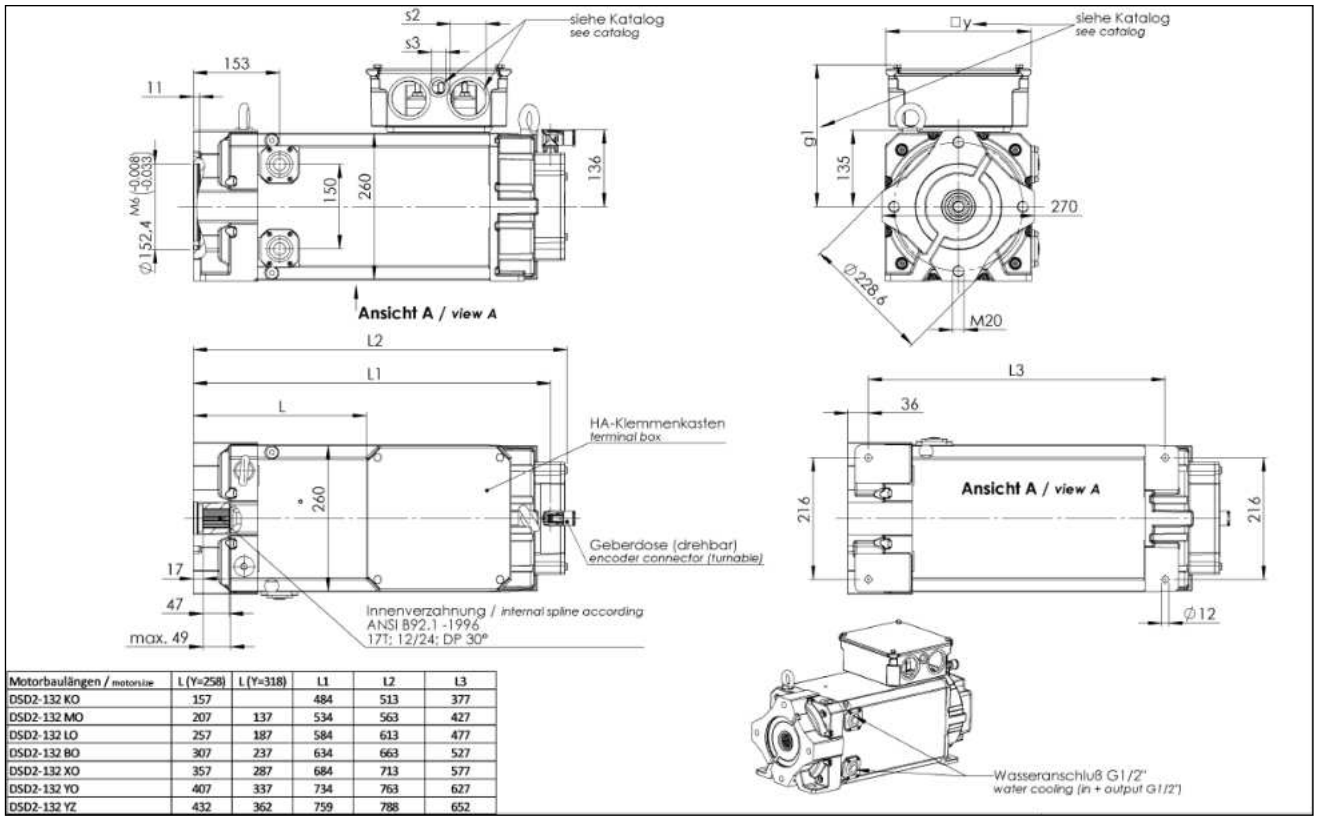
DS2-132..W



Motorbaulängen motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DS2-132 KO	114		441	470	334
DS2-132 MO	164		491	520	384
DS2-132 LO	214	144	541	570	434
DS2-132 BO	264	194	591	620	484

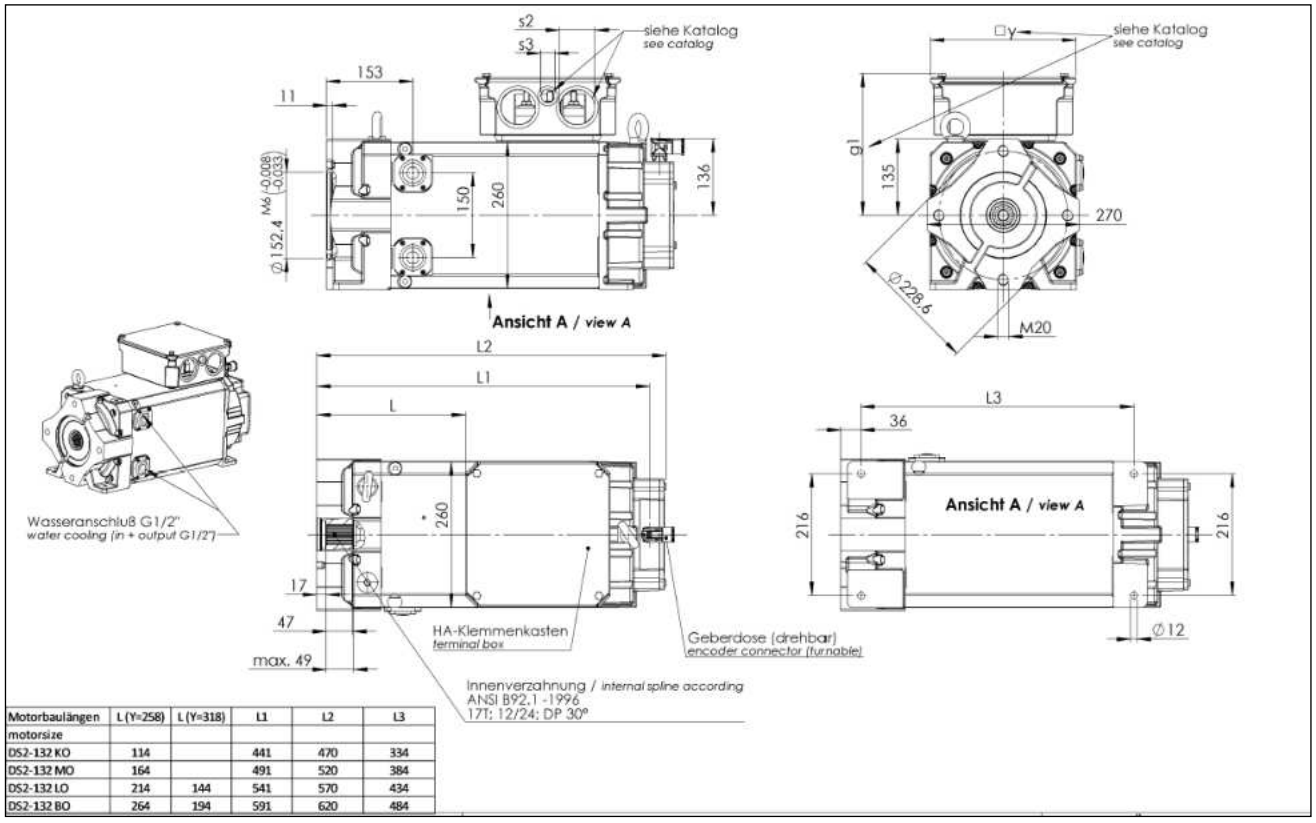
5.1.7. Motor size 132 for direct installation with IPV6, EIPC6

DSD2-132..W



Motorbaulängen / motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DSD2-132 KO	157		484	513	377
DSD2-132 MO	207	137	534	563	427
DSD2-132 LO	257	187	584	613	477
DSD2-132 BO	307	237	634	663	527
DSD2-132 XO	357	287	684	713	577
DSD2-132 YO	407	337	734	763	627
DSD2-132 YZ	432	362	759	788	652

DS2-132..W



Motorbaulängen	L (Y=258)	L (Y=318)	L1	L2	L3
motorsize					
DS2-132 KO	114		441	470	334
DS2-132 MO	164		491	520	384
DS2-132 LO	214	144	541	570	434
DS2-132 BO	264	194	591	620	484

5.2. Performance Line - direct mounting with oil circulation lubrication

With the performance. Baumüller offers a further advantage in combination with the robust and powerful internal gear pump of Bucher. The intelligent use of the hydraulic oil means that the leakage flow of the pump is used for permanent lubrication of the gear teeth.

This eliminates the need for grease lubrication of the internal gear teeth. which is due on average every 5.000 operating hours. The machine can produce without interruption. Baumüller is the only supplier of this solution. which also results in significantly reduced service costs for machine manufacturers and machine operators.

Pump motor matrix	**Motor size 56**	**Motor size 71**	**Motor size 100**	**Motor size 132**
Typ: QXM23 (5-8ccm³)	DSD2 (auf Anfrage)	-	-	
Typ: QXEH(X)3 (10-16ccm³)	-	DSD2	-	
Typ: QXEH(X)4 (20-32ccm³)	-		DSD2	
Typ: QXEH(X)5 (40-63ccm³)			DSD2	DSD2..W* DS2..W*
Typ: QXEH(X)6 (80-160ccm³)				DSD2..W* DS2..W*

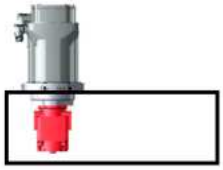
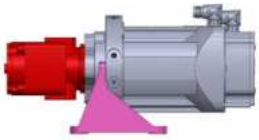
*Limited maximum torque. QXEH(X)5 = 340Nm; QXEH(X)6 = 550Nm

5.2.1. Ordering information

The type code concept of the respective motor series applies. The shaft and flange option is coded as follows:

Flange option:

DSD2-100XX64W-XX-54-XOX-XXX-K-AN-**W**-XXX

		Motor size 56			Motor size 71			Motor size 100					Motor size 132						
Code	**Mounting option**	SO	MO	LO	SO	MO	LO	SO	MO	LO	BO	XO	KO	MO	LO	BO	XO	YO	YZ
W	Wall/tank mounting 	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	Foot flange mounting KTR; type: PTFS GGG [1] 	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

[1] The foot flange is not part of the Baumüller scope of delivery

Shaft option:

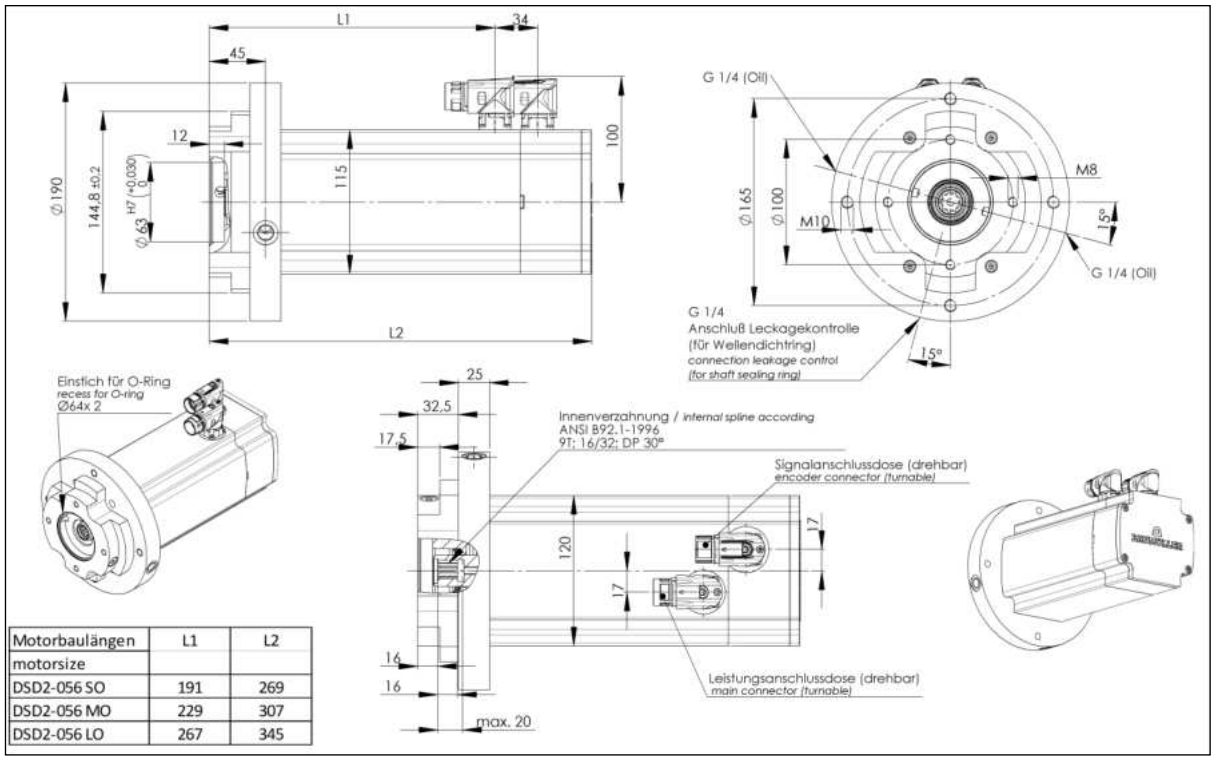
standard configuration — special

DSD2-100XX64W-XX-54-XO**K**-XXX-K-AN-X-XXX

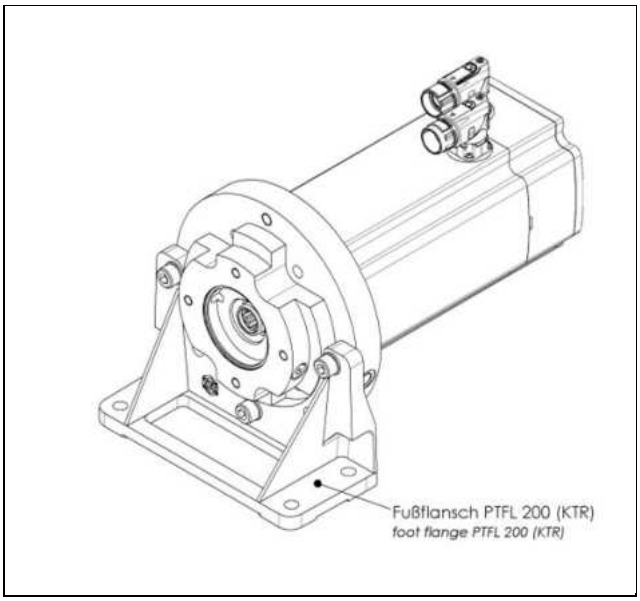
Coding	Description	Pump
K	Internal gearing. ANSI B92.1a. 11T 16/32 DP30°	QXEH(X)3
O	Internal gearing. ANSI B92.1a. 15T 16/32 DP30°	QXEH(X)4
M	Internal gearing. ANSI B92.1a. 14T 12/24 DP30°	QXEH(X)5
Q	Internal gearing, ANSI B92.1a, 17T 12/24 DP30°	QXEH(X)6

5.2.2. Motor size 056 for direct installation with QXM23

DSD2-056..U



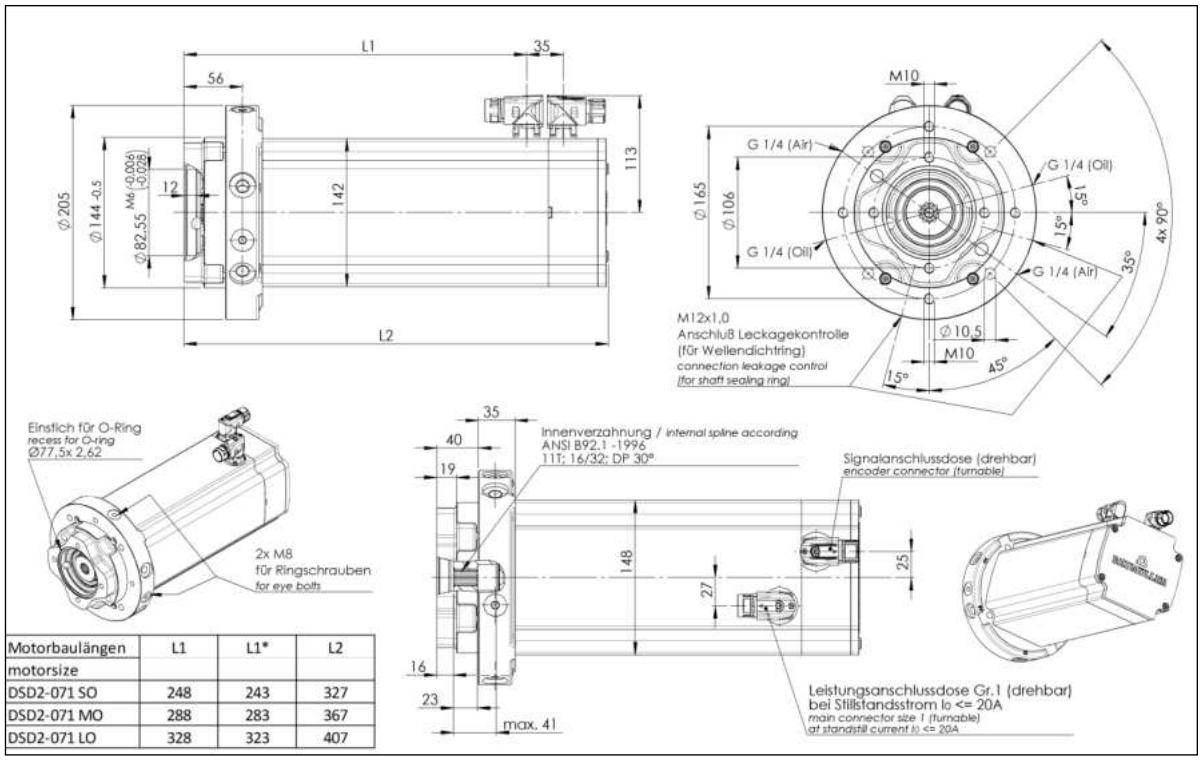
Motorbaulängen	L1	L2
motorsize		
DSD2-056 SO	191	269
DSD2-056 MO	229	307
DSD2-056 LO	267	345



