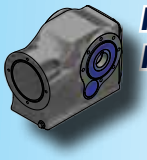
DERTEC

# Stainless Steel Bevel Gearboxes



# FKA Series Bevel Gearboxes

*FKA series bevel gearboxes are being developed to achieve high torque, low energy use and less surface heat.*
*The high efficiency of the drive reduces the energy consumption.*
*The case hardened gears ensure a long lifetime and smooth running.*
*The footprint and shaft sizes are similar to common used standards in the market.*

*The design of the gearbox is organic round and the smooth design makes the gearboxes extremely applicable in the food industry.*
*The FKA bevel Gearboxes offer high ratios up to 197,37 : 1 with a maximum output torque of 2700 Nm.*

***The main features are:***

*Made of high quality carefully electro polished Stainless Steel AISI 316. (Mirror Polished on request)*
*The smooth design gives the gearbox a nice appearance, ready to suit all kinds of stainless steel machineries for the food industry.*

*All hollow shafts are produced in Duplex Stainless Steel 2205.*
*The special PNS surface treatment ensures enough hardness to collaborate with our Special High Temperature Resistant Blue Shaft Seals.*
*The PNS treatment increases the lifetime of shaft / seal cooperation and helps to reduce wear on the shaft surface.*
*By this, the gearbox obtains a longer drip free operation compared to standard shaft / seal combinations made of SS304 with NBR or FKM.*

*The use of above combination offers all the positive characteristics of stainless steel and the surface hardness of a hardened shaft.*

*Our high performance engineered shaft seals have a Blue colour.*
*It is a well overthought feature for food industry applications.*
*It might be clear that the colour "Blue" is a not existing organic colour.*
*In the context of food safety it is a common use to embed blue colours as these are very visible and easily to be recognised by Vision scanning systems.*

*All gearboxes are standard equipped with NSH H1 certified Synthetic Foodgrade lubrication.*
*On request it can be supplied with a Halal, Kosher or Nut Free certification.*

*To avoid dirt traps under the commonly used motor identification tagplate,*
*all our motors and gearboxes are being equipped with a laser engraved tagplate.*
*Besides for the food safety this also prevents against possible lost of information because of taking away the tagplate or loosing the tagplate from the driveparts.*

*As a part of our standard procedure every drive is tested in our production facility in the Netherlands to ensure correct functioning.*

***Properties and features :***

*Standard ratio's 3,98 : 1 to 197,37 : 1*
*IEC motor adaption or with integrated motor*
*Standard hollow shafts 30, 35, 40, 50 & 60 mm*
*Extra hygienic optional shaft covers. ( open and closed version)*

*Easy clean torque arm with built in elastic element to reduce alignment mistakes allows easy assembling of the gearbox on the machine shaft.*
*There is no need to laser cut and bend your own torque arm.*
*The Easy clean torque arm has a very open design. This design offers better cleanability during the standard cleaning cycle.*

*For flange mounted applications we offer several types of secondary output flanges in Electro Polished SS316.*

*As a problem solver we are happy to investigate the best possible solutions for our customers that fits their budget.*

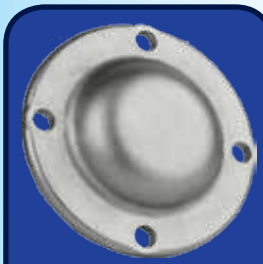
| FKA 38 | |
|---|---|
| Ratio's | 3.98 : 1 up to 106.38 : 1 |
| Standard shaft | 30 mm |
| Torque | Max. 200 Nm |
| Power | Max. 3.0 kW |

| FKA 48 | |
|---|---|
| Ratio's | 8.56 : 1 up to 131.87 : 1 |
| Standard shaft | 35 mm |
| Torque | Max. 400 Nm |
| Power | Max. 3.0 kW |

| FKA 68 | |
|---|---|
| Ratio's | 5.20 : 1 up to 144.79 : 1 |
| Standard shaft | 40 mm |
| Torque | Max. 820 Nm |
| Power | Max. 5.5 kW |

| FKA 78 | |
|---|---|
| Ratio's | 7.24 : 1 up to 192.18 : 1 |
| Standard shaft | 50 mm |
| Torque | Max. 1550 Nm |
| Power | Max. 7.5 kW |

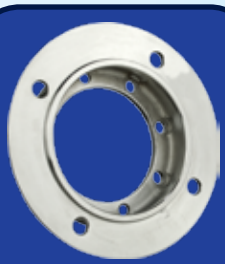
| FKA 88 | |
|---|---|
| Ratio's | 7.21 : 1 up to 197.37 : 1 |
| Standard shaft | 60 mm |
| Torque | Max. 2700 Nm |
| Power | Max. 7.5 kW |



| Easy Clean Closed Cover | |
|---|---|
| FKA 38 | SS095 CC |
| FKA 48 | SS115 CC |
| FKA 68 | SS130 CC |
| FKA 78 | N.A. |
| FKA 88 | N.A. |

| Easy Clean Open Cover | |
|---|---|
| FKA 38 | SS095 CO30 |
| FKA 48 | SS115 CO35 |
| FKA 68 | SS130 CO40 |
| FKA 78 | N.A. |
| FKA 88 | N.A. |

| Torque Arms | |
|---|---|
| FKA 38 | SS095 MS |
| FKA 48 | SS115 MS |
| FKA 68 | SS130 MS |
| FKA 78 | N.A. |
| FKA 88 | N.A. |



| Output Flanges | |
|---|---|
| FKA 38 | SS 095 FL160 |
| FKA 48 | SS 115 FL200 |
| FKA 68 | SS 130 FL250 |
| FKA 78 | SS 140 FL300 |
| FKA 88 | SS 178 FL350 |

## Power P

*This parameter can be found in the gearbox selection tables and represents the amount kW that can be safely transmitted into the gearbox*

$$P_1 = \frac{P_2}{\eta}[kW]$$

$$P_{1n} \geq P_1 \cdot f_s[kW]$$

$P_1$ *Input Power (kW)*
$P_2$ *Output Power (kW)*
$P_{1n}$ *Rated Input Power (kW)*
$f_s$ *Service Factor*
$\eta$ *Transmission Efficiency %*

## Rotation Speed n

$n_1$ *Gear Units Input Speed*
$n_2$ *Gear Units Output Speed*

*All stated values are based on an input speed of 1500 $min^{-1}$.*
*We strongly advise , to obtain the expected lifetime, not to exceed the maximum input speed.*
*In case of a lower input speed the maximum input torque should be taken in consideration too.*

## Transmission ratio i

$$i = \frac{n_1}{n_2}$$

## Torque M

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2}[Nm]$$

$$M_{2n} \geq M_2 \cdot f_s[Nm]$$

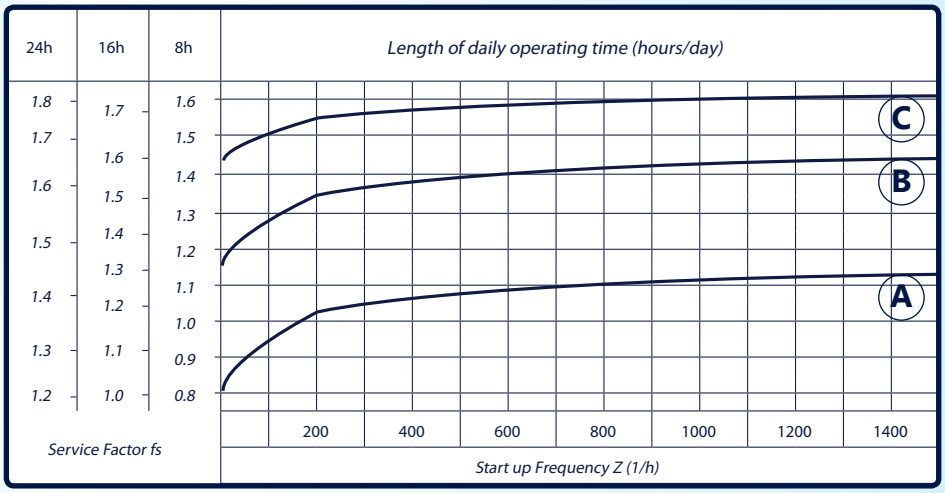
$M_2$ *= Output Torque (Nm)*
$M_{2n}$ *= Selected Output Torque (Nm)*
$P_1$ *= Input Power (kW)*
$\eta$ *= Transmission Efficiency %*
$f_s$ *= Service Factor*

## Efficiency of gear units

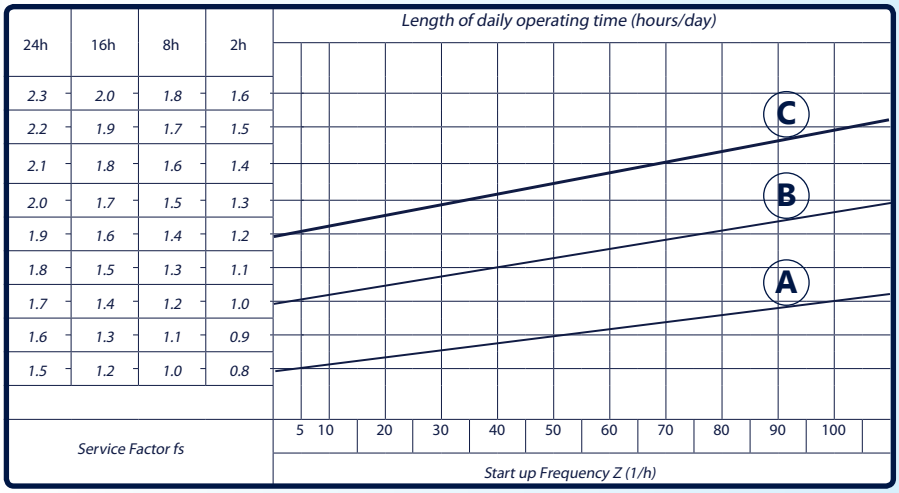
*The efficiency of gear units is mainly determined by the gearing and bearing friction. Keep in mind that the starting efficiency of a gear unit is always less than its efficiency at operating speed. This factor is particularly distinctive for worm & helical worm gear boxes.*
*The gearing in helical worm & worm gearboxes produces a high proportion of sliding friction.*
*As a result these gearboxes have higher gear efficiency losses than other gearboxes and therefore have a lower total efficiency.*
*A secondary result is that the surface temperature of these gearboxes will be higher than other gearboxes.*
*The efficiency of the Dertec Strainless Steel gearboxes can be found in the possible geometrical combinations page's of each gearbox serie.*

## Service Factor

*The effect of the driven machine on the gearbox is taken into account to a sufficient level of accuracy using the Service Factor* $f_S$ .
*The Service Factor is determined according to the daily operating time and the starting frequency* ***Z****.*
*Three load classifications are considered depending on the mass acceleration factor.*
*You can read of the service factor applicable to your application in the figure below.*
*The service factor selected using this figure must be less than or equal to the service factor as given in the gearbox selection table.*




## Service Factor for wormgearboxes




***Ambient temperature influence on the service factor for wormgearboxes***

*Service factor fs should be adjusted as following*
*ambient temperature = 30 ~ 40 : Fs x 1.1 ~1.2*
*ambient temperature = 40 ~ 50 : Fs x 1.3 ~1.4*
*ambient temperature = 50 ~ 60 : Fs x 1.5 ~1.6*
*ambient temperature = > 60, please contact Dertec.*

***Type of load:***

**A**

*Uniform load Permitted mass acceleration factor* ***($f_a$)≤ 0.3***
*Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.*

**B**

*Moderate shock load Permitted mass acceleration factor* ***($f_a$)≤ 3***
*Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanism, milling cutters, folding machines, gear pumps.*

**C**

*Heavy Shock Load Permitted mass acceleration factor* ***($f_a$)≤ 10***
*Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.*

***To maintain the service life of the gear units,***
***the Service Factor mentioned in the gearbox selection table must be equal or slightly higher than the calculated service factor.***

## Mass Acceleration Factor

*The Mass acceleration factor is calculated as follows:*

$$f_a \frac{Jc}{Jm}$$

$f_a$ = *Mass Acceleration Factor*

Jc = *All External Mass Moments Of Inertia [Kgm²]*

Jm = *Mass Moment Of Inertia on the Motor End [Kgm²]*

*If the mass acceleration factor is* $f_a > 10$, *please contact us.*

## Overhung and axial loads

***Determining overhung loads***

*An important factor for determining the resulting overhung load is the type of transmission element mounted to the shaft end. The following transmission element factors* $f_z$ *have to be considered for various transmission elements.*

| Transmission Element | Transmission Element Factor Fz | Comments |
|---|---|---|
| Gears | 1.00 | ≥ 17 Teeth |
| | 1.15 | < 17 Teeth |
| Chain Sprockets | 1.00 | ≥ 20 Teeth |
| | 1.25 | < 20 Teeth |
| | 1.40 | < 13 Teeth |
| Narrow V-belt pulleys | 1.75 | Influence of the tensile force |
| Flat Belt Pulleys | 2.50 | Influence of the tensile force |
| Toothed Belt Pulleys | 2.50 | Influence of the tensile force |

*The overhung load exerted on the motor or gearshaft is calculated as follows*

$$F_r = \frac{M \cdot 2000}{d_0} \cdot f_z$$

$F_r$ = *Overhung load in N*

M = *Torque in Nm*

$d_0$ = *Mean Diameter of the mounted transmission element in mm*

$f_z$ = *Transmission element factor*

***Permitted overhung load***

*The basis for determining the permitted overhung loads is the calculation of the rated bearing service life* $L_{10h}$ *of the roller bearings (according ISO281)*

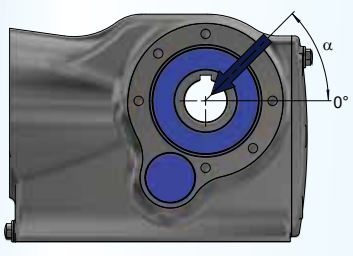
*For special operating conditions, the permitted overhung loads can be determined with regard to the modified service life on request.*

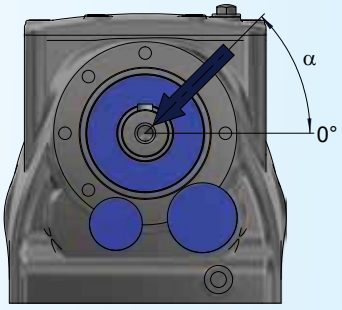
*The values refer to force applied to the center of the shaft end (in right angle gear units as viewed onto drive end)*

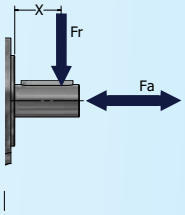
*The values for the force application angle α and direction of rotation are based on the most unfavorable conditions.*

***Definition of force application***

*The force application is defined according to the following figure.*




*Fx = Permitted overhung load at point x [N]*

*Fa = Permitted axial load [N]*

***Permitted axial forces***
*If there is no overhung load, than an axial force Fa (Tension or Compression) amounting to 50% of the overhung load given in the selection tables is permitted.*

***Overhung load conversion for off-center force application***
*The permitted overhung loads must be calculated according to the selection tables using the following formula in the event that force is not applied at the center of the shaft end. Note that the calculations apply to M2max.*

***Fxl based on bearing life:***

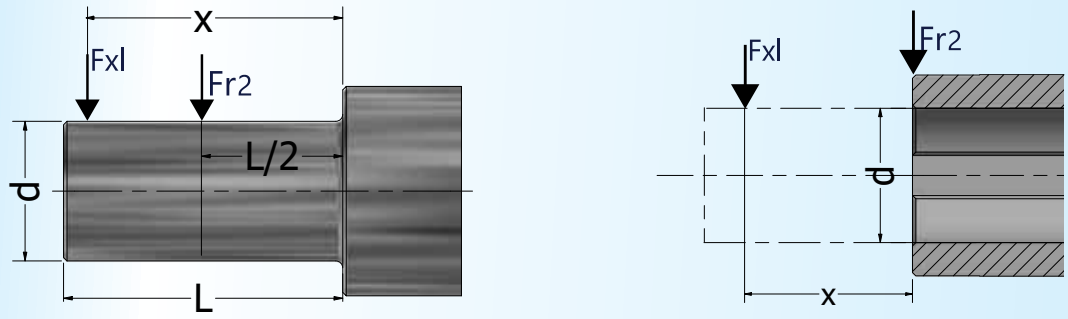
$$Fxl = F_{r2} \cdot \frac{a}{b + x} [N]$$

Fr2 = *Permitted overhung load (x = L/2) for foot mounted gear units according to the selection tables in [N]*

x = *Distance from the shaft shoulder to the force application point in [mm]*

a, b, = *Gear unit constant for overhung load conversions [mm]*

*The following figure shows the overhung load Fr with increased distance X to the gear unit.*




***Values of a & b in mm are given in the following table***

| FV | a | b | FR | a | b |
|---|---|---|---|---|---|
| FV 030 | 65 | 50 | FR 38 | 118 | 93 |
| FV 040 | 84 | 64 | FR 48 | 137 | 107 |
| FV 050 | 101 | 76 | FR 68 | 168.5 | 133.5 |
| FV 063 | 12 | 95 | | | |
| **FK** | **a** | **b** | **FS(A)** | **a** | **b** |
| FK 28 B/C | 104 | 78 | FS(A) 38 | 118.5 | 98.5 |
| FK 38 B/C | 118 | 93 | FS(A) 48 | 130 | 105 |
| FK 48 B/C | 131 | 101 | FS(A) 58 | 150 | 120 |
| FK 58 B/C | 159 | 119 | FS(A) 68 | 184 | 149 |
| **FRC** | **a** | **b** | **FKA** | **a** | **b** |
| FRC 01 | 103 | 83 | FKA 38 | 123.5 | 98.5 |
| FRC 02 | 116.5 | 91.5 | FKA 48 | 153.5 | 123.5 |
| FRC 03 | 130 | 100 | FKA 68 | 181.3 | 141.3 |
| **FFA** | **a** | **b** | FKA 78 | 215.8 | 165.8 |
| FFA 38 | 123.5 | 98.5 | FKA 88 | 252 | 192 |
| FFA 48 | 153.5 | 123.5 | | | |
| FFA 68 | 181.3 | 141.3 | | | |
| FFA 78 | 215.8 | 165.8 | | | |