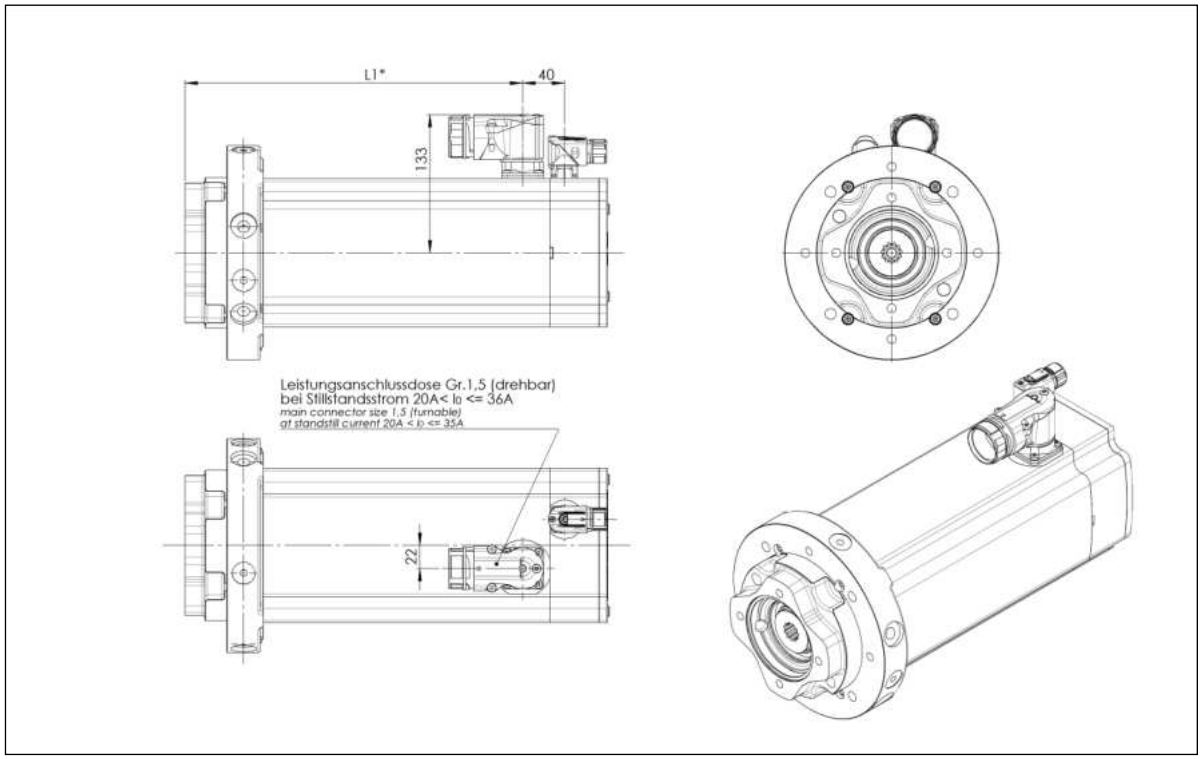
The BG56 is available on request in the cooling modes U/O/W.

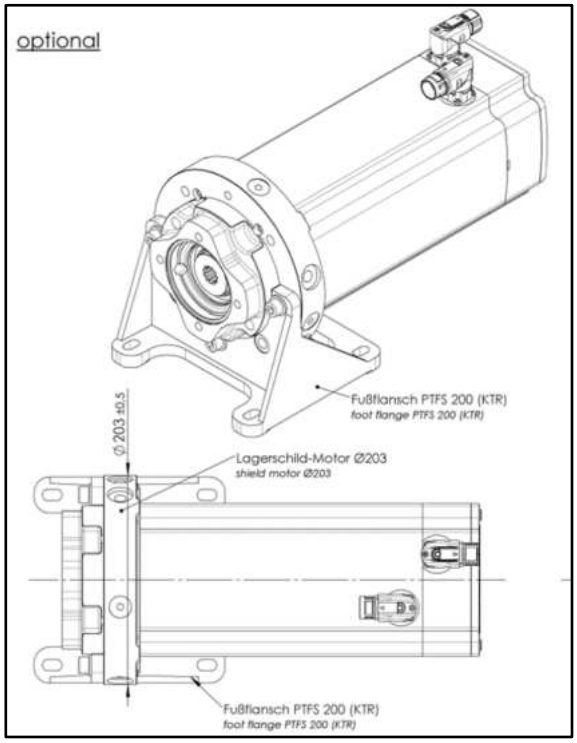
5.2.3. Motor size 071 for direct installation with QXEH(X)3

DSD2-071..U

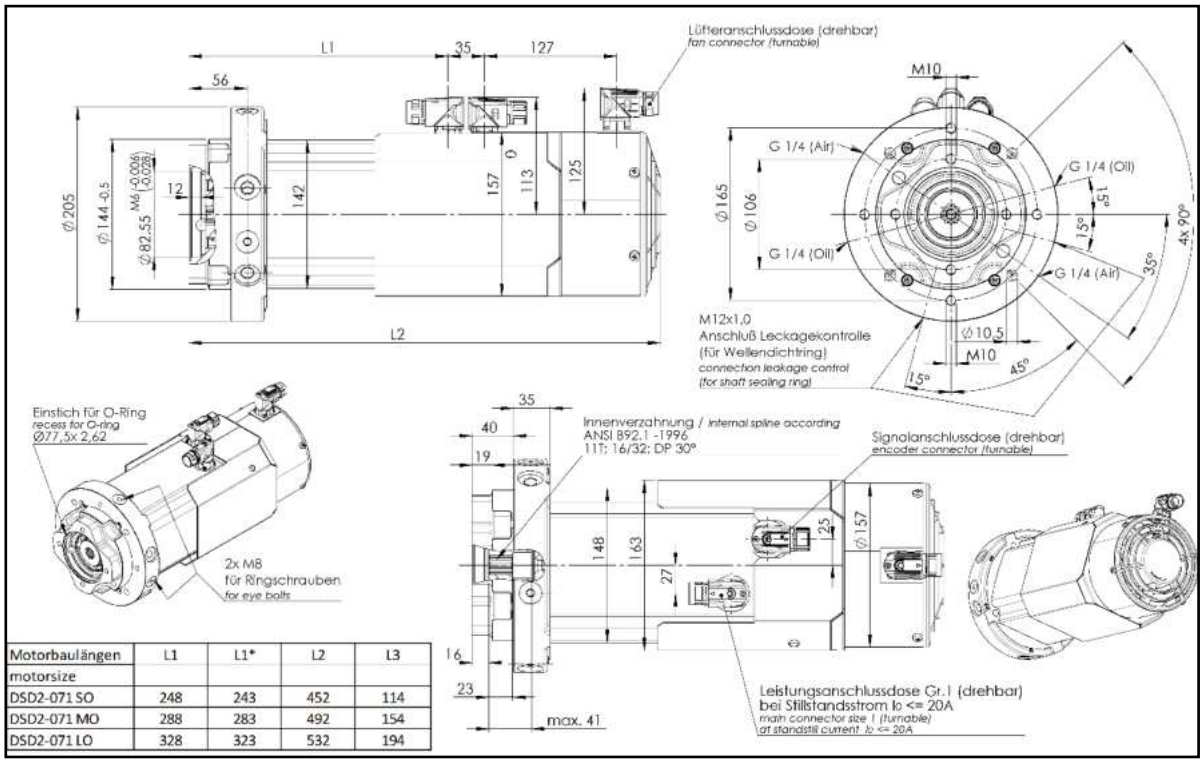


Motorbaulängen	L1	L1*	L2
motorsize			
DSD2-071 SO	248	243	327
DSD2-071 MO	288	283	367
DSD2-071 LO	328	323	407

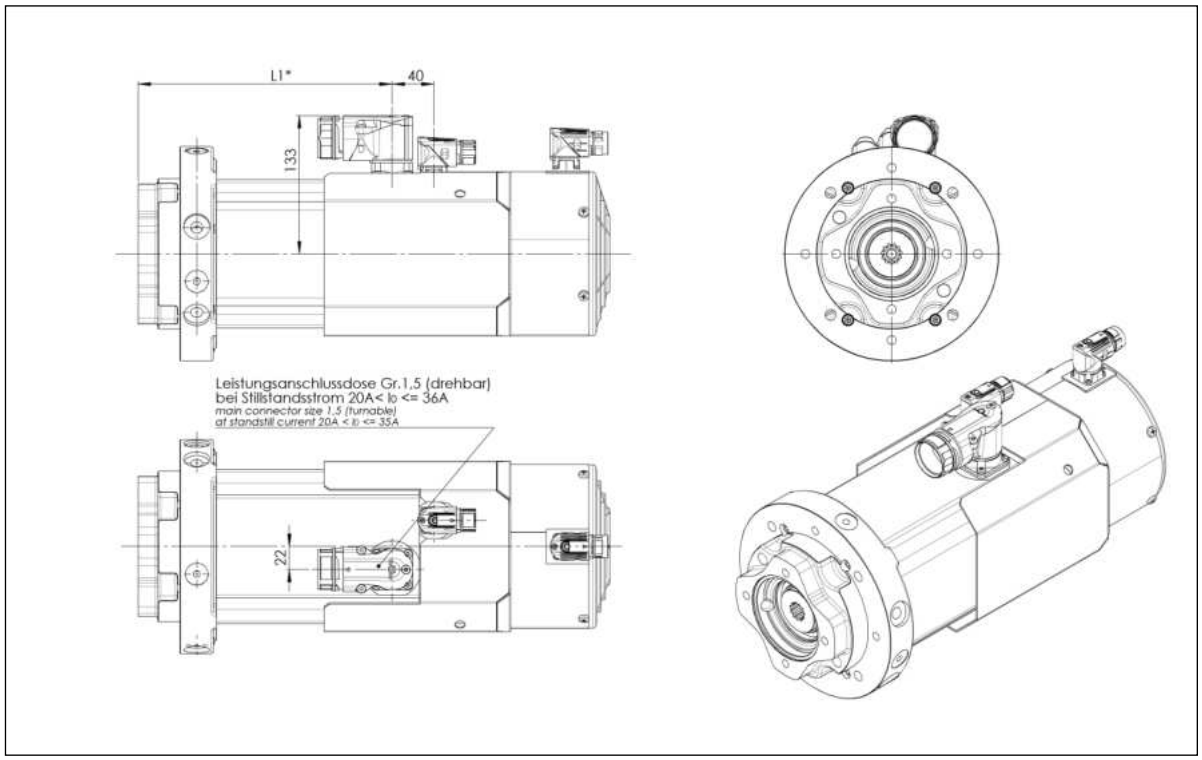


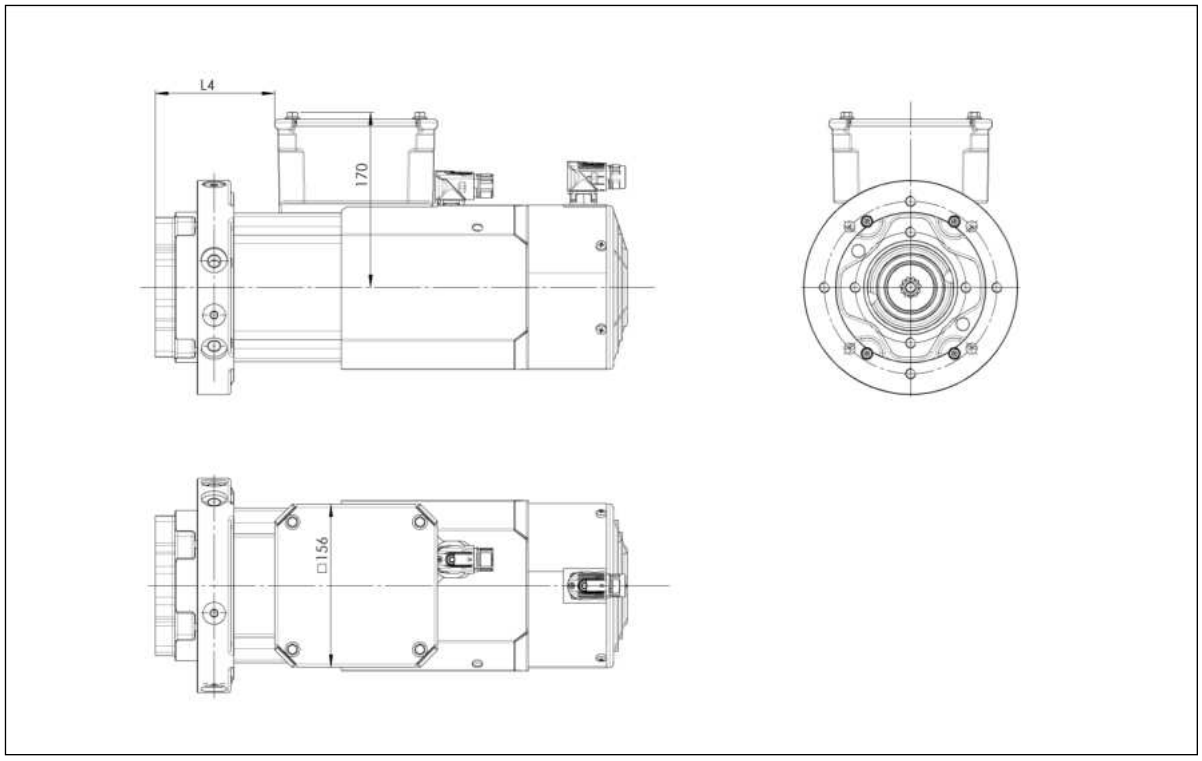


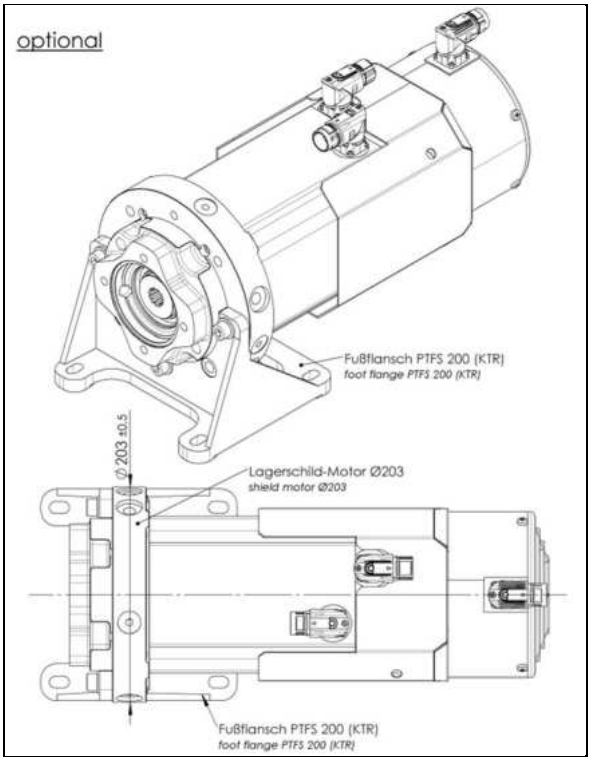
DSD2-071..O



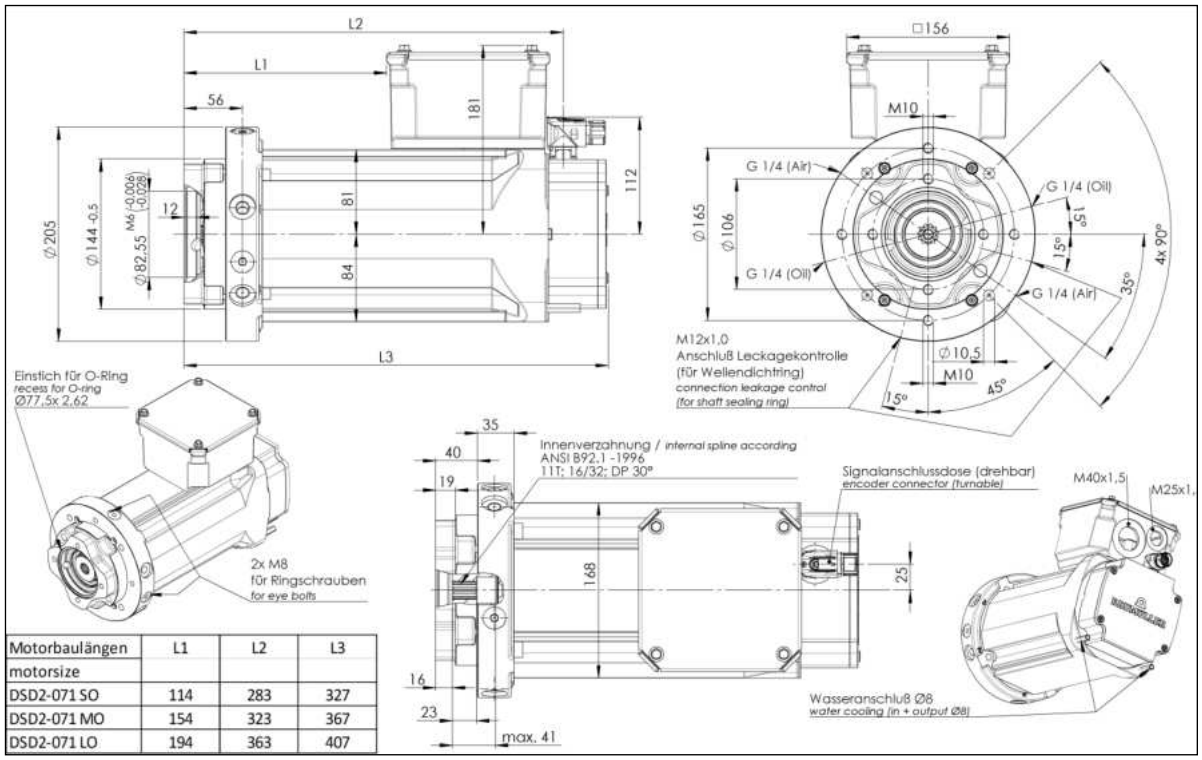
Motorbaulängen	L1	L1*	L2	L3
motorsize				
DSD2-071 SO	248	243	452	114
DSD2-071 MO	288	283	492	154
DSD2-071 LO	328	323	532	194


L1*
40
133
Leistungsanschlussdose Gr.1,5 (drehbar)
bei Stillstandsstrom 20A< Io <= 36A
main connector size 1,5 (turnable)
at standstill current 20A < Io <= 35A
22