## Efficiency & Irreversibility Characteristics

*Efficiency is an important parameter of a wormgear reducer.*
*Efficiency $\eta$ depends on the following parameters:*

*1) Helix angle of gearing*
*2) Driving speed*
*3) Running in of gearing*
*4) The performance of the Lubricant, Oil Seals and Bearings.*

*The Mesh table shows the dynamic effiency ($n_1$=1400) and static efficiency values.*
*Remember that these values are only achieved after the unit has been operating for ca. 24 hours. "Run in period"*
*Torque values $M_{2n}$ indicated in the gearbox selection tables are calculated by considering the steady state performance of the gearboxes.*
*The actual values mentioned could have deflection.*

***Dynamic Irreversibility***
*Dynamic Irreversibility is achieved when the output shaft stops instantly when power is no longer transmitted through the wormshaft.*
*This condition requires a dynamic efficiency of $\eta_d$<0.4. See mesh table.*

| $\eta_d$ | > 0.6 | 0.5 ~ 0.6 | 0.4 ~0.5 | <0.4 |
|---|---|---|---|---|
| **Dynamic irreversibility** | Dynamic reversibility | Low Dynamic reversibility | Good Dynamic irreversibility | Dynamic irreversibility |

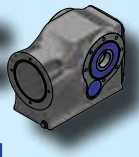
***Static Irreversibility***
*Static Irreversibility is achieved when, at a standstill, the application of a load to the output shaft can't drive the wormshaft of the gear reducer.*
*This condition requires a static efficiency of $\eta_s$ <0.5, See mesh table.*

| $\eta_s$ | > 0.55 | 0.5 ~ 0.55 | < 0.5 |
|---|---|---|---|
| **Static irreversibility** | Static reversibility | Low Static reversibility | Static irreversibility |

*The table shows approximate irreversibility classes. Vibrations and shocks can effect a gear reducers irreversibility.*
*As it is virtual impossible to provide and guarantee total non reversing, we recommend the use of an external brake with suffficient capability to prevent vibrations in duced starting, where these circumstances are required.*
*For the irreversibility conditions of a combined geared unit one must consider that the efficiency of the group is given by the product of the efficiencies of each single reducer, i.e.: Ntot = N1 x N2*

## Mesh Data

| | i | 7,5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FV 030** | **z1** | 4 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | **Mn** | 1.36 | 1.39 | 1.42 | 1.09 | 1.69 | 1.43 | 1.10 | 0.89 | 0.74 | 0.56 | |
| | **Y** | 18°55′ | 14°25′ | 9°44′ | 7°50′ | 5°33′ | 4°54′ | 3°56′ | 3°17′ | 2°43′ | 2°7′ | |
| | $\eta_d$ | 0.84 | 0.81 | 0.76 | 0.72 | 0.66 | 0.64 | 0.59 | 0.54 | 0.50 | 0.44 | |
| | $\eta_s$ | 0.66 | 0.62 | 0.54 | 0.49 | 0.41 | 0.38 | 0.33 | 0.29 | 0.26 | 0.21 | |
| **FV 040** | **z1** | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | **Mn** | 1.87 | 1.95 | 2.00 | 1.54 | 1.26 | 2.04 | 1.55 | 1.27 | 1.06 | 0.80 | 0.65 |
| | **Y** | 23°54′ | 18°23′ | 12°30′ | 10°3′ | 8°45′ | 6°19′ | 5°4′ | 4°24′ | 3°42′ | 2°52′ | 2°29′ |
| | $\eta_d$ | 0.86 | 0.84 | 0.80 | 0.77 | 0.74 | 0.69 | 0.65 | 0.61 | 0.57 | 0.51 | 0.47 |
| | $\eta_s$ | 0.70 | 0.66 | 0.59 | 0.54 | 0.51 | 0.44 | 0.39 | 0.36 | 0.32 | 0.27 | 0.24 |
| **FV 050** | **z1** | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | **Mn** | 2.34 | 2.43 | 2.50 | 1.92 | 1.56 | 2.54 | 1.94 | 1.58 | 1.32 | 1.00 | 0.80 |
| | **Y** | 23°49′ | 18°19′ | 12°27′ | 10°3′ | 8°33′ | 6°18′ | 5°4′ | 4°18′ | 3°38′ | 2°52′ | 2°17′ |
| | $\eta_d$ | 0.87 | 0.85 | 0.81 | 0.78 | 0.75 | 0.71 | 0.67 | 0.63 | 0.59 | 0.53 | 0.48 |
| | $\eta_s$ | 0.70 | 0.66 | 0.59 | 0.54 | 0.51 | 0.44 | 0.39 | 0.36 | 0.32 | 0.27 | 0.24 |
| **FV 063** | **z1** | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| | **Mn** | 2.96 | 3.08 | 3.17 | 2.44 | 1.98 | 3.23 | 2.47 | 1.99 | 1.68 | 1.27 | 1.02 |
| | **Y** | 24°31′ | 18°53′ | 12°51′ | 10°29′ | 8°45′ | 6°30′ | 5°17′ | 4°24′ | 3°49′ | 2°59′ | 2°26′ |
| | $\eta_d$ | 0.88 | 0.86 | 0.82 | 0.80 | 0.77 | 0.73 | 0.69 | 0.65 | 0.62 | 0.56 | 0.51 |
| | $\eta_s$ | 0.70 | 0.66 | 0.59 | 0.55 | 0.51 | 0.44 | 0.40 | 0.36 | 0.33 | 0.28 | 0.24 |



| $P_{1n}$ [kW] | $N_2$ min$^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ | | | |
|---|---|---|---|---|---|---|---|---|

= Combination with the motor in the header row is not possible

= Combination with the motor in the header row is possible

$P_{1n}$ [kW] = Rated Motor Power [kW]

$N_2$ min$^{-1}$ = Output Speed [min$^{-1}$]

$M_{2n}$ [Nm] = Rated Output torque [Nm]

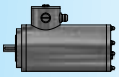
M2Max = Maximum permissible output torque [Nm]

$F_{r2}$ [N] = Permitted Overhung Load Output Side [N]

i = Gear unit Ratio

$f_s$ = Service Factor

= Gear unit type

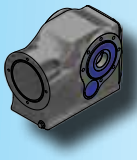


= Motor Type

## FKA 38

## Maximum Torque = 200 Nm @ N1 = 1400r/min

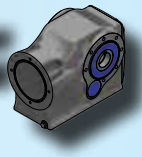
| $N_2$ min$^{-1}$ | $M_{2max}$ [Nm] | $F_{r2}$ [N] | i | $\eta$ % | 63/71 B5T1 IEC 63/71 AM | 80 B5T1 IEC 80 AM | 90 B5T1 IEC 90 AM | 100 B5T1 IEC 100 AM |
|---|---|---|---|---|---|---|---|---|
| 13 | 200 | 5640 | 106.38 | 94 | ■ | | | |
| 14 | 200 | 5640 | 97.81 | 94 | ■ | | | |
| 17 | 200 | 5640 | 83.69 | 94 | ■ | ■ | | |
| 19 | 200 | 5520 | 72.54 | 94 | ■ | ■ | ■ | |
| 21 | 200 | 5360 | 67.80 | 94 | ■ | ■ | ■ | |
| 24 | 200 | 5020 | 58.60 | 94 | ■ | ■ | ■ | ■ |
| 28 | 200 | 4660 | 49.79 | 94 | ■ | ■ | ■ | ■ |
| 31 | 200 | 4420 | 44.46 | 94 | ■ | ■ | ■ | ■ |
| 37 | 200 | 4100 | 37.97 | 94 | ■ | ■ | ■ | ■ |
| 39 | 200 | 3970 | 35.57 | 94 | ■ | ■ | ■ | ■ |
| 47 | 200 | 3650 | 29.96 | 94 | ■ | ■ | ■ | ■ |
| 49 | 200 | 3580 | 28.83 | 94 | ■ | ■ | | |
| 56 | 200 | 3330 | 24.99 | 94 | ■ | ■ | ■ | |
| 60 | 195 | 3260 | 23.36 | 94 | ■ | ■ | ■ | |
| 69 | 185 | 3110 | 20.19 | 94 | ■ | ■ | ■ | ■ |
| 82 | 180 | 2900 | 17.15 | 94 | ■ | ■ | ■ | ■ |
| 91 | 175 | 2780 | 15.31 | 94 | ■ | ■ | ■ | ■ |
| 107 | 165 | 2650 | 13.08 | 94 | ■ | ■ | ■ | ■ |
| 115 | 160 | 2600 | 12.14 | 94 | ■ | ■ | ■ | |
| 133 | 160 | 2410 | 10.49 | 94 | ■ | ■ | ■ | ■ |
| 157 | 160 | 2200 | 8.91 | 94 | ■ | ■ | ■ | ■ |
| 176 | 155 | 2110 | 7.96 | 94 | ■ | ■ | ■ | ■ |
| 206 | 150 | 1980 | 6.80 | 94 | ■ | ■ | ■ | ■ |
| 220 | 145 | 1950 | 6.37 | 94 | ■ | ■ | ■ | ■ |
| 261 | 140 | 1810 | 5.36 | 94 | ■ | ■ | ■ | ■ |
| 352 | 125 | 1660 | 3.98 | 94 | | ■ | ■ | ■ |



## FKA 48

**Maximum Torque = 400 Nm @ N1 = 1400r/min**

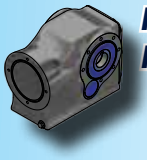
| $N_2$ $min^{-1}$ | $M_{2max}$ [Nm] | $F_{r2}$ [N] | i | η % | 63/71 B5T2 IEC 63/71 AM | 80 B5T2 IEC 80 AM | 90 B5T2 IEC 90 AM | 100 B5T2 IEC 100 AM |
|---|---|---|---|---|---|---|---|---|
| 11 | 400 | 5920 | 131.87 | 94 | ■ | | | |
| 12 | 400 | 5920 | 121.48 | 94 | ■ | | | |
| 13 | 400 | 5920 | 104.37 | 94 | ■ | ■ | | |
| 15 | 400 | 5920 | 90.86 | 94 | ■ | ■ | ■ | |
| 16 | 400 | 5920 | 85.12 | 94 | ■ | ■ | ■ | |
| 19 | 400 | 5920 | 75.20 | 94 | ■ | ■ | ■ | ■ |
| 20 | 400 | 5920 | 69.84 | 94 | ■ | ■ | ■ | |
| 22 | 400 | 5920 | 63.30 | 94 | ■ | ■ | ■ | ■ |
| 25 | 400 | 5920 | 56.83 | 94 | ■ | ■ | ■ | ■ |
| 29 | 400 | 5920 | 48.95 | 94 | ■ | ■ | ■ | ■ |
| 30 | 400 | 5920 | 46.03 | 94 | ■ | ■ | ■ | ■ |
| 35 | 400 | 5920 | 39.61 | 94 | ■ | ■ | ■ | ■ |
| 40 | 400 | 5920 | 35.39 | 94 | | ■ | ■ | ■ |
| 45 | 400 | 5700 | 31.30 | 94 | ■ | ■ | ■ | |
| 48 | 400 | 5520 | 29.32 | 94 | ■ | ■ | ■ | |
| 54 | 400 | 5170 | 25.91 | 94 | ■ | ■ | ■ | ■ |
| 58 | 400 | 4970 | 24.06 | 94 | ■ | ■ | ■ | |
| 64 | 400 | 4710 | 21.81 | 94 | ■ | ■ | ■ | ■ |
| 72 | 400 | 4440 | 19.58 | 94 | ■ | ■ | ■ | ■ |
| 83 | 380 | 4230 | 16.86 | 94 | ■ | ■ | ■ | ■ |
| 88 | 380 | 4080 | 15.86 | 94 | ■ | ■ | ■ | ■ |
| 103 | 360 | 3890 | 13.65 | 94 | ■ | ■ | ■ | ■ |
| 115 | 350 | 3720 | 12.19 | 94 | | ■ | ■ | ■ |
| 119 | 280 | 4060 | 11.77 | 94 | ■ | ■ | ■ | ■ |
| 133 | 280 | 3830 | 10.56 | 94 | ■ | ■ | ■ | ■ |
| 154 | 280 | 3540 | 9.10 | 94 | ■ | ■ | ■ | ■ |
| 164 | 270 | 3500 | 8.56 | 94 | ■ | ■ | ■ | ■ |



## FKA 68

**Maximum Torque = 820 Nm @ N1 = 1400r/min**

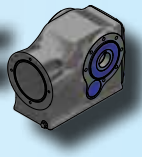
| $N_2$ min$^{-1}$ | $M_{2max}$ [Nm] | $F_{r2}$ [N] | i | η % | 63/71 B5T2 IEC 63/71 AM | 80 B5T2 IEC 80 AM | 90 B5T2 IEC 90 AM | 100 B5T2 IEC 100 AM | 112 B5T2 IEC 112 AM | 132 B5T2 IEC 132 AM |
|---|---|---|---|---|---|---|---|---|---|---|
| 9.7 | 820 | 10300 | 144.79 | 94 | ■ | | | | | |
| 11 | 820 | 10300 | 123.54 | 94 | ■ | ■ | | | | |
| 13 | 820 | 10300 | 108.03 | 94 | ■ | ■ | ■ | | | |
| 14 | 820 | 10300 | 102.62 | 94 | ■ | ■ | ■ | | | |
| 16 | 820 | 10300 | 90.04 | 94 | ■ | ■ | ■ | ■ | | |
| 18 | 820 | 10300 | 76.37 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 20 | 820 | 10300 | 68.95 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 23 | 820 | 10300 | 60.66 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 24 | 820 | 10300 | 57.28 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 29 | 820 | 10300 | 48.77 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 32 | 820 | 10300 | 44.32 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 36 | 800 | 10500 | 38.39 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 39 | 820 | 10300 | 35.62 | 94 | ■ | ■ | ■ | ■ | | |
| 46 | 820 | 10300 | 30.22 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 51 | 820 | 10300 | 27.28 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 58 | 800 | 10500 | 24.00 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 62 | 780 | 10700 | 22.66 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 73 | 760 | 10800 | 19.30 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 80 | 740 | 11000 | 17.54 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 92 | 700 | 11300 | 15.19 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 106 | 670 | 11500 | 13.22 | 94 | | | ■ | ■ | ■ | ■ |
| 112 | 530 | 12300 | 12.48 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 132 | 500 | 11800 | 10.63 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 145 | 480 | 11500 | 9.66 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 167 | 440 | 11100 | 8.37 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 192 | 420 | 10700 | 7.28 | 94 | | | ■ | ■ | ■ | ■ |
| 269 | 350 | 9870 | 5.20 | 94 | | | ■ | ■ | ■ | ■ |



## FKA 78

**Maximum Torque = 1550 Nm @ N1 = 1400r/min**

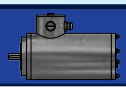
| $N_2$ $min^{-1}$ | $M_{2max}$ [Nm] | $F_{r2}$ [N] | i | η % | 63/71 B5T3 IEC 63/71 AM | 80 B5T3 IEC 80 AM | 90 B5T3 IEC 90 AM | 100 B5T3 IEC 100 AM | 112 B5T3 IEC 112 AM | 132 B5T3 IEC 132 AM |
|---|---|---|---|---|---|---|---|---|---|---|
| 7.3 | 1450 | 16100 | 192.18 | 94 | ■ | | | | | |
| 7.8 | 1450 | 16100 | 179.37 | 94 | ■ | | | | | |
| 9.1 | 1550 | 15400 | 154.02 | 94 | ■ | ■ | | | | |
| 10 | 1550 | 15400 | 135.28 | 94 | ■ | ■ | ■ | | | |
| 11 | 1550 | 15400 | 128.52 | 94 | ■ | ■ | ■ | | | |
| 12 | 1550 | 15400 | 113.56 | 94 | ■ | ■ | ■ | ■ | | |
| 14 | 1550 | 15400 | 97.05 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 16 | 1550 | 15400 | 88.97 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 18 | 1550 | 15400 | 78.07 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 19 | 1550 | 15400 | 73.99 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 22 | 1550 | 15400 | 64.75 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 24 | 1550 | 15400 | 58.34 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 27 | 1550 | 15400 | 51.18 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 31 | 1550 | 15400 | 45.16 | 94 | | | ■ | ■ | ■ | ■ |
| 35 | 1550 | 15400 | 40.04 | 94 | | | ■ | ■ | ■ | ■ |
| 36 | 1500 | 15700 | 38.39 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 40 | 1550 | 15400 | 35.20 | 94 | ■ | ■ | ■ | ■ | ■ | |
| 45 | 1550 | 15400 | 30.89 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 48 | 1550 | 15400 | 29.27 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 55 | 1550 | 15400 | 25.62 | 94 | ■ | ■ | ■ | ■ | ■ | ■ |
| 61 | 1550 | 15400 | 23.08 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 69 | 1500 | 15700 | 20.25 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 78 | 1450 | 16100 | 17.87 | 94 | | | ■ | ■ | ■ | ■ |
| 88 | 1400 | 15500 | 15.84 | 94 | | | ■ | ■ | ■ | ■ |
| 104 | 1340 | 14800 | 13.52 | 94 | | | ■ | ■ | ■ | ■ |
| 113 | 1000 | 15100 | 12.36 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 129 | 990 | 14400 | 10.84 | 94 | | ■ | ■ | ■ | ■ | ■ |
| 146 | 940 | 13900 | 9.56 | 94 | | | ■ | ■ | ■ | ■ |
| 165 | 890 | 13500 | 8.48 | 94 | | | ■ | ■ | ■ | ■ |
| 193 | 820 | 13100 | 7.24 | 94 | | | ■ | ■ | ■ | ■ |