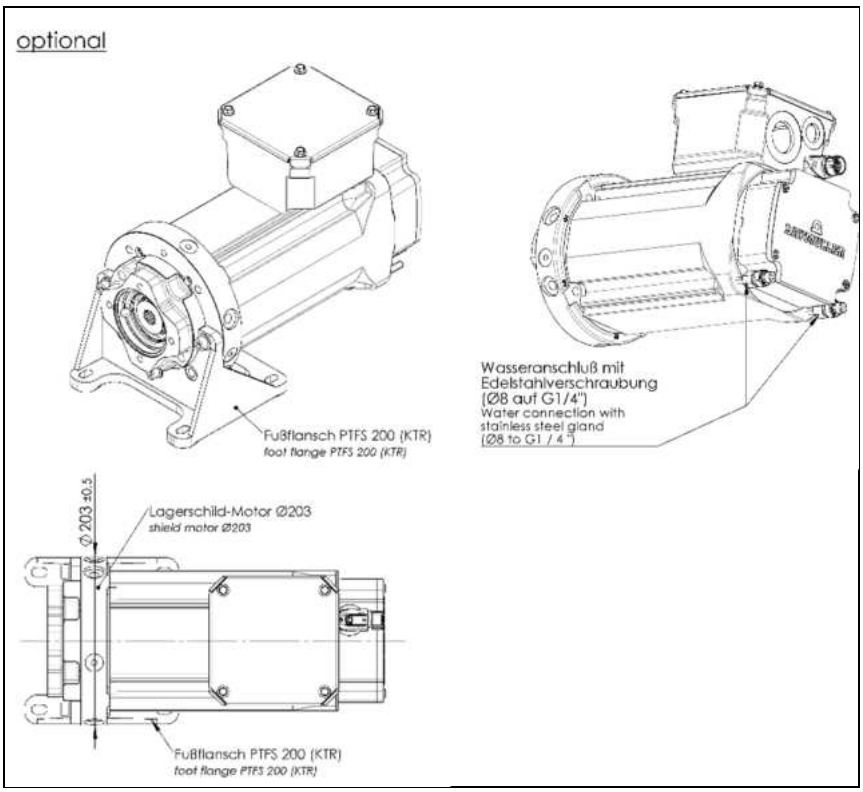

L4
170
□156



DSD2-071..W

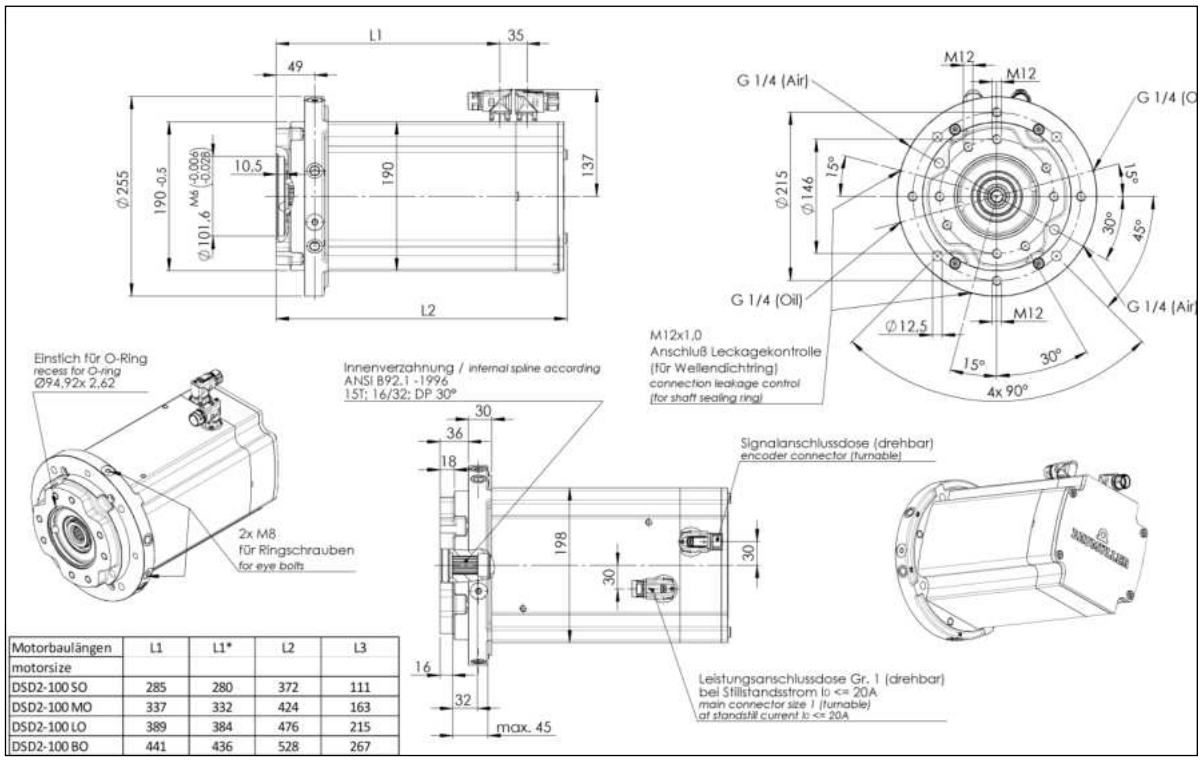


Motorbaulängen	L1	L2	L3
motorsize			
DSD2-071 SO	114	283	327
DSD2-071 MO	154	323	367
DSD2-071 LO	194	363	407

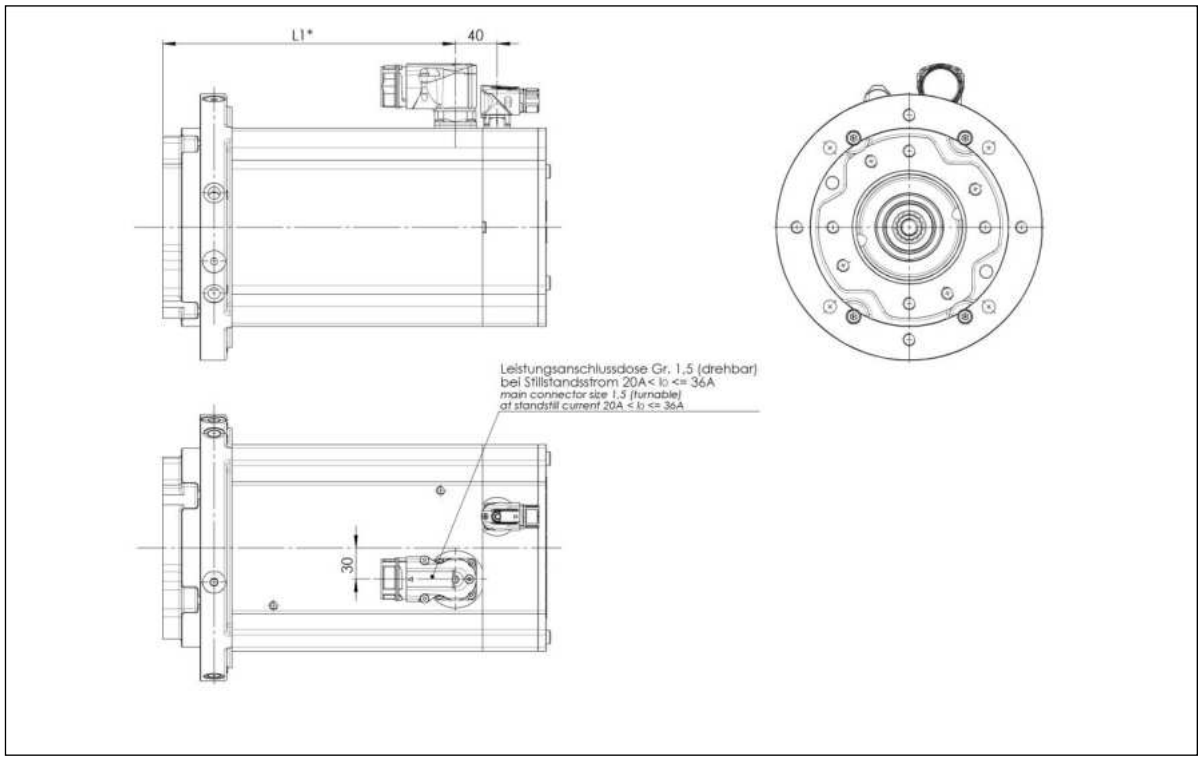


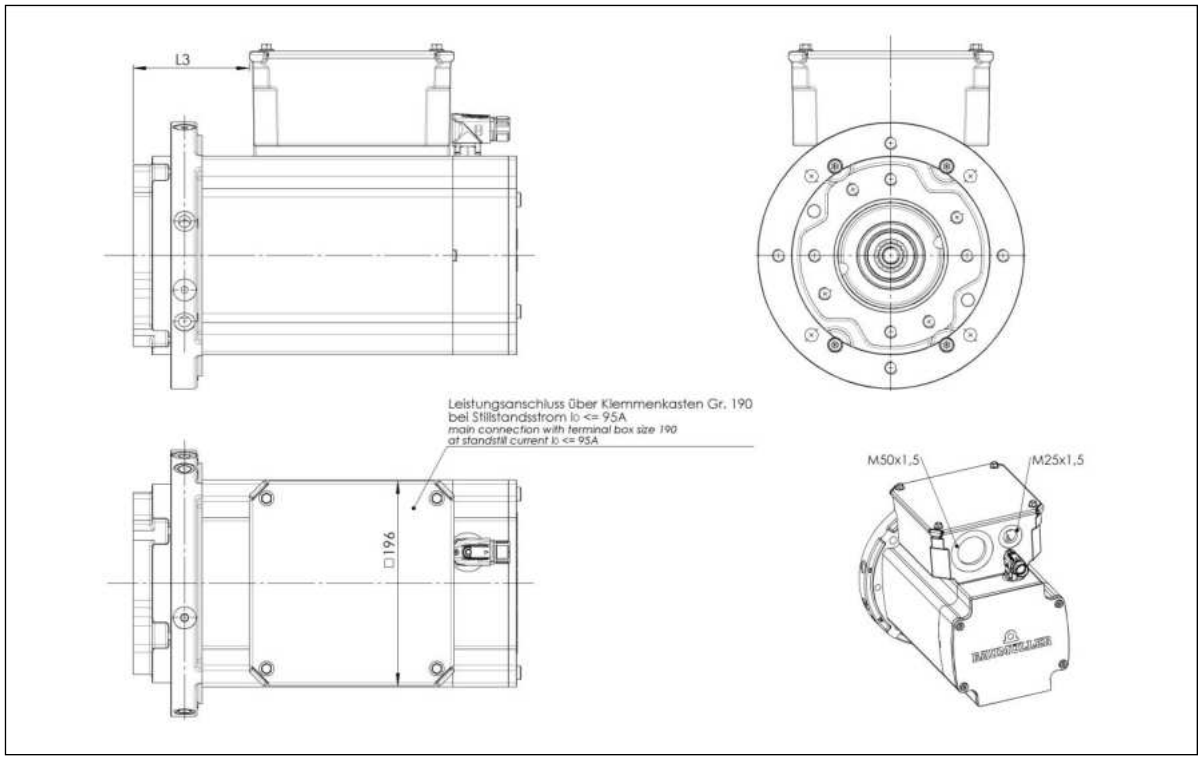
5.2.4. Motor size 100 for direct installation with QXEH(X)4

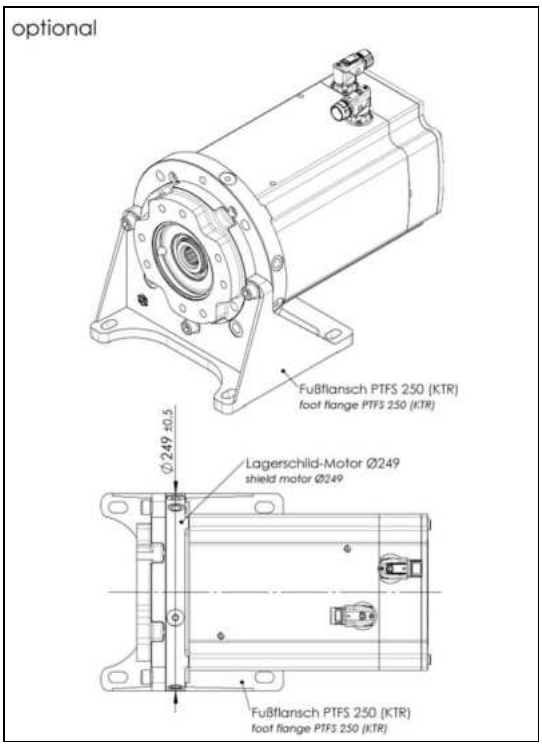
DSD2-100..U



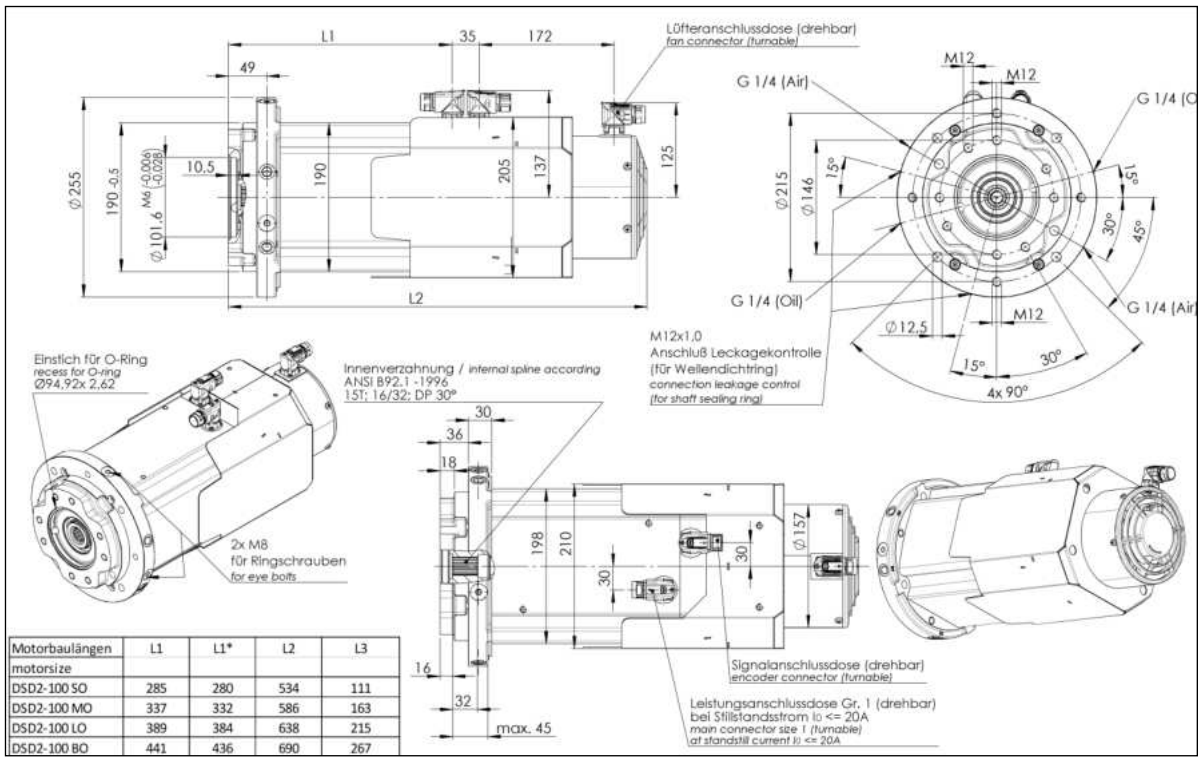
Motorbaulängen	L1	L1*	L2	L3
motorsize				
DSD2-100 SO	285	280	372	111
DSD2-100 MO	337	332	424	163
DSD2-100 LO	389	384	476	215
DSD2-100 BO	441	436	528	267


L1*
40
Leistungsanschlussdose Gr. 1,5 (drehbar)
bei Stillstandsstrom 20A< Io <= 36A
main connector size 1.5 (turnable)
at standstill current 20A < Io <= 36A
30

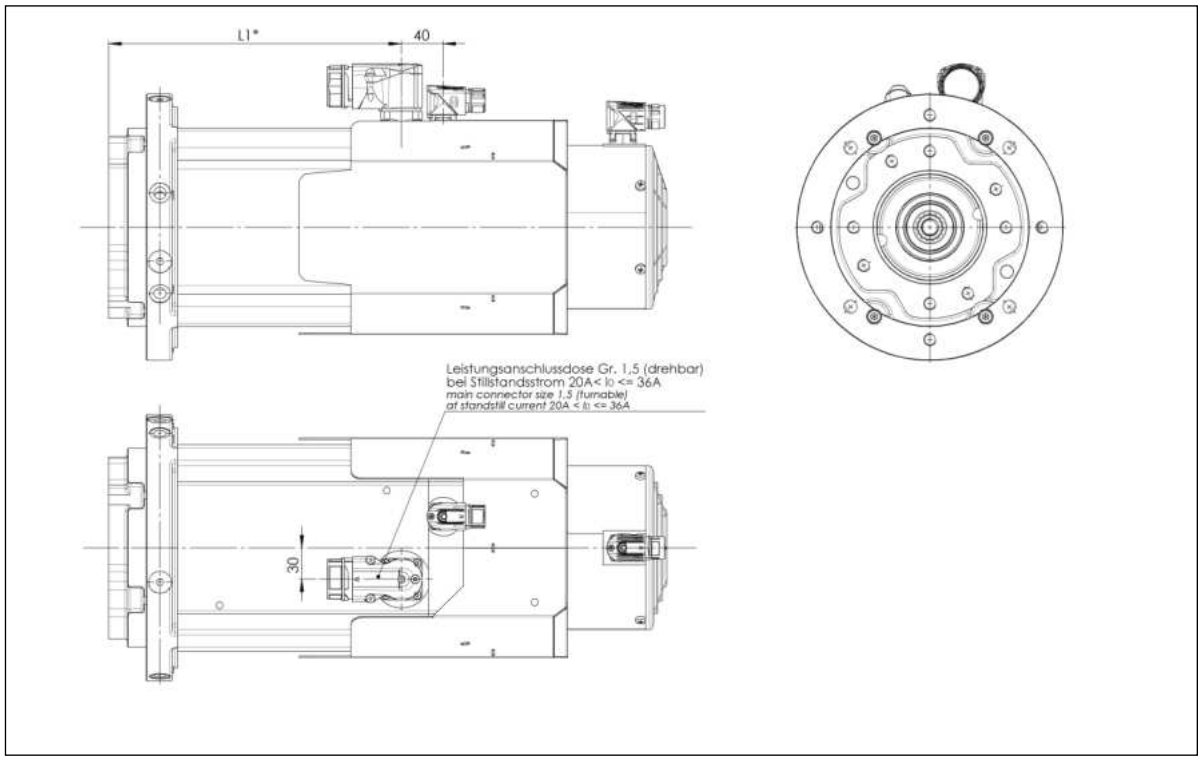

L3
Leistungsanschluss über Klemmenkasten Gr. 190
bei Stillstandsstrom Io <= 95A
main connection with terminal box size 190
at standstill current Io <= 95A
□196
M50x1,5
M25x1,5