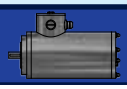
## FKA 88

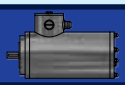
### Maximum Torque = 2700 Nm @ N1 = 1400r/min

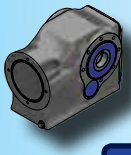
| $N_2$ min$^{-1}$ | $M_{2max}$ [Nm] | $F_{r2}$ [N] | i | η % | 80 B5T4 IEC 80 AM | 90 B5T4 IEC 90 AM | 100 B5T4 IEC 100 AM | 112 B5T4 IEC 112 AM | 132 B5T4 IEC 132 AM |
|---|---|---|---|---|---|---|---|---|---|
| 7.1 | 2700 | 27300 | 197.37 | 94 | ■ | | | | |
| 8.0 | 2700 | 27300 | 174.19 | 94 | ■ | ■ | | | |
| 8.5 | 2700 | 27300 | 164.34 | 94 | ■ | ■ | | | |
| 9.5 | 2700 | 27300 | 147.32 | 94 | ■ | ■ | ■ | | |
| 11 | 2700 | 27300 | 126.91 | 94 | ■ | ■ | ■ | ■ | |
| 12 | 2700 | 27300 | 115.82 | 94 | ■ | ■ | ■ | ■ | |
| 14 | 2700 | 27300 | 102.71 | 94 | ■ | ■ | ■ | ■ | ■ |
| 16 | 2700 | 27300 | 86.34 | 94 | ■ | ■ | ■ | ■ | ■ |
| 18 | 2700 | 27300 | 79.34 | 94 | ■ | ■ | ■ | ■ | ■ |
| 20 | 2700 | 27300 | 70.46 | 94 | ■ | ■ | ■ | ■ | ■ |
| 22 | 2700 | 26200 | 63.00 | 94 | | ■ | ■ | ■ | ■ |
| 25 | 2700 | 25000 | 56.64 | 94 | | ■ | ■ | ■ | ■ |
| 28 | 2700 | 23500 | 49.16 | 94 | | ■ | ■ | ■ | ■ |
| 32 | 2600 | 22800 | 44.02 | 94 | | | ■ | ■ | ■ |
| 38 | 2500 | 21400 | 36.52 | 94 | | | ■ | ■ | ■ |
| 45 | 2700 | 19200 | 31.39 | 94 | ■ | ■ | ■ | ■ | ■ |
| 50 | 2600 | 18500 | 27.88 | 94 | ■ | ■ | ■ | ■ | ■ |
| 56 | 2500 | 18000 | 24.92 | 94 | | ■ | ■ | ■ | ■ |
| 62 | 2300 | 17900 | 22.41 | 94 | | ■ | ■ | ■ | ■ |
| 72 | 2300 | 16800 | 19.45 | 94 | | ■ | ■ | ■ | ■ |
| 80 | 2200 | 16300 | 17.42 | 94 | | | ■ | ■ | ■ |
| 88 | 1800 | 16000 | 16.00 | 94 | ■ | ■ | ■ | ■ | ■ |
| 97 | 2100 | 15300 | 14.45 | 94 | | | ■ | ■ | ■ |
| 111 | 2000 | 14800 | 12.56 | 94 | | | | | ■ |
| 125 | 1500 | 14900 | 11.17 | 94 | | ■ | ■ | ■ | ■ |
| 140 | 1500 | 14200 | 10.00 | 94 | | | ■ | ■ | ■ |
| 169 | 1400 | 13500 | 8.29 | 94 | | | ■ | ■ | ■ |
| 194 | 1300 | 13200 | 7.21 | 94 | | | | | ■ |

| $P_{1n}$ [kW] | $N_2$ min$^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 0.12 | 13 | 88 | 106.38 | 6500 | 2.30 | | |
| | 14 | 81 | 97.81 | 6530 | 2.50 | | |
| | 16 | 70 | 83.69 | 6570 | 2.90 | | |
| | 19 | 60 | 72.54 | 6600 | 3.30 | | |
| | 20 | 56 | 67.80 | 6610 | 3.60 | | |
| | 24 | 49 | 58.60 | 6430 | 4.10 | | |
| | 28 | 41 | 49.79 | 6130 | 4.80 | | |
| | 31 | 37 | 44.46 | 5930 | 5.40 | | |
| | 36 | 32 | 37.97 | 5660 | 6.40 | | |
| | 39 | 30 | 35.57 | 5550 | 6.80 | FKA 38 AM63<br>FKA 38 B5T1 | 631-4 B5<br>631-4 B5T1 |
| | 46 | 25 | 29.96 | 5270 | 8.00 | | |
| | 48 | 24 | 28.83 | 5210 | 8.40 | | |
| | 55 | 21 | 24.99 | 4980 | 9.60 | | |
| | 59 | 19 | 23.36 | 4880 | 10.0 | | |
| | 68 | 17 | 20.19 | 4660 | 11.0 | | |
| | 80 | 14 | 17.15 | 4430 | 13.0 | | |
| | 90 | 13 | 15.31 | 4280 | 14.0 | | |
| | 105 | 11 | 13.08 | 4070 | 15.0 | | |
| | 114 | 10 | 12.14 | 3970 | 16.0 | | |
| | 10 | 110 | 131.87 | 8140 | 3.70 | FKA 48 AM63<br>FKA 48 B5T2 | 631-4 B5<br>631-4 B5T2 |
| | 11 | 101 | 121.48 | 8170 | 4.00 | | |
| 0.18 | 12 | 139 | 106.38 | 6210 | 1.45 | | |
| | 14 | 127 | 97.81 | 6280 | 1.55 | | |
| | 16 | 109 | 83.69 | 6400 | 1.85 | | |
| | 18 | 95 | 72.54 | 6470 | 2.10 | | |
| | 19 | 88 | 67.80 | 6500 | 2.30 | | |
| | 23 | 76 | 58.60 | 6280 | 2.60 | | |
| | 27 | 65 | 49.79 | 6010 | 3.10 | | |
| | 30 | 58 | 44.46 | 5830 | 3.50 | | |
| | 35 | 49 | 37.97 | 5580 | 4.10 | | |
| | 37 | 46 | 35.57 | 5480 | 4.30 | | |
| | 44 | 39 | 29.96 | 5220 | 5.10 | FKA 38 AM63<br>FKA 38 B5T1 | 632-4 B5<br>632-4 B5T1 |
| | 46 | 38 | 28.83 | 5160 | 5.30 | | |
| | 53 | 33 | 24.99 | 4950 | 6.20 | | |
| | 57 | 30 | 23.36 | 4850 | 6.40 | | |
| | 65 | 26 | 20.19 | 4650 | 7.00 | | |
| | 77 | 22 | 17.15 | 4430 | 8.10 | | |
| | 86 | 20 | 15.31 | 4280 | 8.80 | | |
| | 101 | 17 | 13.08 | 4080 | 9.70 | | |
| | 109 | 16 | 12.14 | 3980 | 10.0 | | |
| | 126 | 14 | 10.49 | 3810 | 12.0 | | |
| | 148 | 12 | 8.91 | 3620 | 14.0 | | |
| | 166 | 10 | 7.96 | 3490 | 15.0 | | |
| | 8.9 | 193 | 97.81 | 5710 | 1.05 | FKA 38 AM71<br>FKA 38 B5T1 | 711-6 B5<br>711-6 B5T1 |
| | 10 | 165 | 83.69 | 5990 | 1.20 | | |
| | 12 | 143 | 72.54 | 6170 | 1.40 | | |

| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 0.18 | 10 | 172 | 131.87 | 7910 | 2.30 | FKA 48 AM63<br>FKA 48 B5T2 | 632-4 B5<br>632-4 B5T2 |
| | 11 | 158 | 121.48 | 7970 | 2.50 | | |
| | 13 | 136 | 104.37 | 8060 | 2.90 | | |
| | 15 | 118 | 90.86 | 8120 | 3.40 | | |
| | 16 | 111 | 85.12 | 8140 | 3.60 | | |
| | 6.6 | 260 | 131.87 | 7380 | 1.55 | FKA 48 AM71<br>FKA 48 B5T2 | 711-6 B5<br>711-6 B5T2 |
| | 7.2 | 240 | 121.48 | 7530 | 1.65 | | |
| | 8.3 | 205 | 104.37 | 7740 | 1.95 | | |
| | 9.6 | 180 | 90.86 | 7880 | 2.20 | | |
| | 10 | 168 | 85.12 | 7930 | 2.40 | | |
| | 9.1 | 189 | 144.79 | 13000 | 4.40 | FKA 68 AM63<br>FKA 68 B5T2 | 632-4 B5<br>632-4 B5T2 |
| | 11 | 161 | 123.54 | 13000 | 5.10 | | |
| | 12 | 141 | 108.03 | 13000 | 5.80 | | |
| | 6.0 | 285 | 144.79 | 13000 | 2.90 | FKA 68 AM71<br>FKA 68 B5T2 | 711-6 B5<br>711-6 B5T2 |
| | 7.0 | 245 | 123.54 | 13000 | 3.40 | | |
| | 8.0 | 215 | 108.03 | 13000 | 3.80 | | |
| | 8.5 | 205 | 102.62 | 13000 | 4.00 | | |
| 0.25 | 12 | 195 | 106.38 | 5690 | 1.00 | FKA 38 AM71<br>FKA 38 B5T1 | 711-4 B5<br>711-4 B5T1 |
| | 13 | 180 | 97.81 | 5860 | 1.10 | | |
| | 16 | 154 | 83.69 | 6090 | 1.30 | | |
| | 18 | 133 | 72.54 | 6250 | 1.50 | | |
| | 19 | 125 | 67.80 | 6230 | 1.60 | | |
| | 22 | 108 | 58.60 | 6030 | 1.85 | | |
| | 26 | 91 | 49.79 | 5810 | 2.20 | | |
| | 29 | 82 | 44.46 | 5650 | 2.50 | | |
| | 34 | 70 | 37.97 | 5430 | 2.90 | | |
| | 37 | 65 | 35.57 | 5340 | 3.10 | | |
| | 43 | 55 | 29.96 | 5100 | 3.60 | | |
| | 45 | 53 | 28.83 | 5050 | 3.80 | | |
| | 52 | 46 | 24.99 | 4860 | 4.40 | | |
| | 56 | 43 | 23.36 | 4770 | 4.60 | | |
| | 64 | 37 | 20.19 | 4580 | 5.00 | | |
| | 76 | 32 | 17.15 | 4370 | 5.70 | | |
| | 85 | 28 | 15.31 | 4230 | 6.20 | | |
| | 99 | 24 | 13.08 | 4030 | 6.90 | | |
| | 107 | 22 | 12.14 | 3940 | 7.20 | | |
| | 124 | 19 | 10.49 | 3780 | 8.30 | | |
| | 146 | 16 | 8.91 | 3590 | 9.80 | | |
| | 163 | 15 | 7.96 | 3470 | 11.0 | | |
| | 191 | 13 | 6.80 | 3310 | 12.0 | | |
| | 204 | 12 | 6.37 | 3240 | 12.0 | | |
| | 12 | 197 | 72.54 | 5680 | 1.00 | FKA 38 AM71<br>FKA 38 B5T1 | 712-6 B5<br>712-6 B5T1 |
| | 13 | 184 | 67.80 | 5810 | 1.10 | | |
| | 15 | 159 | 58.60 | 6050 | 1.25 | | |
| | 18 | 135 | 49.79 | 6230 | 1.50 | | |

| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 0.25 | 9.9 | 240 | 131.87 | 7510 | 1.65 | FKA 48 AM71<br>FKA 48 B5T2 | 711-4 B5<br>711-4 B5T2 |
| | 11 | 225 | 121.48 | 7640 | 1.80 | | |
| | 12 | 192 | 104.37 | 7820 | 2.10 | | |
| | 14 | 167 | 90.86 | 7930 | 2.40 | | |
| | 15 | 156 | 85.12 | 7980 | 2.60 | | |
| | 6.7 | 360 | 131.87 | 6470 | 1.10 | FKA 48 AM71<br>FKA 48 B5T2 | 712-6 B5<br>712-6 B5T2 |
| | 7.2 | 330 | 121.48 | 6780 | 1.20 | | |
| | 8.4 | 285 | 104.37 | 7210 | 1.40 | | |
| | 9.7 | 245 | 90.86 | 7480 | 1.60 | | |
| | 10 | 230 | 85.12 | 7590 | 1.75 | | |
| | 9.0 | 265 | 144.79 | 13000 | 3.10 | FKA 68 AM71<br>FKA 68 B5T2 | 711-4 B5<br>711-4 B5T2 |
| | 11 | 225 | 123.54 | 13000 | 3.60 | | |
| | 12 | 198 | 108.03 | 13000 | 4.10 | | |
| | 13 | 189 | 102.62 | 13000 | 4.40 | | |
| | 6.1 | 395 | 144.79 | 12800 | 2.10 | FKA 68 AM71<br>FKA 68 B5T2 | 712-6 B5<br>712-6 B5T2 |
| | 7.1 | 335 | 123.54 | 13000 | 2.50 | | |
| | 8.2 | 295 | 108.03 | 13000 | 2.80 | | |
| | 8.6 | 280 | 102.62 | 13000 | 3.00 | | |
| | 5.5 | 435 | 123.54 | 12700 | 1.90 | FKA 68 AM80<br>FKA 68 B5T2 | 802-8 B14a<br>802-8 B5T2 |
| | 6.3 | 380 | 108.03 | 12900 | 2.20 | | |
| | 6.6 | 360 | 102.62 | 12900 | 2.30 | | |
| | 7.5 | 315 | 90.04 | 13000 | 2.60 | | |
| | 4.6 | 520 | 192.18 | 19700 | 2.80 | FKA 78 AM71<br>FKA 78 B5T3 | 712-6 B5<br>712-6 B5T3 |
| | 4.9 | 485 | 179.37 | 19700 | 3.00 | | |
| | 5.7 | 420 | 154.02 | 19800 | 3.70 | | |
| | 6.5 | 365 | 135.28 | 19900 | 4.20 | | |
| | 4.4 | 540 | 154.02 | 19600 | 2.90 | FKA 78 AM80<br>FKA 78 B5T3 | 802-8 B14a<br>802-8 B5T3 |
| | 5.0 | 475 | 135.52 | 19700 | 3.30 | | |
| | 5.3 | 450 | 128.52 | 19800 | 3.40 | | |
| | 6.0 | 400 | 113.56 | 19900 | 3.90 | | |

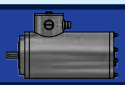
| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 0.37 | 19 | 186 | 72.54 | 5690 | 1.10 | | |
| | 20 | 174 | 67.80 | 5630 | 1.15 | | |
| | 24 | 150 | 58.60 | 5510 | 1.35 | | |
| | 28 | 128 | 49.79 | 5350 | 1.55 | | |
| | 31 | 114 | 44.46 | 5230 | 1.75 | | |
| | 36 | 97 | 37.97 | 5060 | 2.10 | | |
| | 39 | 91 | 35.57 | 4990 | 2.20 | | |
| | 46 | 77 | 29.96 | 4800 | 2.60 | | |
| | 48 | 74 | 28.83 | 4750 | 2.70 | | |
| | 55 | 64 | 24.99 | 4590 | 3.10 | | |
| | 59 | 60 | 23.36 | 4510 | 3.30 | **FKA 38 AM71**<br>**FKA 38 B5T1** | **712-4 B5**<br>**712-4 B5T1** |
| | 68 | 52 | 20.19 | 4350 | 3.60 | | |
| | 80 | 44 | 17.15 | 4160 | 4.10 | | |
| | 90 | 39 | 15.31 | 4040 | 4.50 | | |
| | 105 | 34 | 13.08 | 3860 | 4.90 | | |
| | 114 | 31 | 12.14 | 3780 | 5.10 | | |
| | 132 | 27 | 10.49 | 3630 | 6.00 | | |
| | 155 | 23 | 8.91 | 3460 | 7.00 | | |
| | 173 | 20 | 7.96 | 3350 | 7.60 | | |
| | 203 | 17 | 6.80 | 3190 | 8.60 | | |
| | 217 | 16 | 6.37 | 3130 | 8.90 | | |
| | 257 | 14 | 5.36 | 2970 | 10.0 | | |
| | 10 | 340 | 131.87 | 6690 | 1.20 | | |
| | 11 | 310 | 121.48 | 6960 | 1.30 | | |
| | 13 | 265 | 104.37 | 7330 | 1.50 | | |
| | 15 | 235 | 90.86 | 7580 | 1.70 | **FKA 48 AM71**<br>**FKA 48 B5T2** | **712-4 B5**<br>**712-4 B5T2** |
| | 16 | 220 | 85.12 | 7670 | 1.85 | | |
| | 18 | 193 | 75.20 | 7810 | 2.10 | | |
| | 20 | 179 | 69.84 | 7880 | 2.20 | | |
| | 22 | 162 | 63.30 | 7960 | 2.50 | | |
| | 8.6 | 410 | 104.37 | 5490 | 1.00 | | |
| | 9.9 | 355 | 90.86 | 6480 | 1.10 | **FKA 48 AM80**<br>**FKA 48 B5T2** | **801-6 B14a**<br>**801-6 B5T2** |
| | 11 | 335 | 85.12 | 6730 | 1.20 | | |
| | 12 | 295 | 75.20 | 7100 | 1.35 | | |
| | 9.5 | 370 | 144.79 | 12900 | 2.20 | | |
| | 11 | 315 | 123.54 | 13000 | 2.60 | **FKA 68 AM71**<br>**FKA 68 B5T2** | **712-4 B5**<br>**712-4 B5T2** |
| | 13 | 275 | 108.03 | 13000 | 3.00 | | |
| | 15 | 230 | 90.04 | 13000 | 3.60 | | |
| | 18 | 196 | 76.37 | 13000 | 4.20 | | |
| | 7.3 | 485 | 123.54 | 12500 | 1.70 | | |
| | 8.3 | 425 | 108.03 | 12700 | 1.95 | **FKA 68 AM80**<br>**FKA 68 B5T2** | **801-6 B14a**<br>**801-6 B5T2** |
| | 8.8 | 405 | 102.62 | 12800 | 2.00 | | |
| | 10 | 355 | 90.04 | 13000 | 2.30 | | |