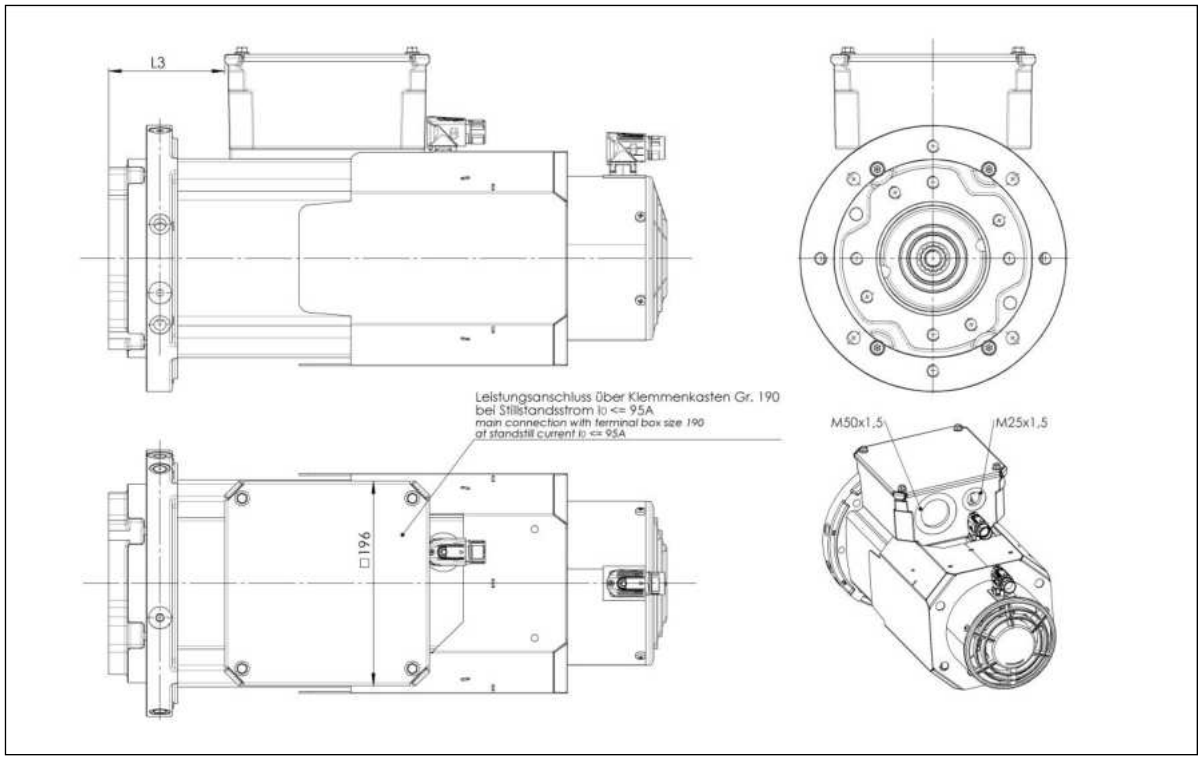


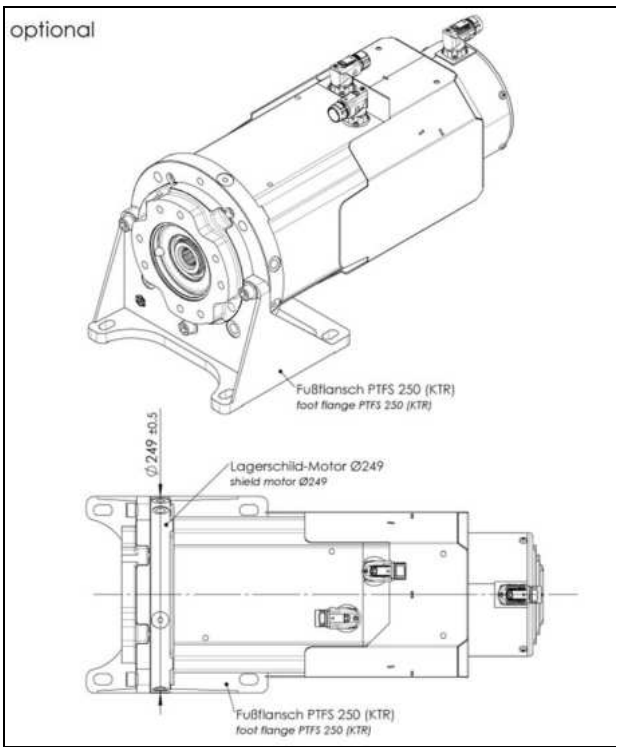
DSD2-100..O



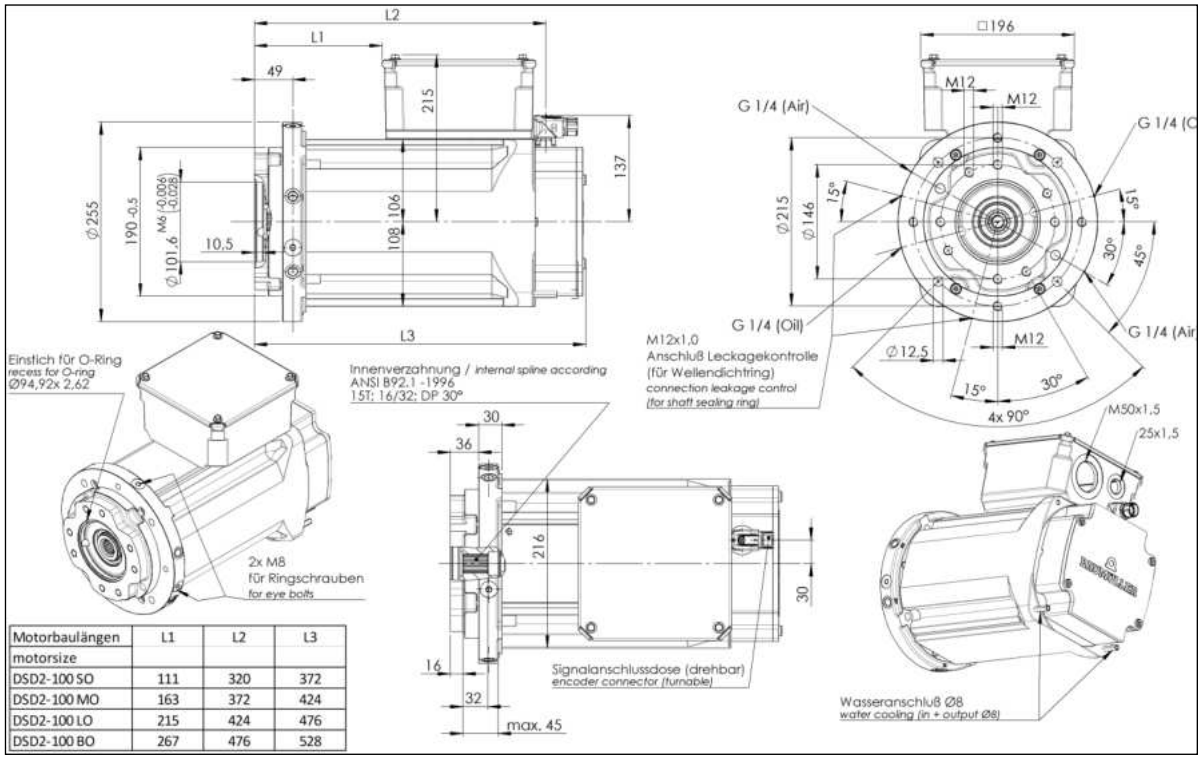
Motorbaulängen	L1	L1*	L2	L3
motorsize				
DSD2-100 SO	285	280	534	111
DSD2-100 MO	337	332	586	163
DSD2-100 LO	389	384	638	215
DSD2-100 BO	441	436	690	267


L1*
40
Leistungsanschlussdose Gr. 1,5 (drehbar)
bei Stillstandsstrom 20A< Io <= 36A
main connector size 1.5 (turnable)
at standstill current 20A < Io <= 36A
30

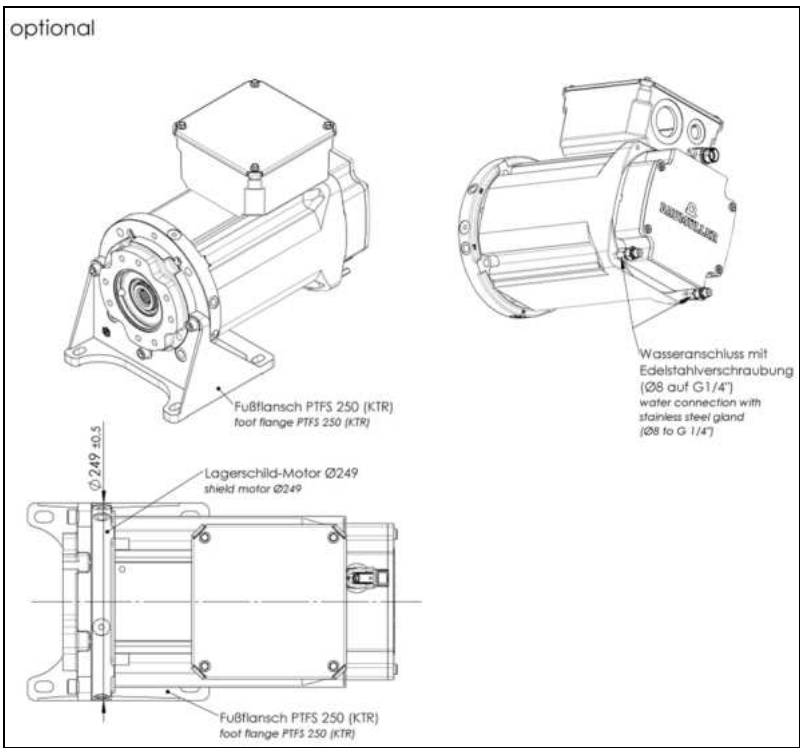

L3
Leistungsanschluss über Klemmenkasten Gr. 190
bei Stillstandsstrom Io <= 95A
main connection with terminal box size 190
at standstill current Io <= 95A
□196
M50x1,5
M25x1,5



DSD2-100..W

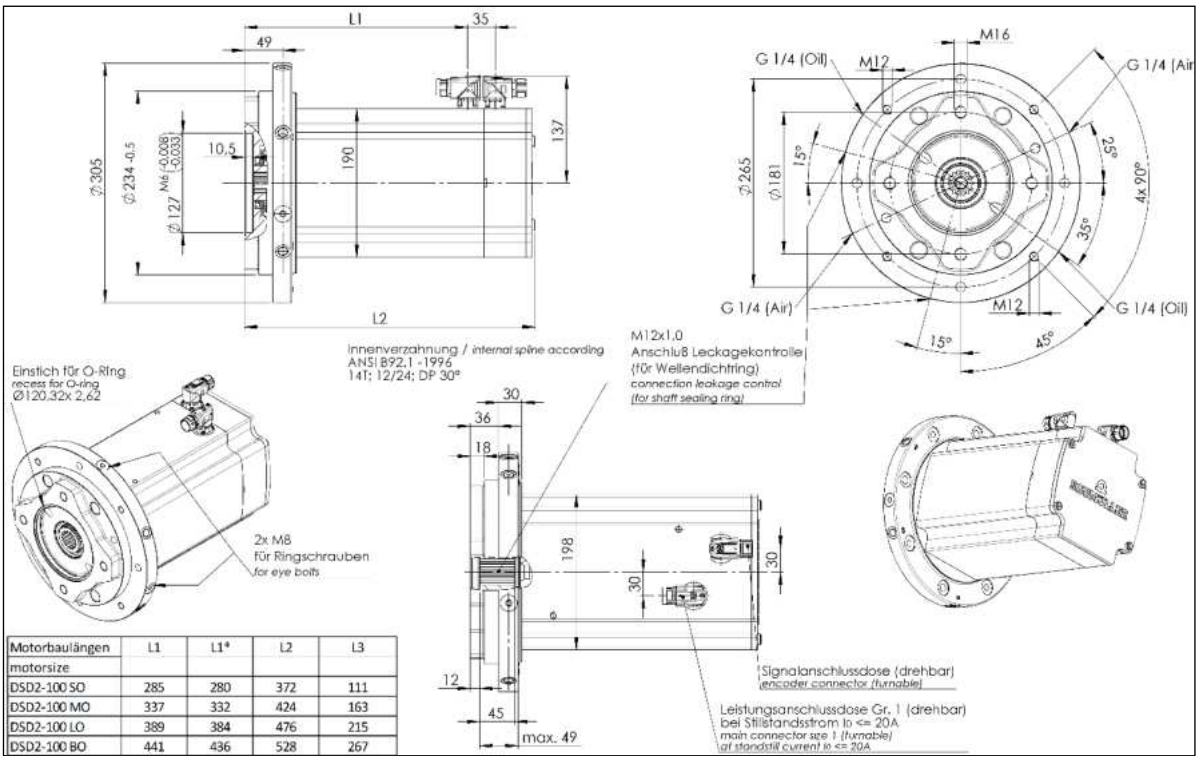


Motorbaulängen	L1	L2	L3
motorsize			
DSD2-100 SO	111	320	372
DSD2-100 MO	163	372	424
DSD2-100 LO	215	424	476
DSD2-100 BO	267	476	528

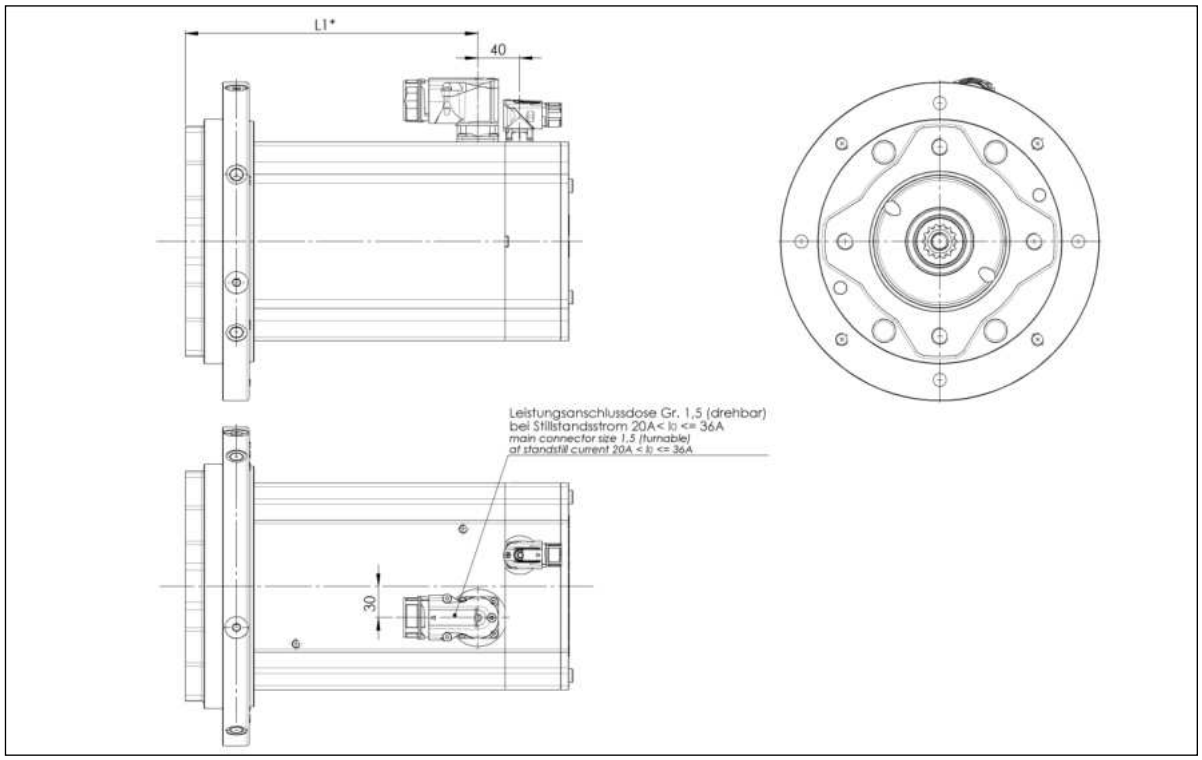


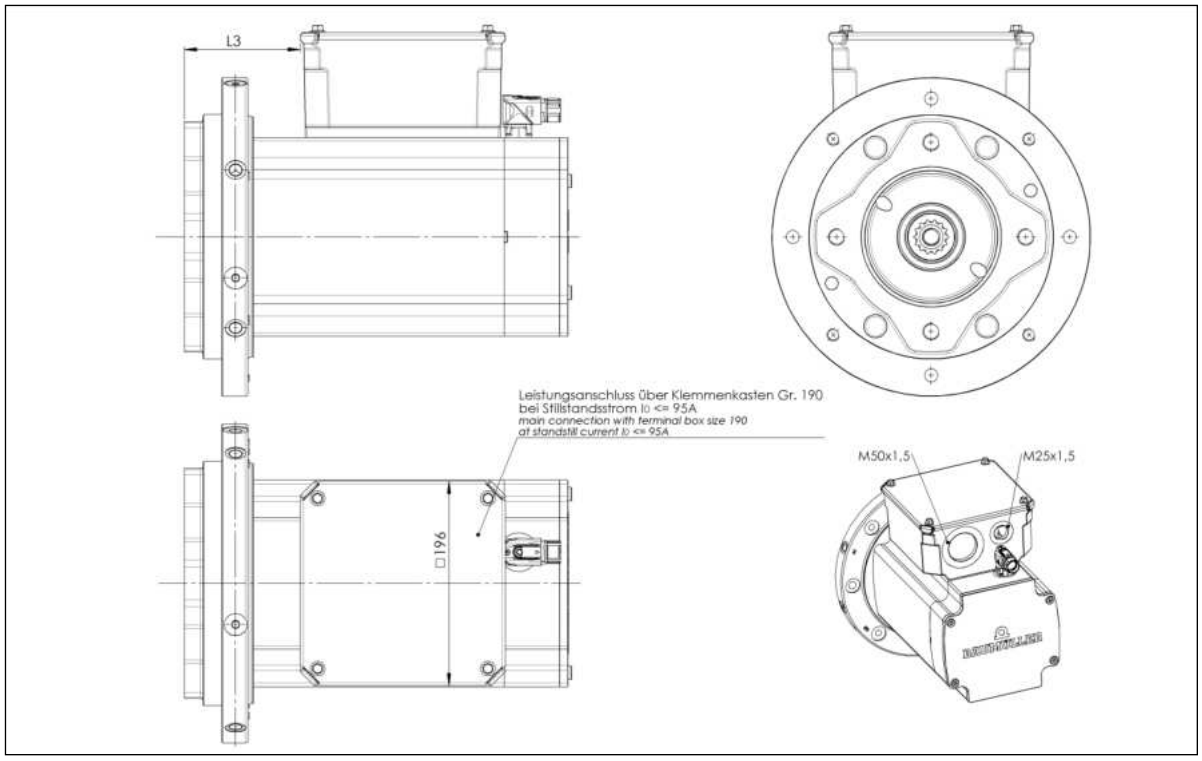
5.2.5. Motor size 100 for the direct installation with QXEH(X)5

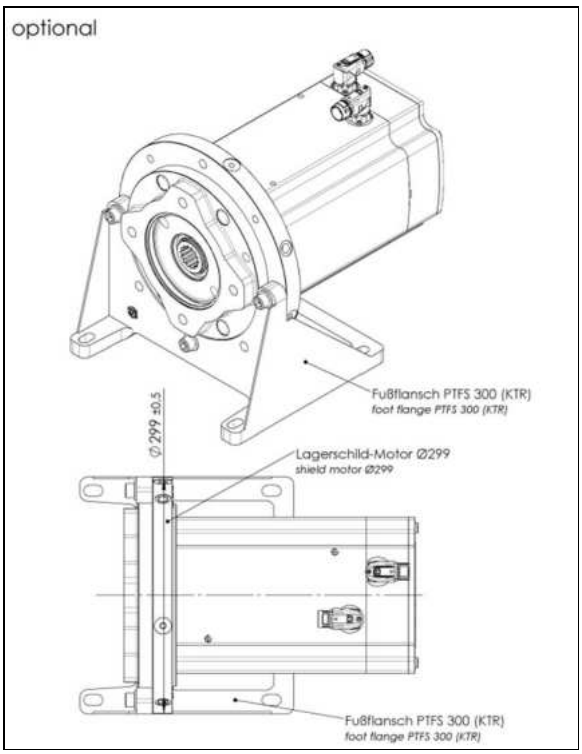
DSD2-100..U



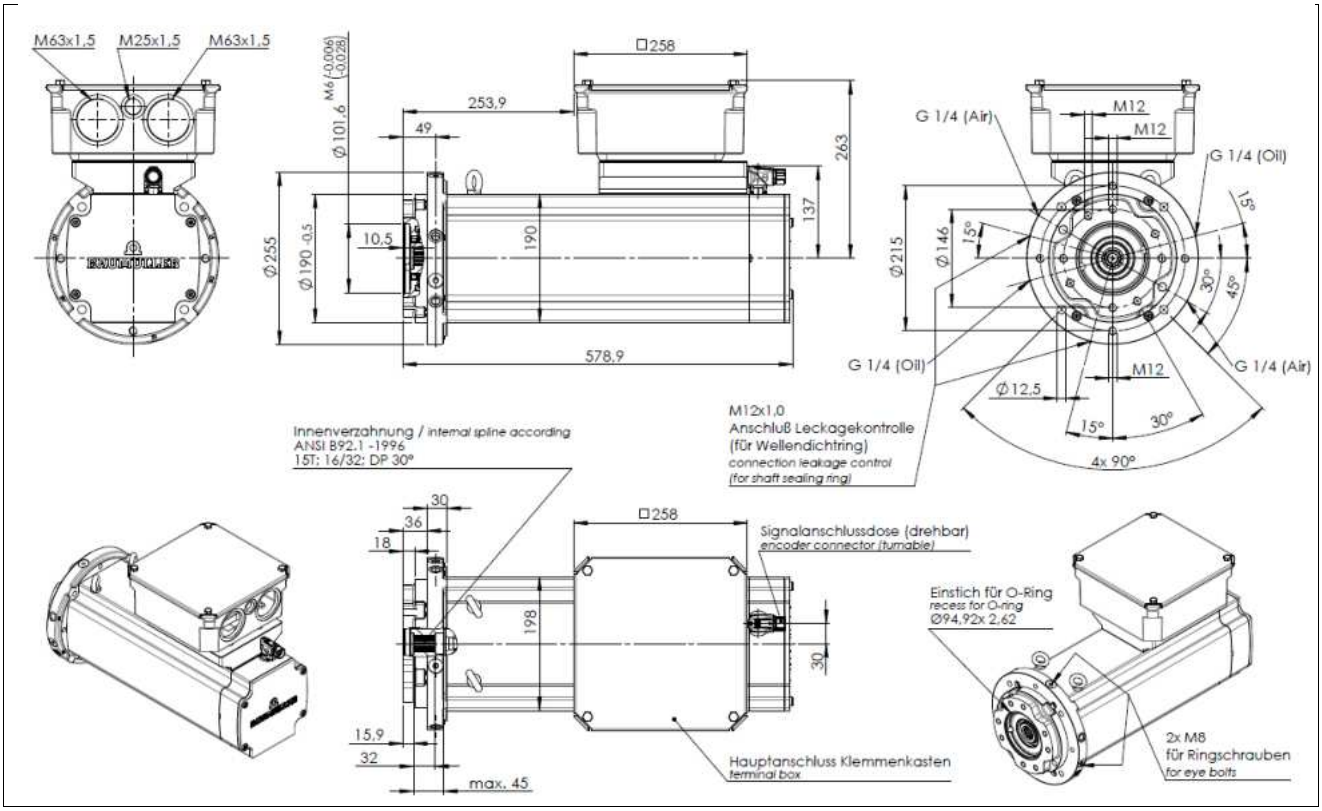
Motorbaulängen	L1	L1*	L2	L3
motorsize				
DSD2-100 SO	285	280	372	111
DSD2-100 MO	337	332	424	163
DSD2-100 LO	389	384	476	215
DSD2-100 BO	441	436	528	267


L1*
40
Leistungsanschlussdose Gr. 1,5 (drehbar)
bei Stillstandsstrom 20A< Io <= 36A
main connector size 1,5 (turnable)
at standstill current 20A < Io <= 36A
30

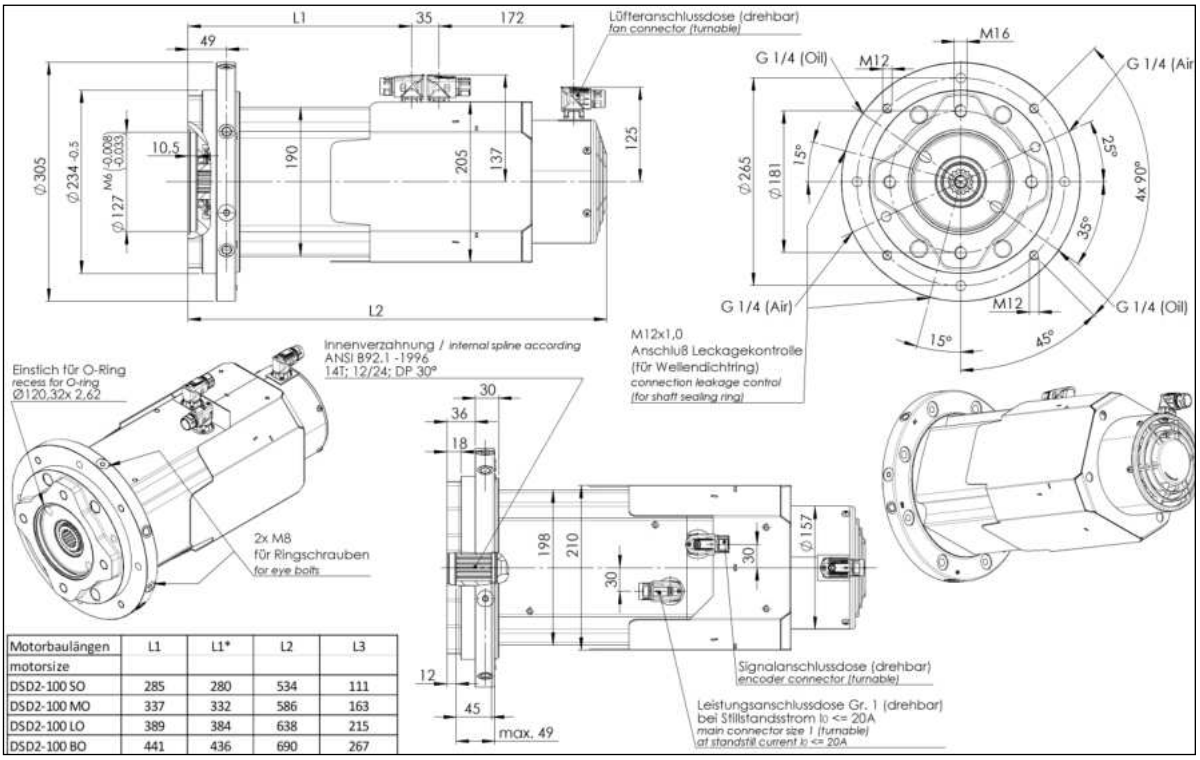

L3
Leistungsanschluss über Klemmenkasten Gr. 190
bei Stillstandsstrom Io <= 95A
main connection with terminal box size 190
at standstill current Io <= 95A
□196
M50x1,5
M25x1,5


optional
Fußflansch PTFS 300 (KTR)
foot flange PTFS 300 (KTR)
Ø 299 ±0.5
Lagerschild-Motor Ø299
shield motor Ø299
Fußflansch PTFS 300 (KTR)
foot flange PTFS 300 (KTR)

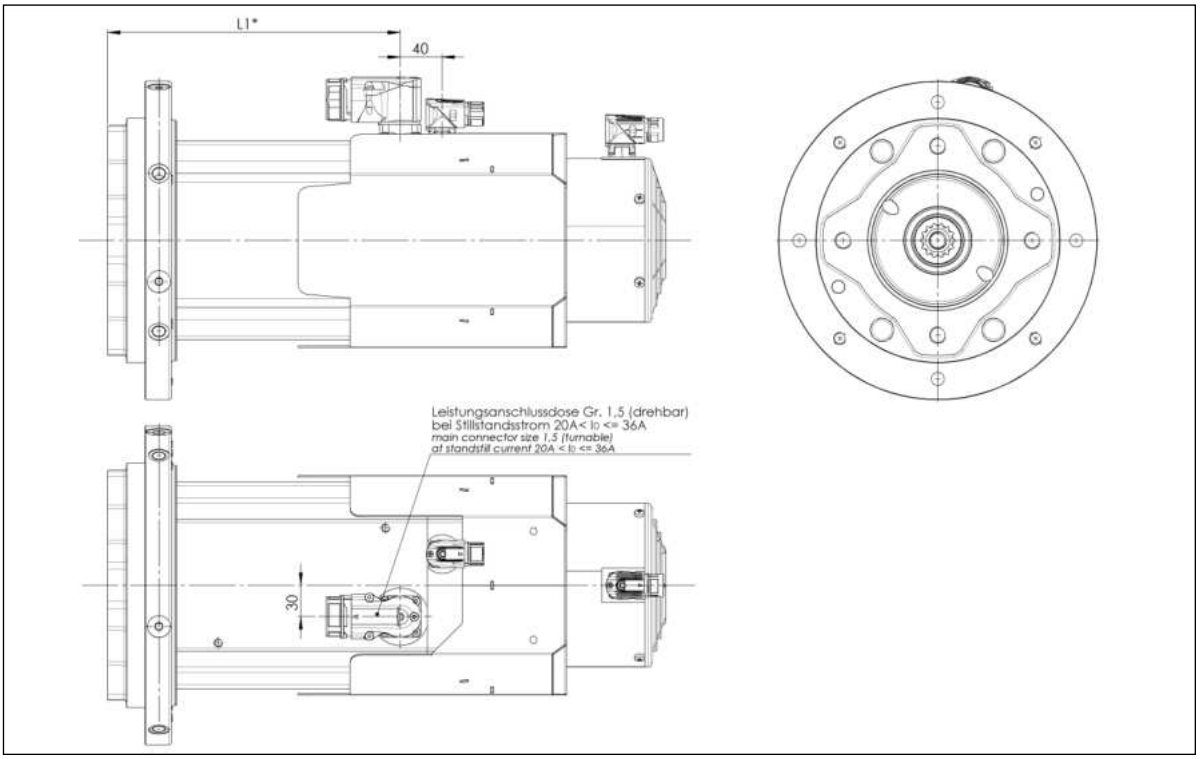
DSD2-100XO..U

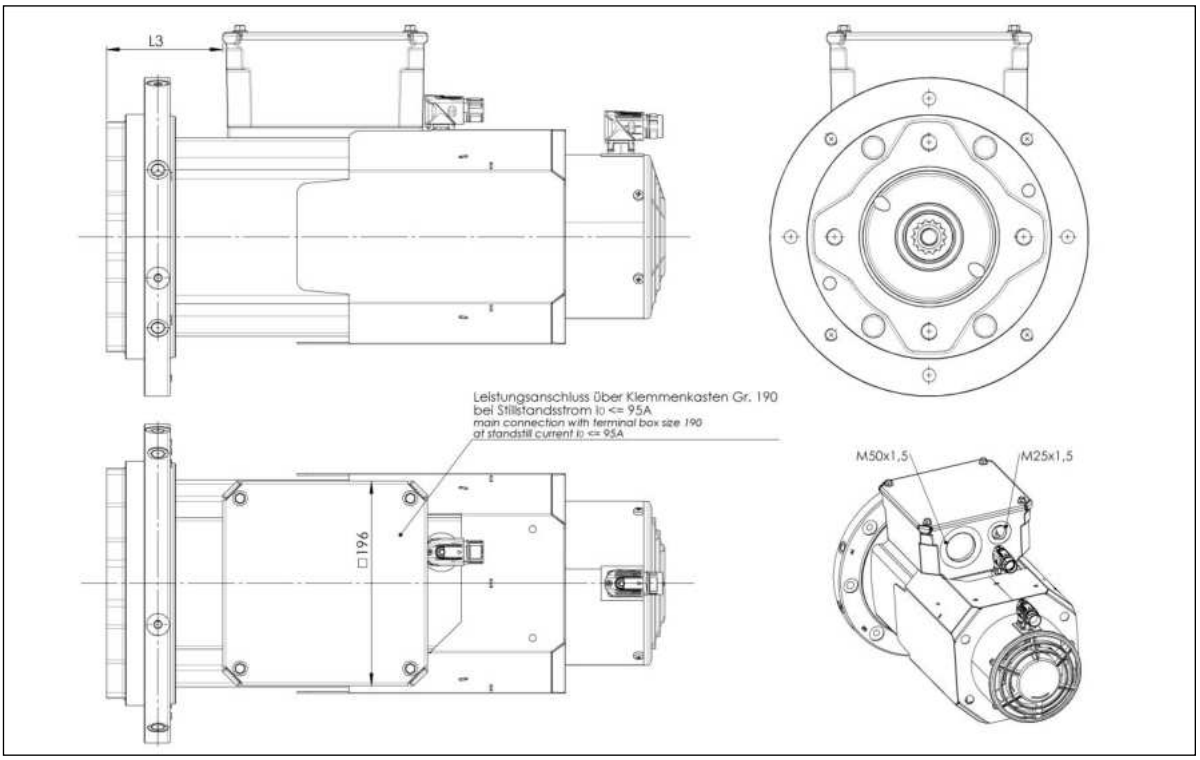

M63x1,5
M25x1,5
M63x1,5
M6 (+0.006 -0.028)
Ø 101.6
□258
253,9
49
263
137
190
10,5
Ø255
Ø190 -0.5
578.9
G 1/4 (Air)
M12
M12
G 1/4 (Oil)
15°
Ø215
Ø146
15°
30°
45°
G 1/4 (Oil)
M12
G 1/4 (Air)
Ø12,5
15°
30°
4x 90°
M12x1,0
Anschluß Leckagekontrolle
(für Wellendichtring)
connection leakage control
(for shaft sealing ring)
Innenverzahnung / internal spline according
ANSI B92.1 -1996
15T; 16/32; DP 30°
30
36
18
□258
Signalanschlussdose (drehbar)
encoder connector (turnable)
198
30
15,9
32
max. 45
Hauptanschluss Klemmenkasten
terminal box
Einstich für O-Ring
recess for O-ring
Ø94,92x 2,62
2x M8
für Ringschrauben
for eye bolts

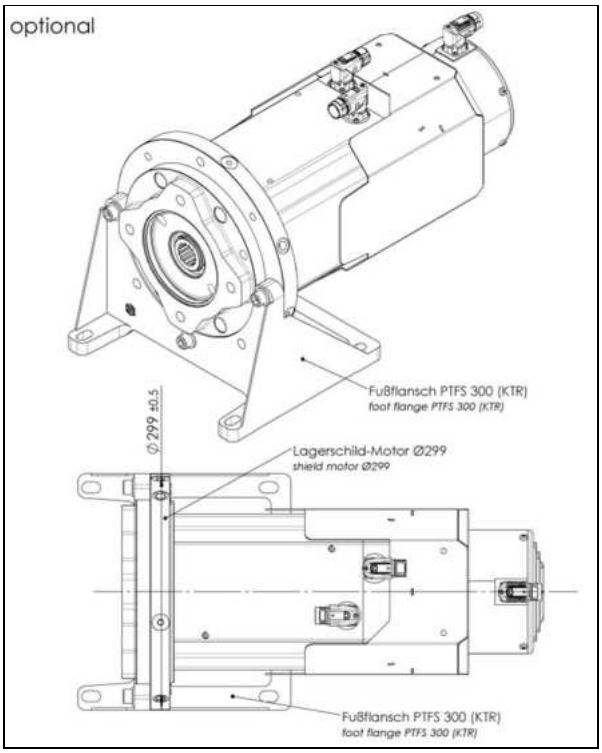
DSD2-100..O



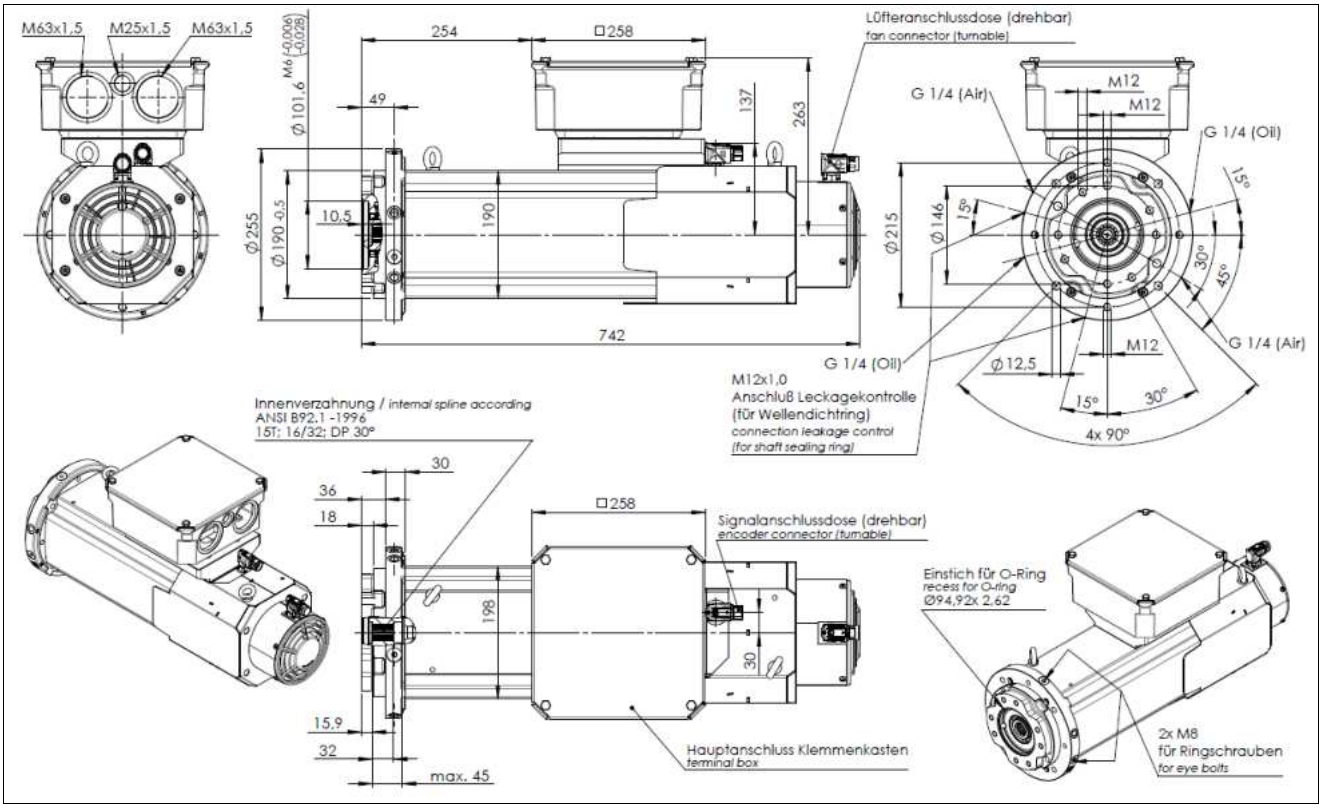
Motorbaulängen	L1	L1*	L2	L3
motorsize				
DSD2-100 SO	285	280	534	111
DSD2-100 MO	337	332	586	163
DSD2-100 LO	389	384	638	215
DSD2-100 BO	441	436	690	267



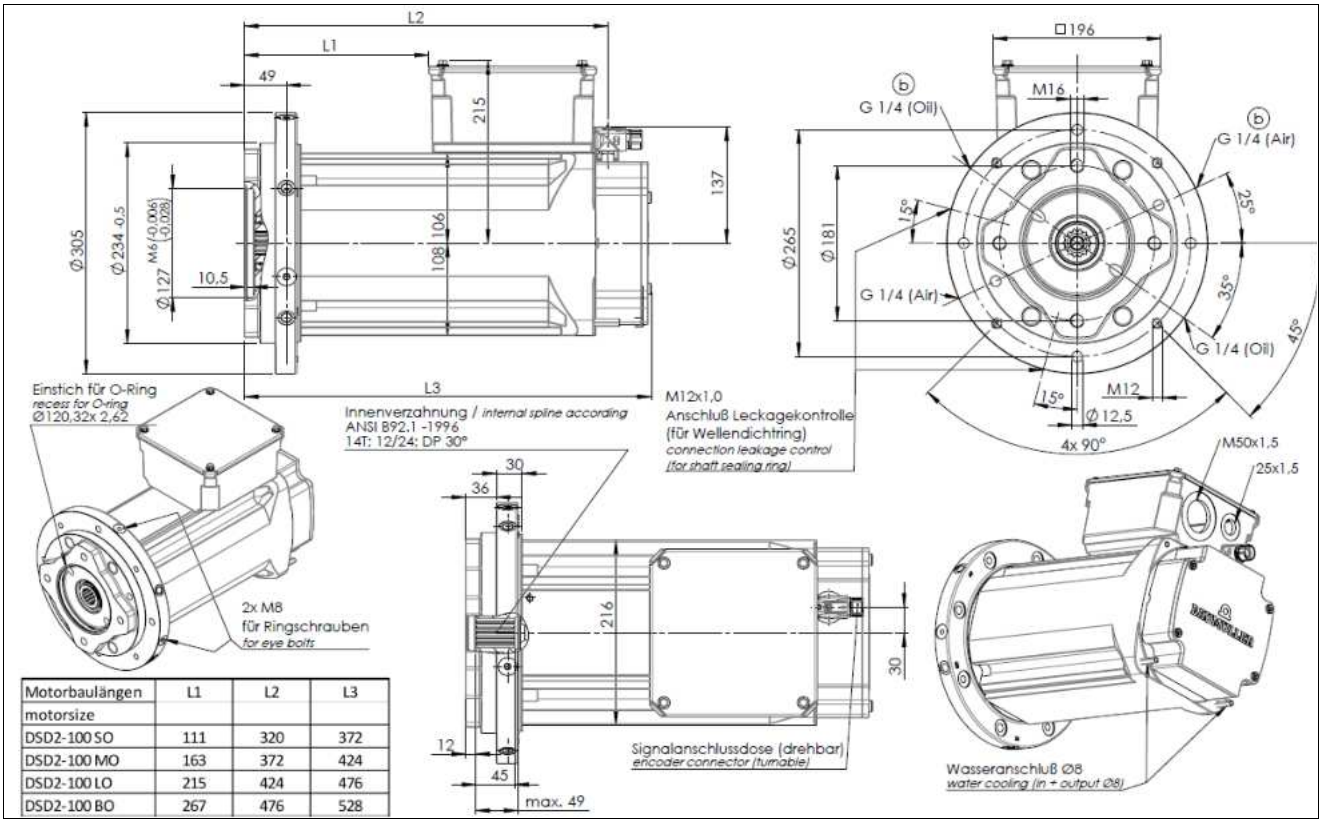

L3
Leistungsanschluss über Klemmenkasten Gr. 190
bei Stillstandsstrom I0 <= 95A
main connection with terminal box size 190
at standstill current I0 <= 95A
□196
M50x1,5
M25x1,5


optional
Fußflansch PTFS 300 (KTR)
foot flange PTFS 300 (KTR)
Ø 299 ±0,5
Lagerschild-Motor Ø299
shield motor Ø299
Fußflansch PTFS 300 (KTR)
foot flange PTFS 300 (KTR)

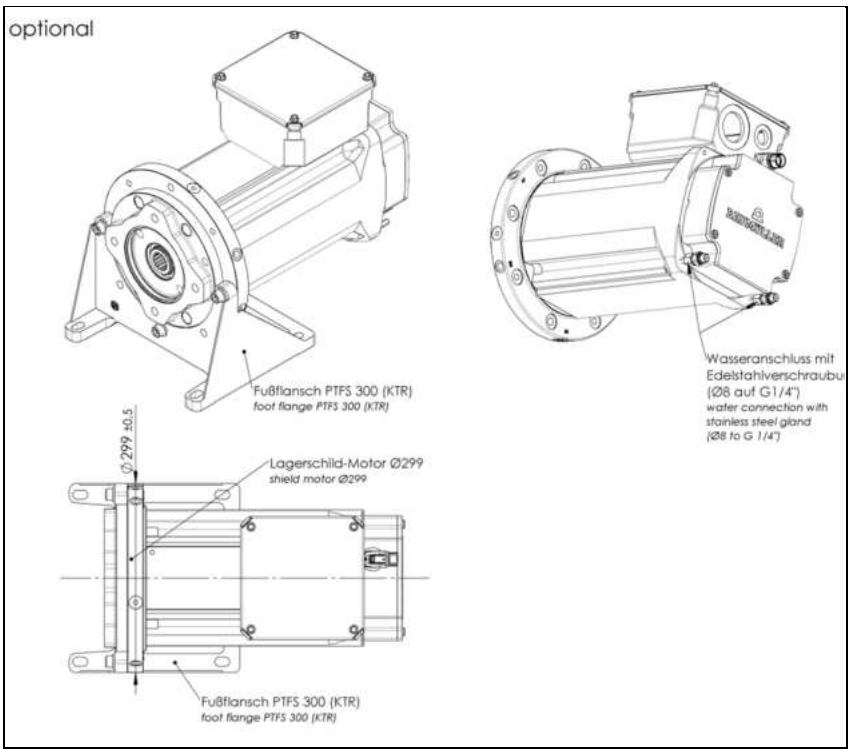
DSD2-100XO..O


M63x1,5
M25x1,5
M63x1,5
M6 (+0,008 -0,028)
Ø101,6
254
□258
49
137
263
Ø255
Ø190 -0,5
10,5
190
742
Lüfteranschlussdose (drehbar)
fan connector (turnable)
G 1/4 (Air)
M12
M12
G 1/4 (Oil)
Ø215
Ø146
15°
15°
30°
45°
G 1/4 (Air)
M12
G 1/4 (Oil)
Ø12,5
15°
30°
4x 90°
M12x1,0
Anschluß Leckagekontrolle
(für Wellendichtring)
connection leakage control
(for shaft sealing ring)
Innenverzahnung / internal spline according
ANSI B92.1 -1996
15T; 16/32; DP 30°
30
36
18
□258
Signalanschlussdose (drehbar)
encoder connector (turnable)
198
30
15,9
32
max. 45
Hauptanschluss Klemmenkasten
terminal box
Einstich für O-Ring
recess for O-ring
Ø94,92x 2,62
2x M8
für Ringschrauben
for eye bolts

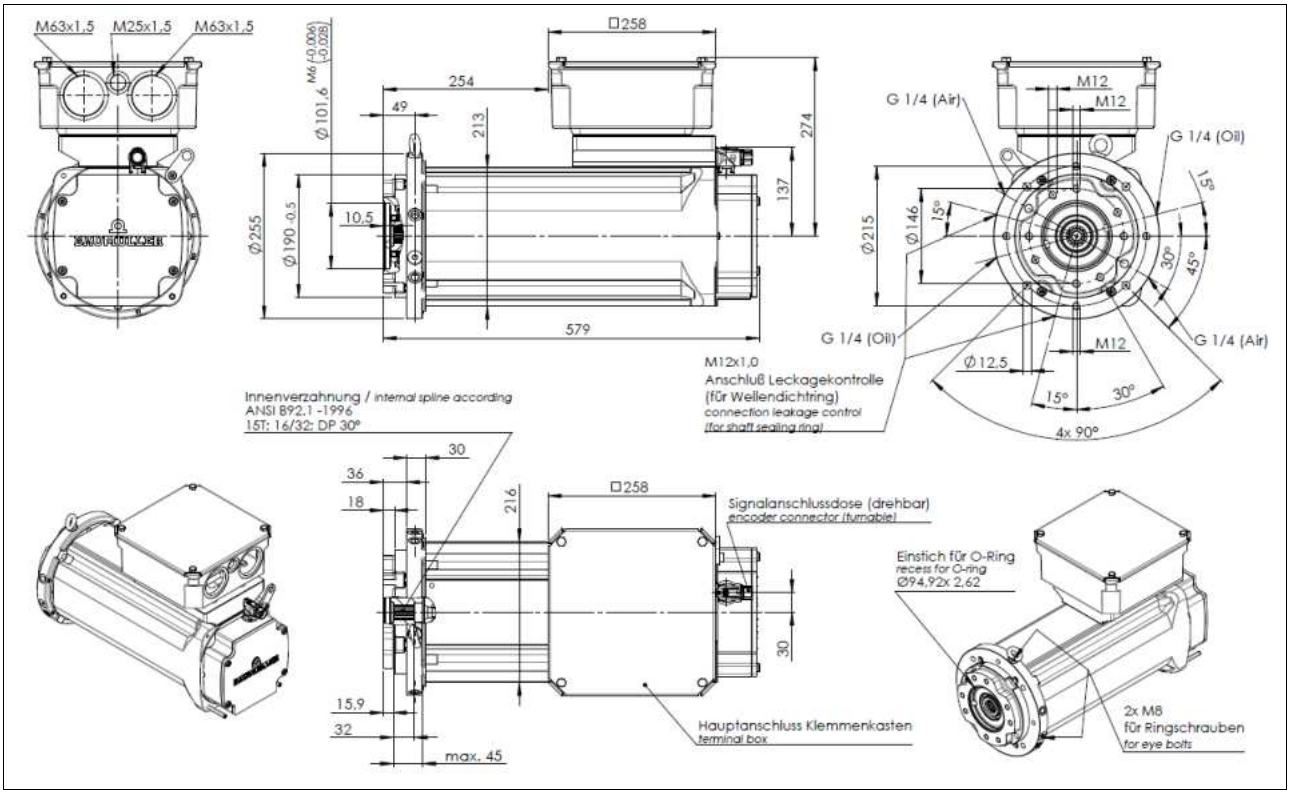
DSD2-100..W



Motorbaulängen	L1	L2	L3
motorsize			
DSD2-100 SO	111	320	372
DSD2-100 MO	163	372	424
DSD2-100 LO	215	424	476
DSD2-100 BO	267	476	528

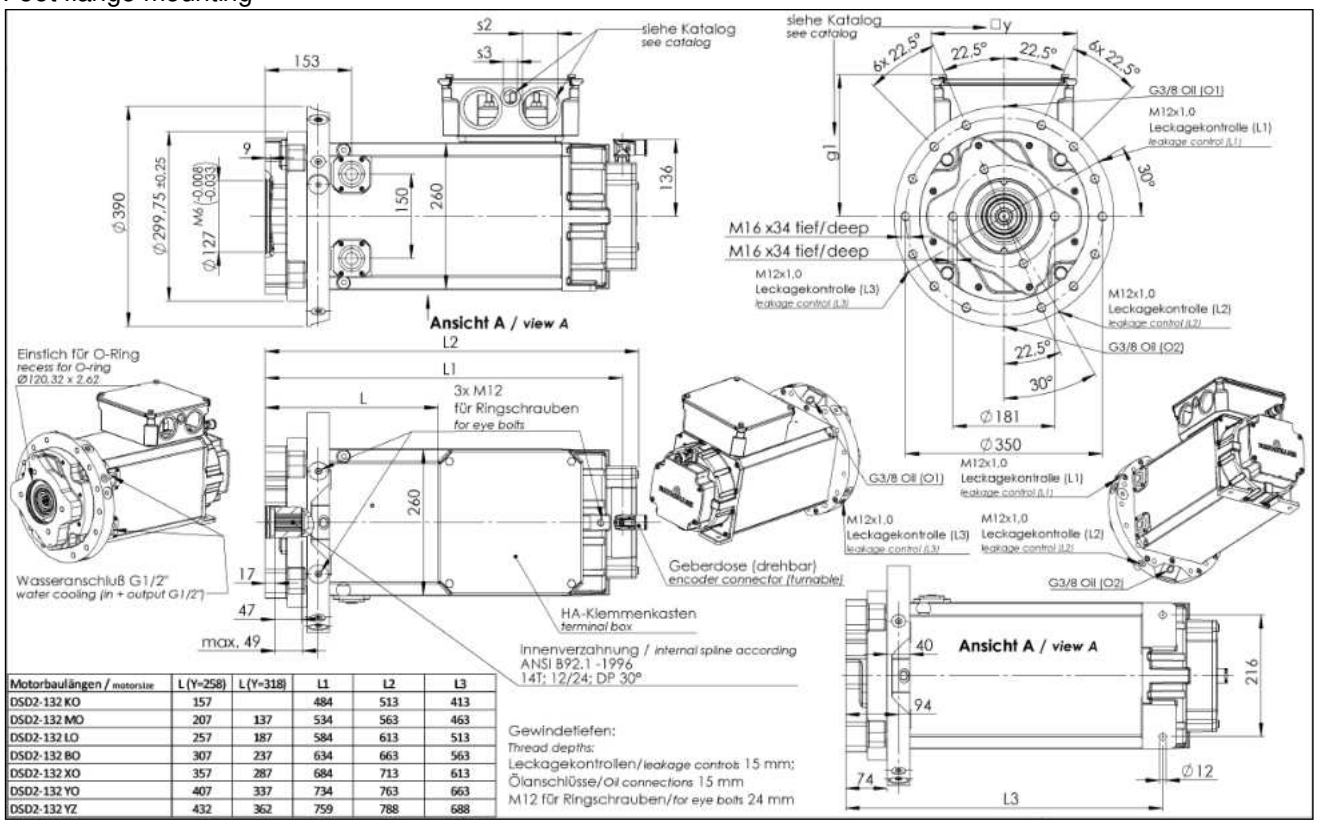


DSD2-100XO..W


M63x1,5
M25x1,5
M63x1,5
□258
254
49
213
274
137
579
10,5
Ø255
Ø190 -0,5
Ø101,6
M6 (-0,006 -0,028)
M12
M12
G 1/4 (Air)
G 1/4 (Oil)
Ø215
Ø146
15°
30°
45°
M12
G 1/4 (Oil)
G 1/4 (Air)
Ø12,5
15°
30°
4x 90°
M12x1,0
Anschluß Leckagekontrolle
(für Wellendichtring)
connection leakage control
(for shaft sealing ring)
Innenverzahnung / internal spline according
ANSI B92.1 -1996
15T: 16/32: DP 30°
30
36
18
216
□258
Signalanschlussdose (drehbar)
encoder connector (turnable)
Einstich für O-Ring
recess for O-ring
Ø94,92x 2,62
30
15,9
32
max. 45
Hauptanschluss Klemmenkasten
terminal box
2x M8
für Ringschrauben
for eye bolts

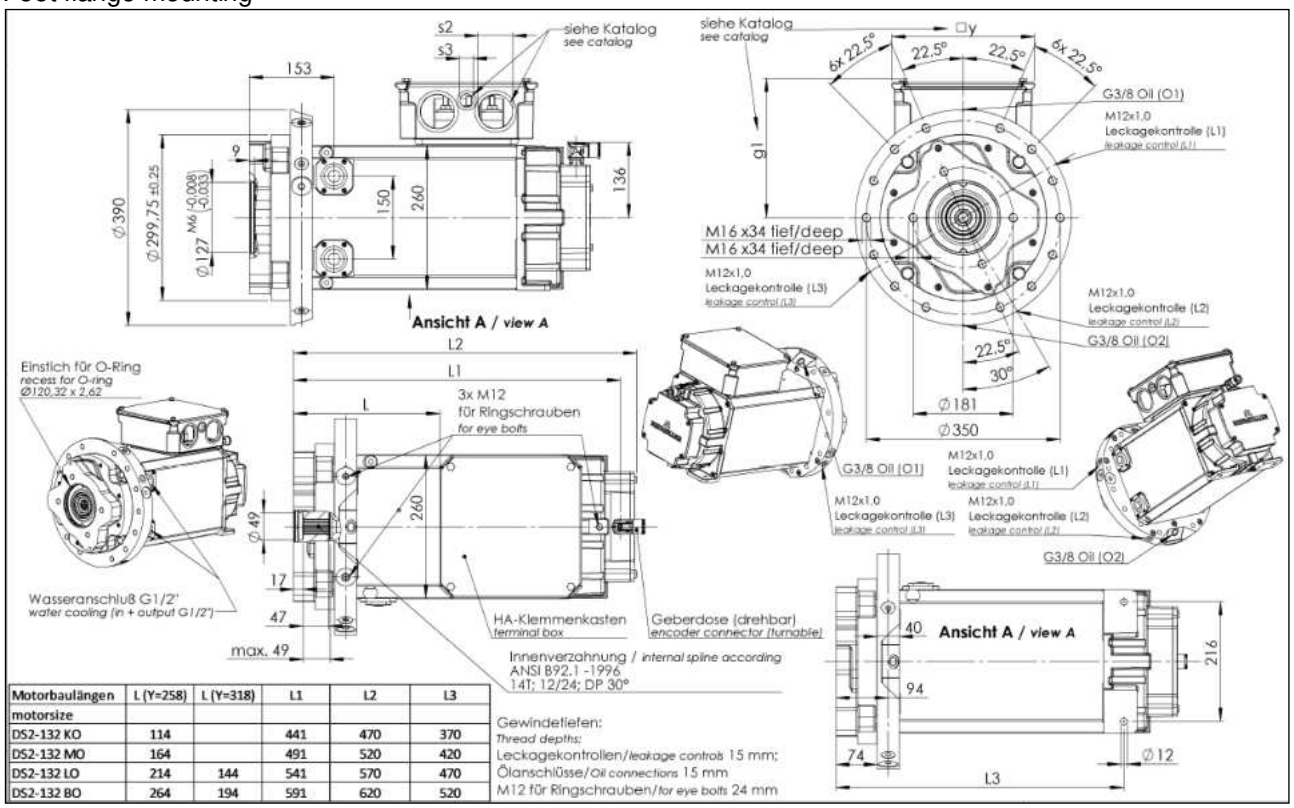
5.2.6. Motor size 132 for the direct installation with QXEH(X)5

DSD2-132..W
Foot flange mounting



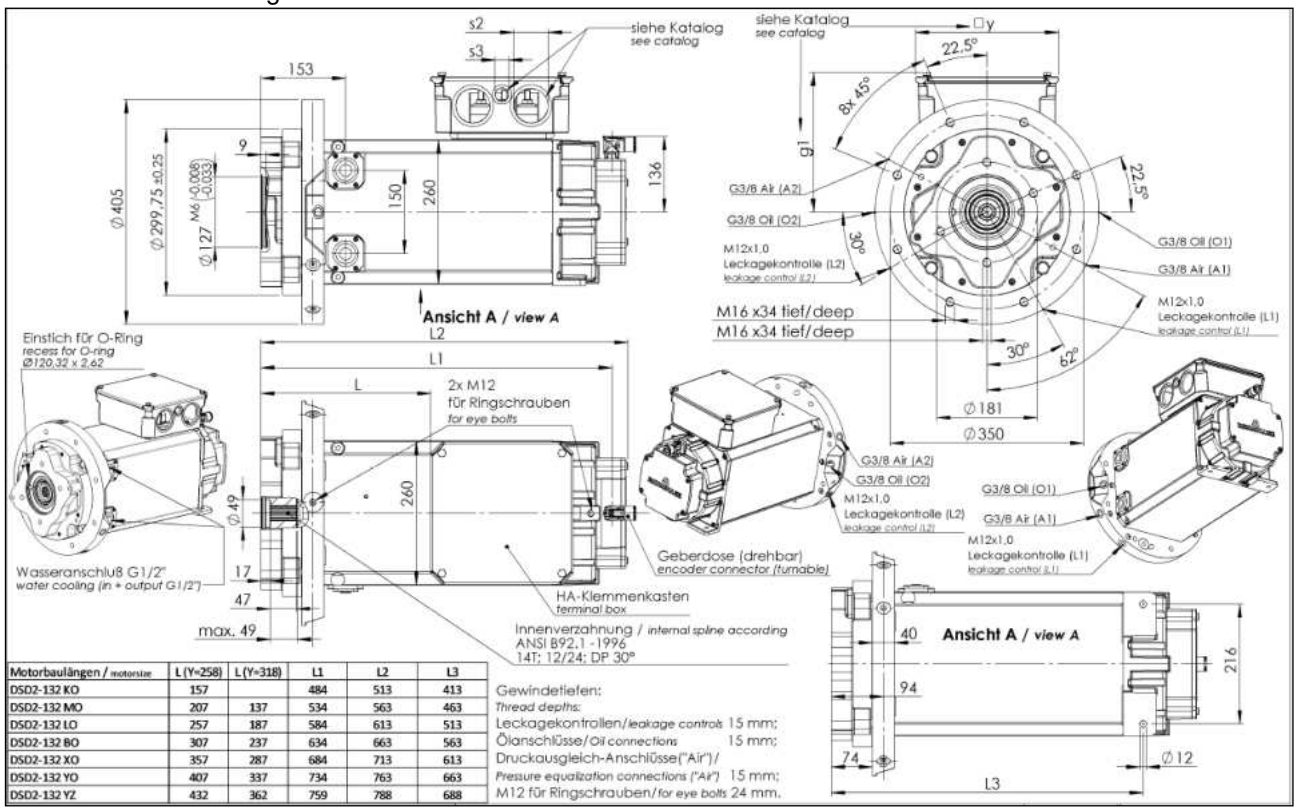
Motorbaulängen / motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DSD2-132 KO	157		484	513	413
DSD2-132 MO	207	137	534	563	463
DSD2-132 LO	257	187	584	613	513
DSD2-132 BO	307	237	634	663	563
DSD2-132 XO	357	287	684	713	613
DSD2-132 YO	407	337	734	763	663
DSD2-132 YZ	432	362	759	788	688

DS2-132..W
Foot flange mounting



Motorbaulängen	L (Y=258)	L (Y=318)	L1	L2	L3
motorsize					
DS2-132 KO	114		441	470	370
DS2-132 MO	164		491	520	420
DS2-132 LO	214	144	541	570	470
DS2-132 BO	264	194	591	620	520

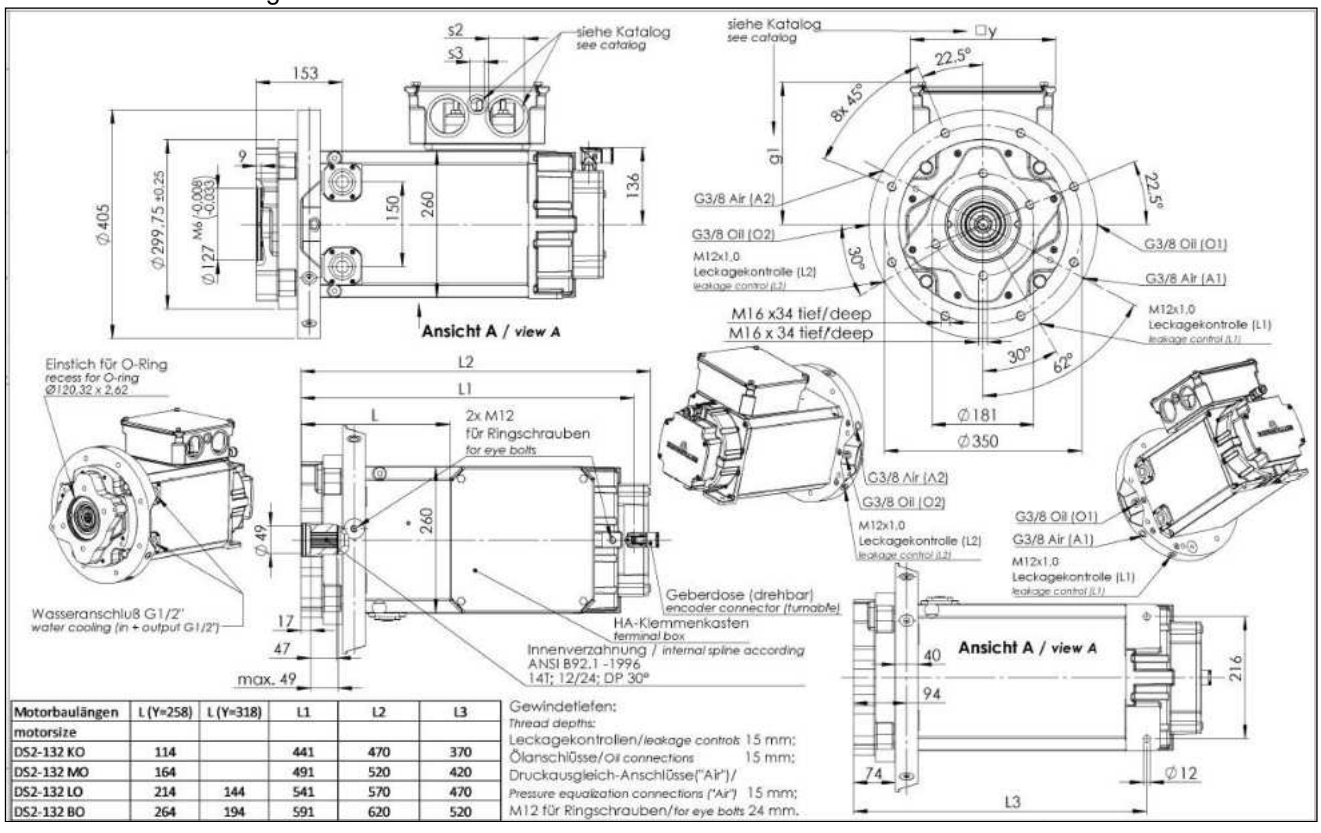
DSD2-132..W
Wall and tank mounting



Motorbaulängen / motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DSD2-132 KO	157		484	513	413
DSD2-132 MO	207	137	534	563	463
DSD2-132 LO	257	187	584	613	513
DSD2-132 BO	307	237	634	663	563
DSD2-132 XO	357	287	684	713	613
DSD2-132 YO	407	337	734	763	663
DSD2-132 YZ	432	362	759	788	688

Gewindetiefen:
Thread depths:
Leckagekontrollen/*leakage controls* 15 mm;
Ölanschlüsse/*Oil connections* 15 mm;
Druckausgleich-Anschlüsse("Air")/
Pressure equalization connections ("Air") 15 mm;
M12 für Ringschrauben/*for eye bolts* 24 mm.

DS2-132..W
Wall and tank mounting



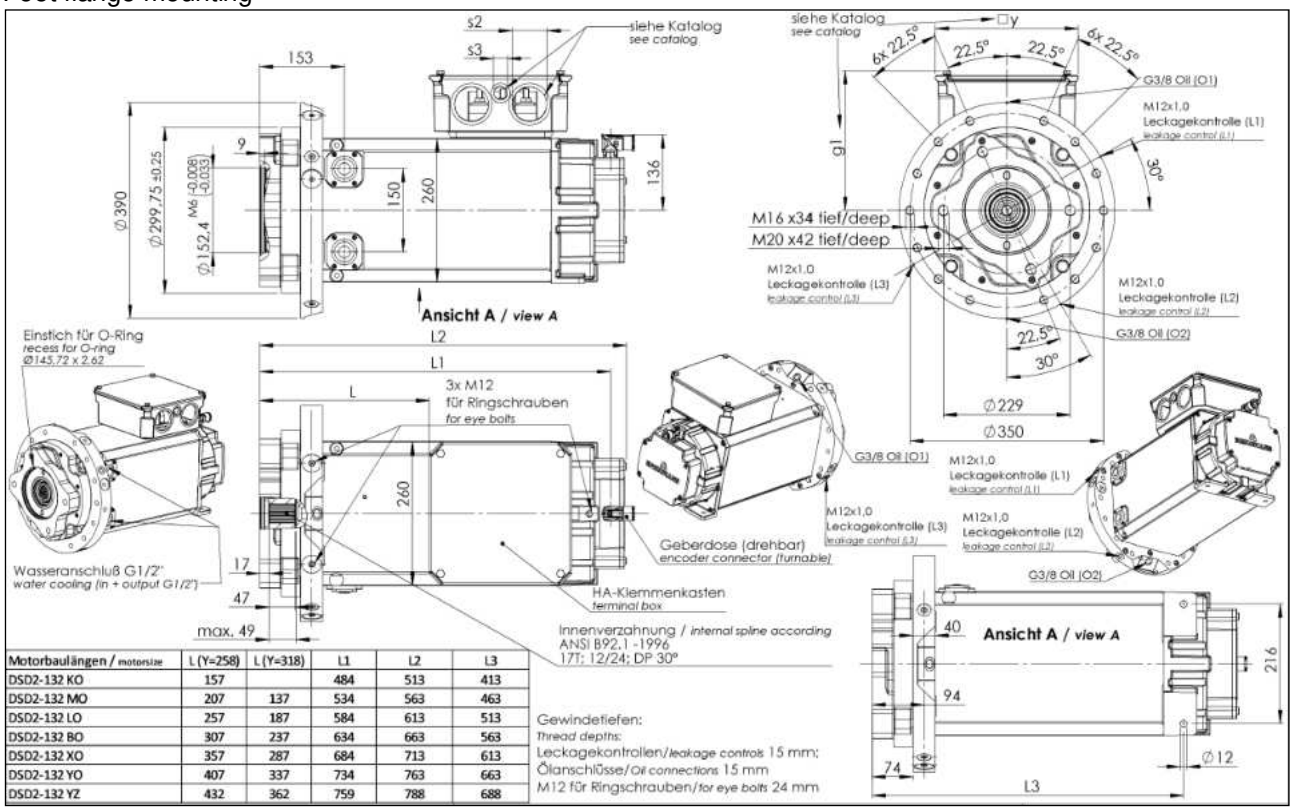
Motorbaulängen motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DS2-132 KO	114		441	470	370
DS2-132 MO	164		491	520	420
DS2-132 LO	214	144	541	570	470
DS2-132 BO	264	194	591	620	520

Gewindetiefen:
Thread depths:
Leckagekontrollen/*leakage controls* 15 mm;
Ölanschlüsse/*Oil connections* 15 mm;
Druckausgleich-Anschlüsse("Air")/
Pressure equalization connections ("Air") 15 mm;
M12 für Ringschrauben/*for eye bolts* 24 mm.

5.2.7. Motor size 132 for direct installation with QXEH(X)6

DSD2-132..W

Foot flange mounting

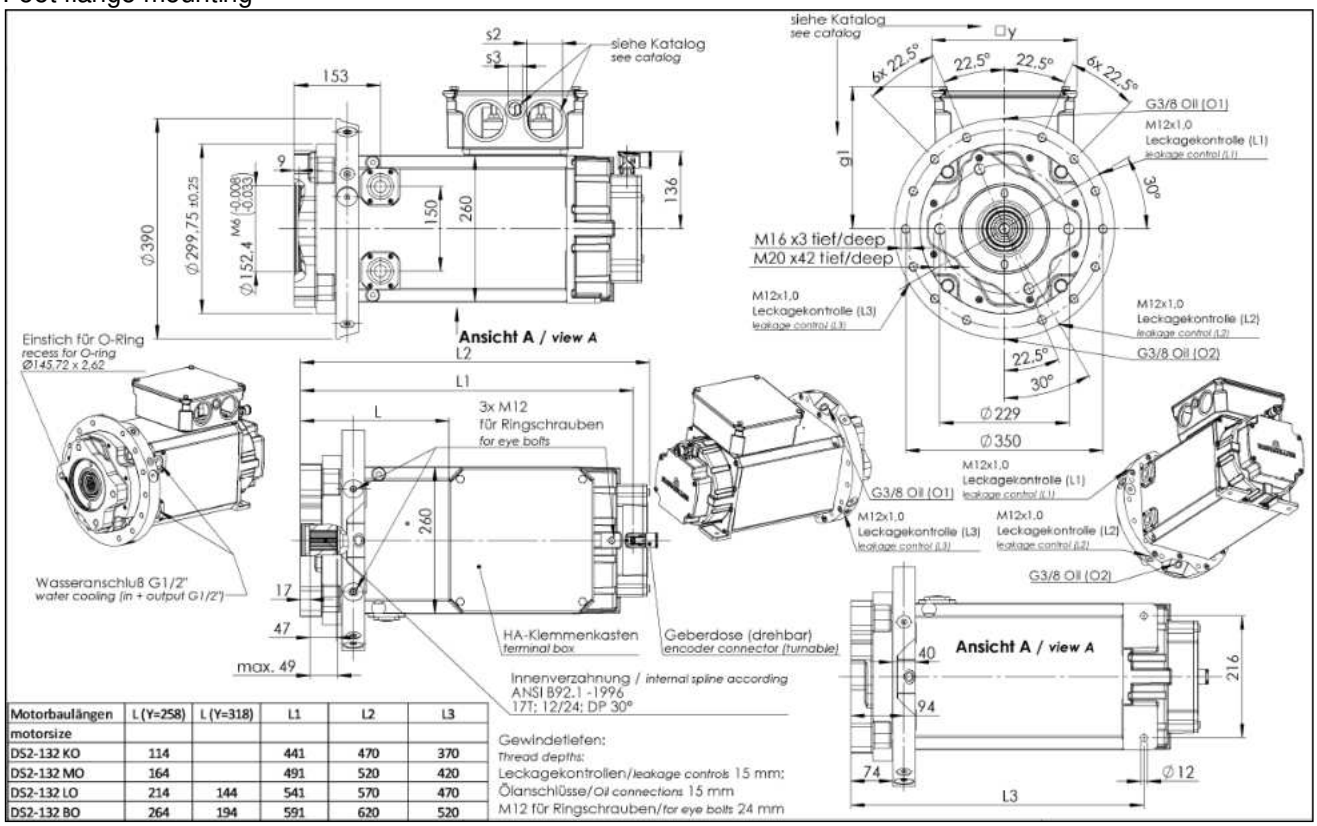


Motorbaulängen / motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DSD2-132 KO	157		484	513	413
DSD2-132 MO	207	137	534	563	463
DSD2-132 LO	257	187	584	613	513
DSD2-132 BO	307	237	634	663	563
DSD2-132 XO	357	287	684	713	613
DSD2-132 YO	407	337	734	763	663
DSD2-132 YZ	432	362	759	788	688

Gewindetiefen:
Thread depths:
Leckagekontrollen/*leakage controls* 15 mm;
Ölanschlüsse/*Oil connections* 15 mm
M12 für Ringschrauben/*for eye bolts* 24 mm

DS2-132..W

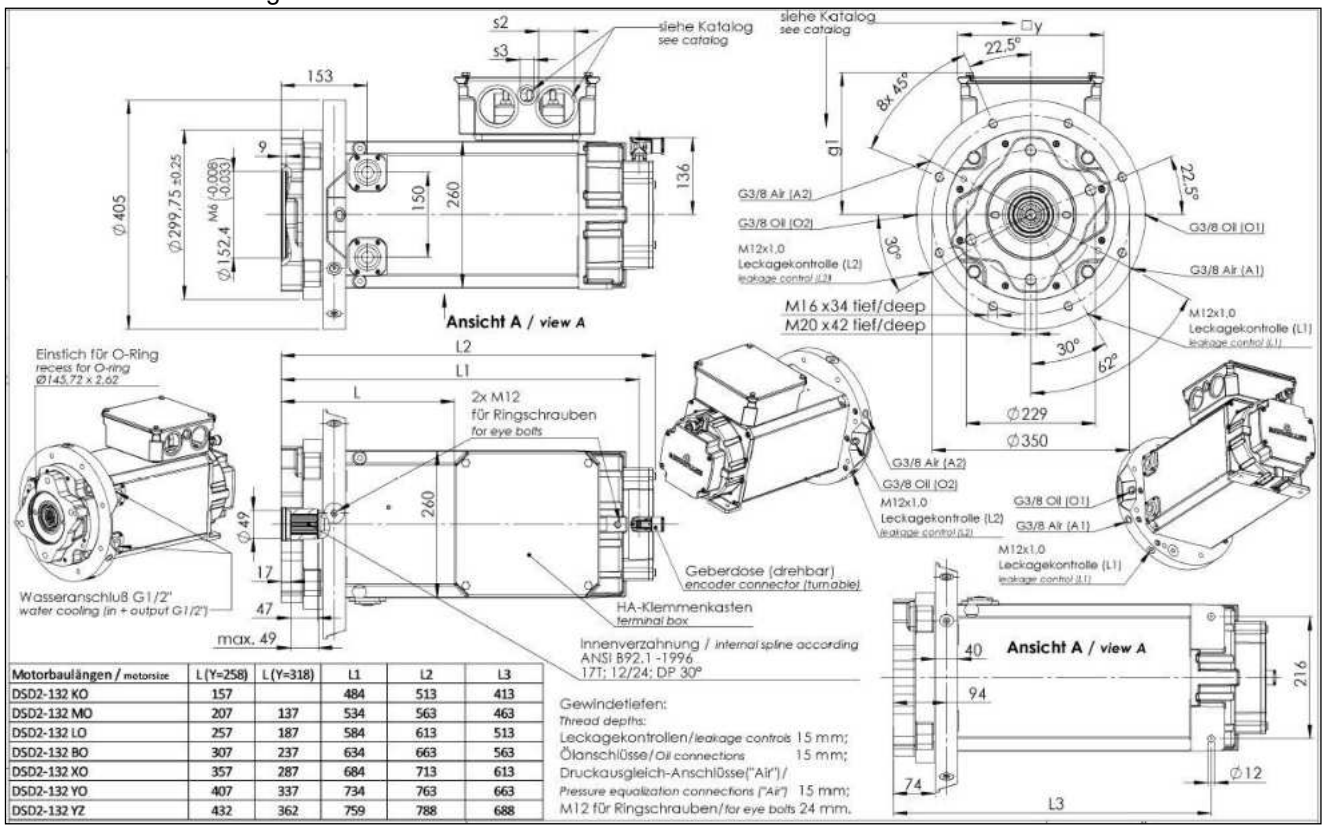
Foot flange mounting



Motorbaulängen	L (Y=258)	L (Y=318)	L1	L2	L3
motorsize					
DS2-132 KO	114		441	470	370
DS2-132 MO	164		491	520	420
DS2-132 LO	214	144	541	570	470
DS2-132 BO	264	194	591	620	520

Gewindetiefen:
Thread depths:
Leckagekontrollen/*leakage controls* 15 mm;
Ölanschlüsse/*Oil connections* 15 mm
M12 für Ringschrauben/*for eye bolts* 24 mm

DSD2-132..W
Wall and tank mounting



Motorbaulängen / motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
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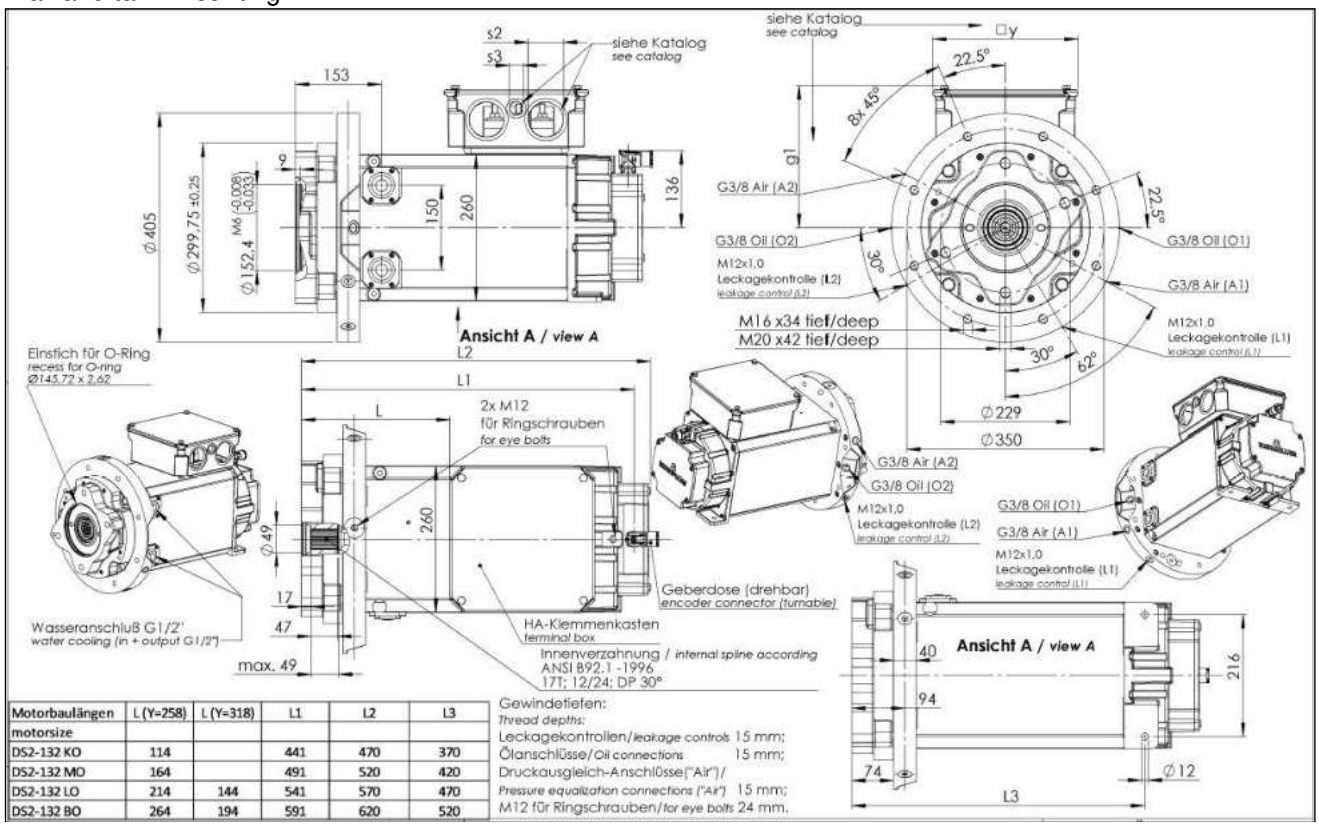
DSD2-132 MO	207	137	534	563	463
DSD2-132 LO	257	187	584	613	513
DSD2-132 BO	307	237	634	663	563
DSD2-132 XO	357	287	684	713	613
DSD2-132 YO	407	337	734	763	663
DSD2-132 YZ	432	362	759	788	688

Gewindetiefen:
Thread depths:
Leckagekontrollen/*leakage controls* 15 mm;
Ölanschlüsse/*Oil connections* 15 mm;
Druckausgleich-Anschlüsse("Air")/
Pressure equalization connections ("Air") 15 mm;
M12 für Ringschrauben/*for eye bolts* 24 mm.

DS2-132..W
Wall and tank mounting

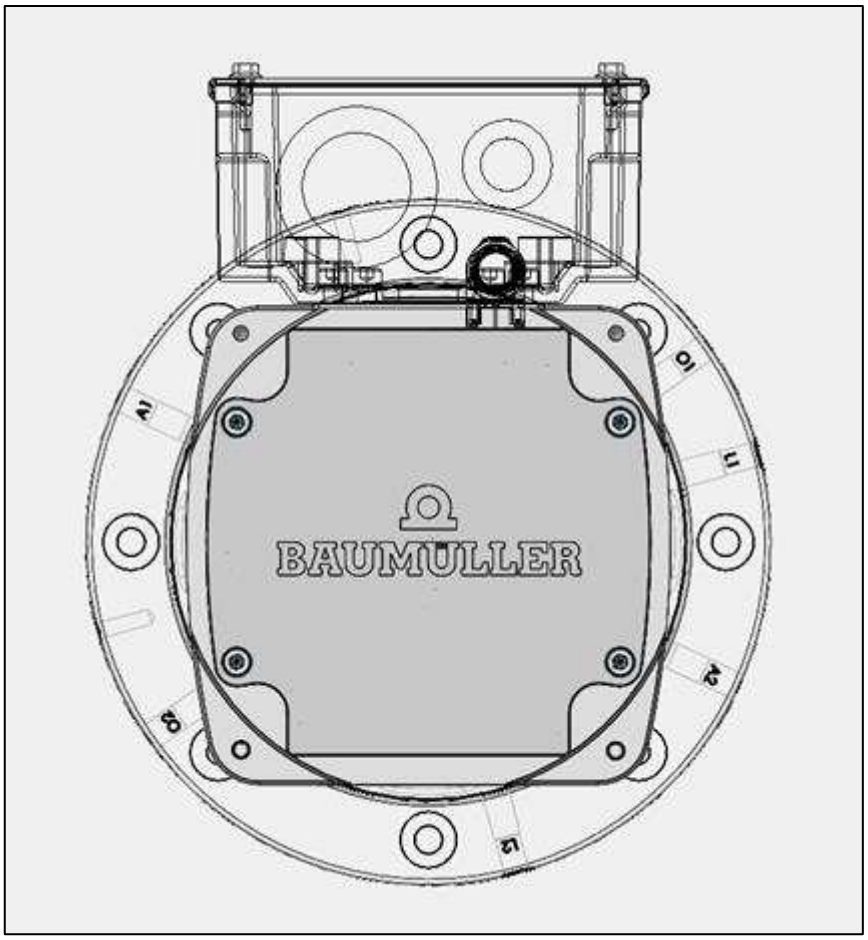


Motorbaulängen motorsize	L (Y=258)	L (Y=318)	L1	L2	L3
DS2-132 KO	114		441	470	370
DS2-132 MO	164		491	520	420
DS2-132 LO	214	144	541	570	470
DS2-132 BO	264	194	591	620	520

Gewindetiefen:
Thread depths:
Leckagekontrollen/*leakage controls* 15 mm;
Ölanschlüsse/*Oil connections* 15 mm;
Druckausgleich-Anschlüsse("Air")/
Pressure equalization connections ("Air") 15 mm;
M12 für Ringschrauben/*for eye bolts* 24 mm.

5.2.8. Assembly note: Performance Line

When the motors (Performance Line) are delivered, all radial drillings (O / L / A) in the bearing shield are closed.



O1/**O2:** Oil return

Before commissioning the motor, it is necessary to open one of the holes and connect it to the hydraulic tank.

L1/**L2:** Leakage control hole

The lower hole corresponding to the installation position must be opened in order to identify a leak in the shaft seal. Alternatively, a leakage sensor can be mounted in the hole.

A1/**A2:** Air balancing holes

When installing the hydraulic pump inside the hydraulic tank, these holes should be opened to create an atmospheric pressure balance.

6. Operating instructions with safety notes

For commissioning the motors. please request our corresponding operating instructions including the relevant safety notes.

Motor	Commissioning and maintenance instructions
HYG1-036	TAM No. 00745
DSC1-135	TAM No. 00729
Servo pump direct installation	TAM No. 00699 für DSD2 TAM No. 00729 für DSC1 TAM No. 00713 für DS2

7. EU – Declaration of conformity

7.1. Motor series HYG1-036

CE

BAUMÜLLER

EU-Konformitätserklärung
gemäß

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

  Richtlinie 2014/30/EU
  (EMV-Richtlinie)

  Richtlinie 2011/65/EU
  (RoHS-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 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)

  Directive 2011/65/EU
  (RoHS-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 ...)

(... 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

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**
HYG1-036XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2019**

Nürnberg, 01.10.2019

i.V. Michael Veeh

Entwicklungsleiter Motoren
Manager R&D Motors

Dipl.-Ing.(FH)Stefan Buchner

Geschäftsbereichsleitung Produktion
Business Unit Manager Production

7.2. Motor series DSC1

CE

BAUMÜLLER

EU-Konformitätserklärung
gemäß

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

  Richtlinie 2014/30/EU (EMV-Richtlinie)

Hersteller

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  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

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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.

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  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)

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- 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

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**
DSC1-045XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2013**
DSC1-056XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2013**
DSC1-071XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2013**
DSC1-100XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2013**
DSC1-135XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2019**

Nürnberg, 10.10.2019

i.V. Michael Veeh

Entwicklungsleiter Motoren
Manager R&D Motors

Dipl.-Ing.(FH)Stefan Buchner

Geschäftsbereichsleitung Produktion
Business Unit Manager Production

7.3. Motor series DSD2

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
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 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

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**
DSD2-045XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2011**
DSD2-056XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2011**
DSD2-071XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2011**
DSD2-100XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2011**
DSD2-132XXXXX-XX-XX-XXX-XXX-X-XX-X-XXX	**2015**

Nürnberg, 02.10.2019

i.V. Michael Veeh

Entwicklungsleiter Motoren
Manager R&D Motors

Dipl.-Ing.(FH)Stefan Buchner

Geschäftsbereichsleitung Produktion
Business Unit Manager Production

7.4. Motor series DS2

CE

BAUMÜLLER

EU-Konformitätserklärung
gemäß

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

  Richtlinie 2014/30/EU (EMV-Richtlinie)

Hersteller

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Ostendstr. 80 - 90
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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 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

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, 09.10.2019

i.V. Michael Veeh

Entwicklungsleiter Motoren
Manager R&D Motors

Dipl.-Ing.(FH)Stefan Buchner

Geschäftsbereichsleitung Produktion
Business Unit Manager Production

7.5. 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

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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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(... continued from the previous page)

- **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