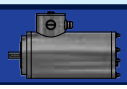


| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 0.37 | 7.2 | 490 | 192.18 | 19700 | 3.00 | FKA 78 AM71<br>FKA 78 B5T3 | 712-4 B5<br>712-4 B5T3 |
| | 7.7 | 460 | 179.37 | 19800 | 3.20 | | |
| | 9.0 | 395 | 154.02 | 19900 | 3.90 | | |
| | 5.8 | 605 | 154.02 | 19500 | 2.60 | FKA 78 AM80<br>FKA 78 B5T3 | 801-6 B14a<br>801-6 B5T3 |
| | 6.7 | 530 | 135.28 | 19600 | 2.90 | | |
| | 7.0 | 505 | 128.52 | 19700 | 3.10 | | |
| | 7.9 | 445 | 113.56 | 19800 | 3.50 | | |
| | 4.6 | 775 | 197.37 | 28900 | 3.50 | FKA 88 AM80<br>FKA 88 B5T4 | 801-6 B14a<br>801-6 B5T4 |
| | 5.2 | 685 | 174.19 | 28900 | 4.00 | | |
| 0.55 | 27 | 192 | 49.79 | 4790 | 1.05 | FKA 38 AM80<br>FKA 38 B5T1 | 801-4 B14a<br>801-4 B5T1 |
| | 31 | 172 | 44.46 | 4740 | 1.15 | | |
| | 36 | 147 | 37.97 | 4640 | 1.35 | | |
| | 38 | 137 | 35.57 | 4600 | 1.45 | | |
| | 45 | 116 | 29.96 | 4470 | 1.75 | | |
| | 47 | 111 | 28.83 | 4440 | 1.80 | | |
| | 54 | 97 | 24.99 | 4320 | 2.10 | | |
| | 58 | 90 | 23.36 | 4260 | 2.20 | | |
| | 67 | 78 | 20.19 | 4130 | 2.40 | | |
| | 79 | 66 | 17.15 | 3980 | 2.70 | | |
| | 89 | 59 | 15.31 | 3880 | 3.00 | | |
| | 104 | 51 | 13.08 | 3730 | 3.30 | | |
| | 112 | 47 | 12.14 | 3660 | 3.40 | | |
| | 130 | 41 | 10.49 | 3520 | 4.00 | | |
| | 153 | 34 | 8.91 | 3370 | 4.70 | | |
| | 171 | 31 | 7.96 | 3270 | 5.10 | | |
| | 200 | 26 | 6.80 | 3130 | 5.70 | | |
| | 214 | 25 | 6.37 | 3070 | 5.90 | | |
| | 254 | 21 | 5.36 | 2920 | 6.80 | | |
| | 342 | 15 | 3.98 | 2680 | 8.10 | | |
| | 13 | 405 | 104.37 | 5880 | 1.00 | FKA 48 AM80<br>FKA 48 B5T2 | 801-4 B14a<br>801-4 B5T2 |
| | 15 | 350 | 90.86 | 6550 | 1.15 | | |
| | 16 | 330 | 85.12 | 6790 | 1.20 | | |
| | 18 | 290 | 75.20 | 7150 | 1.40 | | |
| | 19 | 270 | 69.84 | 7310 | 1.50 | | |
| | 21 | 245 | 63.30 | 7500 | 1.65 | | |
| | 24 | 220 | 56.83 | 7660 | 1.80 | | |
| | 28 | 189 | 48.95 | 7830 | 2.10 | | |
| | 30 | 178 | 46.03 | 7880 | 2.30 | | |
| | 11 | 475 | 123.54 | 12500 | 1.70 | FKA 68 AM80<br>FKA 68 B5T2 | 801-4 B14a<br>801-4 B5T2 |
| | 13 | 415 | 108.03 | 12800 | 1.95 | | |
| | 15 | 350 | 90.04 | 13000 | 2.40 | | |
| | 18 | 295 | 76.37 | 13000 | 2.80 | | |
| | 7.3 | 720 | 123.54 | 11100 | 1.15 | FKA 68 AM80<br>FKA 68 B5T2 | 802-6 B14a<br>802-6 B5T2 |
| | 8.3 | 630 | 108.03 | 11700 | 1.30 | | |
| | 8.8 | 600 | 102.62 | 11900 | 1.35 | | |
| | 10 | 525 | 90.04 | 12300 | 1.55 | | |
| | 12 | 445 | 76.37 | 12600 | 1.85 | | |

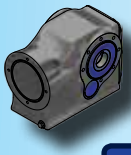
| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ | | |
|---|---|---|---|---|---|---|---|
| 0.55 | 8.8 | 595 | 154.02 | 19500 | 2.60 | FKA 78 AM80<br>FKA 78 B5T3 | 801-4 B14a<br>801-4 B5T3 |
| | 10 | 520 | 135.28 | 19700 | 3.00 | | |
| | 11 | 495 | 128.52 | 19700 | 3.10 | | |
| | 12 | 440 | 113.56 | 19800 | 3.50 | | |
| | 14 | 375 | 97.05 | 19900 | 4.10 | | |
| | 5.8 | 900 | 154.02 | 18700 | 1.70 | FKA 78 AM80<br>FKA 78 B5T3 | 802-6 B14a<br>802-6 B5T3 |
| | 6.7 | 790 | 135.28 | 19000 | 1.95 | | |
| | 7.0 | 750 | 128.52 | 19100 | 2.10 | | |
| | 7.9 | 665 | 113.56 | 19400 | 2.30 | | |
| | 4.6 | 1150 | 197.37 | 28700 | 2.30 | FKA 88 AM80<br>FKA 88 B5T4 | 802-6 B14a<br>802-6 B5T4 |
| | 5.2 | 1020 | 174.19 | 28800 | 2.70 | | |
| | 5.5 | 960 | 164.34 | 28800 | 2.80 | | |
| | 6.1 | 860 | 147.32 | 28900 | 3.10 | | |
| 0.75 | 36 | 197 | 37.97 | 4150 | 1.00 | FKA 38 AM80<br>FKA 38 B5T1 | 802-4 B14a<br>802-4 B5T1 |
| | 39 | 185 | 35.57 | 4140 | 1.10 | | |
| | 46 | 156 | 29.96 | 4080 | 1.30 | | |
| | 48 | 150 | 28.83 | 4060 | 1.35 | | |
| | 55 | 130 | 24.99 | 3990 | 1.55 | | |
| | 59 | 121 | 23.36 | 3950 | 1.60 | | |
| | 68 | 105 | 20.19 | 3860 | 1.75 | | |
| | 80 | 89 | 17.15 | 3750 | 2.00 | | |
| | 90 | 80 | 15.31 | 3670 | 2.20 | | |
| | 105 | 68 | 13.08 | 3550 | 2.40 | | |
| | 114 | 63 | 12.14 | 3500 | 2.50 | | |
| | 132 | 54 | 10.49 | 3380 | 2.90 | | |
| | 155 | 46 | 8.91 | 3250 | 3.50 | | |
| | 173 | 41 | 7.96 | 3160 | 3.80 | | |
| | 203 | 35 | 6.80 | 3030 | 4.30 | | |
| | 217 | 33 | 6.37 | 2980 | 4.40 | | |
| | 257 | 28 | 5.36 | 2840 | 5.00 | | |
| | 347 | 21 | 3.98 | 2620 | 6.00 | | |
| | 18 | 390 | 75.20 | 6060 | 1.00 | FKA 48 AM80<br>FKA 48 B5T2 | 802-4 B14a<br>802-4 B5T2 |
| | 20 | 365 | 69.84 | 6410 | 1.10 | | |
| | 22 | 330 | 63.30 | 6790 | 1.20 | | |
| | 24 | 295 | 56.83 | 7110 | 1.35 | | |
| | 28 | 255 | 48.95 | 7430 | 1.55 | | |
| | 30 | 240 | 46.03 | 7540 | 1.65 | | |
| | 35 | 205 | 39.61 | 7740 | 1.95 | | |
| | 39 | 184 | 35.39 | 7760 | 2.20 | | |
| | 44 | 162 | 31.30 | 7550 | 2.50 | | |
| | 11 | 640 | 123.54 | 11700 | 1.30 | FKA 68 AM80<br>FKA 68 B5T2 | 802-4 B14a<br>802-4 B5T2 |
| | 13 | 560 | 108.03 | 12100 | 1.45 | | |
| | 15 | 465 | 90.04 | 12600 | 1.75 | | |
| | 18 | 395 | 76.37 | 12800 | 2.10 | | |
| | 20 | 360 | 68.95 | 13000 | 2.30 | | |
| | 23 | 315 | 60.66 | 13000 | 2.60 | | |
| | 24 | 295 | 57.28 | 13000 | 2.80 | | |

| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 0.75 | 9.0 | 800 | 154.02 | 19000 | 1.95 | FKA 78 AM80<br>FKA 78 B5T3 | 802-4 B14a<br>802-4 B5T3 |
| | 10 | 700 | 135.28 | 19300 | 2.20 | | |
| | 11 | 665 | 128.52 | 19300 | 2.30 | | |
| | 12 | 590 | 113.56 | 19500 | 2.60 | | |
| | 14 | 505 | 97.05 | 19700 | 3.10 | | |
| | 6.7 | 1080 | 135.28 | 18000 | 1.45 | FKA 78 AM90<br>FKA 78 B5T3 | 90S-6 B14a<br>90S-6 B5T3 |
| | 7.0 | 1020 | 128.52 | 18200 | 1.50 | | |
| | 7.9 | 900 | 113.56 | 18700 | 1.70 | | |
| | 9.3 | 770 | 97.05 | 19100 | 2.00 | | |
| | 10 | 710 | 88.97 | 19200 | 2.20 | | |
| | 7.0 | 1020 | 197.37 | 28800 | 2.60 | FKA 88 AM80<br>FKA 88 B5T4 | 802-4 B14a<br>802-4 B5T4 |
| | 7.9 | 900 | 174.19 | 28800 | 3.00 | | |
| | 8.4 | 850 | 164.34 | 28900 | 3.20 | | |
| | 9.4 | 765 | 147.32 | 28900 | 3.50 | | |
| | 5.2 | 1390 | 174.19 | 28600 | 1.95 | FKA 88 AM90<br>FKA 88 B5T4 | 90S-6 B14a<br>90S-6 B5T4 |
| | 5.5 | 1310 | 164.34 | 28600 | 2.10 | | |
| | 6.1 | 1170 | 147.32 | 28700 | 2.30 | | |
| | 7.1 | 1010 | 126.91 | 28800 | 2.70 | | |
| 1.1 | 56 | 188 | 24.99 | 3440 | 1.05 | FKA 38 AM90<br>FKA 38 B5T1 | 90S-4 B14a<br>90S-4 B5T1 |
| | 60 | 175 | 23.36 | 3440 | 1.10 | | |
| | 69 | 152 | 20.19 | 3420 | 1.20 | | |
| | 82 | 129 | 17.15 | 3370 | 1.40 | | |
| | 91 | 115 | 15.31 | 3330 | 1.50 | | |
| | 107 | 98 | 13.08 | 3260 | 1.70 | | |
| | 115 | 91 | 12.14 | 3220 | 1.75 | | |
| | 133 | 79 | 10.49 | 3140 | 2.00 | | |
| | 157 | 67 | 8.91 | 3040 | 2.40 | | |
| | 176 | 60 | 7.96 | 2970 | 2.60 | | |
| | 206 | 51 | 6.80 | 2870 | 2.90 | | |
| | 220 | 48 | 6.37 | 2830 | 3.00 | | |
| | 261 | 40 | 5.36 | 2720 | 3.50 | | |
| | 352 | 30 | 3.98 | 2520 | 4.20 | | |
| | 29 | 365 | 48.95 | 6360 | 1.10 | FKA 48 AM90<br>FKA 48 B5T2 | 90S-4 B14a<br>90S-4 B5T2 |
| | 30 | 345 | 46.03 | 6610 | 1.15 | | |
| | 35 | 295 | 39.61 | 7090 | 1.35 | | |
| | 40 | 265 | 35.39 | 7090 | 1.50 | | |
| | 45 | 235 | 31.30 | 6960 | 1.70 | | |
| | 48 | 220 | 29.32 | 6890 | 1.80 | | |
| | 54 | 194 | 25.91 | 6730 | 2.10 | | |
| | 64 | 164 | 21.81 | 6510 | 2.40 | | |
| | 72 | 147 | 19.58 | 6360 | 2.70 | | |

| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 1.1 | 13 | 810 | 108.03 | 10400 | 1.00 | FKA 68 AM90<br>FKA 68 B5T2 | 90S-4 B14a<br>90S-4 B5T2 |
| | 14 | 770 | 102.62 | 10700 | 1.05 | | |
| | 16 | 675 | 90.04 | 11400 | 1.20 | | |
| | 18 | 575 | 76.37 | 12000 | 1.45 | | |
| | 20 | 515 | 68.95 | 12300 | 1.60 | | |
| | 23 | 455 | 60.66 | 12600 | 1.80 | | |
| | 24 | 430 | 57.28 | 12700 | 1.90 | | |
| | 29 | 365 | 48.77 | 12900 | 2.20 | | |
| | 32 | 335 | 44.32 | 13000 | 2.50 | | |
| | 36 | 290 | 38.39 | 13000 | 2.80 | | |
| | 10 | 1020 | 135.28 | 18300 | 1.55 | FKA 78 AM90<br>FKA 78 B5T3 | 90S-4 B14a<br>90S-4 B5T3 |
| | 11 | 960 | 128.52 | 18400 | 1.60 | | |
| | 12 | 850 | 113.56 | 18800 | 1.80 | | |
| | 14 | 730 | 97.05 | 19200 | 2.10 | | |
| | 16 | 670 | 88.97 | 19300 | 2.30 | | |
| | 18 | 585 | 78.07 | 19500 | 2.70 | | |
| | 19 | 555 | 73.99 | 19600 | 2.80 | | |
| | 6.8 | 1540 | 135.28 | 15400 | 1.00 | FKA 78 AM90<br>FKA 78 B5T3 | 90L-6 B14a<br>90L-6 B5T3 |
| | 7.2 | 1470 | 128.52 | 15900 | 1.05 | | |
| | 8.1 | 1300 | 113.56 | 17000 | 1.20 | | |
| | 9.5 | 1110 | 97.05 | 17900 | 1.40 | | |
| | 8.0 | 1310 | 174.19 | 28600 | 2.10 | FKA 88 AM90<br>FKA 88 B5T4 | 90S-4 B14a<br>90S-4 B5T4 |
| | 8.5 | 1230 | 164.34 | 28700 | 2.20 | | |
| | 9.5 | 1110 | 147.32 | 28700 | 2.40 | | |
| | 11 | 950 | 126.91 | 28800 | 2.80 | | |
| | 12 | 870 | 115.82 | 28800 | 3.10 | | |
| | 5.3 | 1990 | 174.19 | 28100 | 1.35 | FKA 88 AM90<br>FKA 88 B5T4 | 90L-6 B14a<br>90L-6 B5T4 |
| | 5.6 | 1880 | 164.34 | 28200 | 1.45 | | |
| | 6.2 | 1680 | 147.32 | 28300 | 1.60 | | |
| | 7.2 | 1450 | 126.91 | 28500 | 1.85 | | |
| 1.5 | 82 | 174 | 17.15 | 2940 | 1.05 | FKA 38 AM90<br>FKA 38 B5T1 | 90L-4 B14a<br>90L-4 B5T1 |
| | 92 | 156 | 15.31 | 2950 | 1.10 | | |
| | 108 | 133 | 13.08 | 2930 | 1.25 | | |
| | 116 | 123 | 12.14 | 2920 | 1.30 | | |
| | 134 | 107 | 10.49 | 2880 | 1.50 | | |
| | 158 | 91 | 8.91 | 2820 | 1.75 | | |
| | 177 | 81 | 7.96 | 2770 | 1.90 | | |
| | 207 | 69 | 6.80 | 2700 | 2.20 | | |
| | 221 | 65 | 6.37 | 2670 | 2.20 | | |
| | 263 | 55 | 5.36 | 2580 | 2.60 | | |
| | 354 | 40 | 3.98 | 2420 | 3.10 | | |

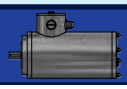
| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 1.5 | 36 | 400 | 39.61 | 5890 | 1.00 | FKA 48 AM90<br>FKA 48 B5T2 | 90L-4 B14a<br>90L-4 B5T2 |
| | 40 | 360 | 35.39 | 6360 | 1.10 | | |
| | 45 | 320 | 31.3 | 6310 | 1.25 | | |
| | 48 | 300 | 29.32 | 6270 | 1.35 | | |
| | 54 | 265 | 25.91 | 6190 | 1.50 | | |
| | 65 | 220 | 21.81 | 6050 | 1.80 | | |
| | 72 | 199 | 19.58 | 5950 | 2.00 | | |
| | 84 | 171 | 16.86 | 5800 | 2.20 | | |
| | 89 | 161 | 15.86 | 5730 | 2.40 | | |
| | 103 | 139 | 13.65 | 5560 | 2.60 | | |
| | 116 | 124 | 12.19 | 5430 | 2.80 | | |
| | 120 | 120 | 11.77 | 5340 | 2.30 | | |
| | 18 | 775 | 76.37 | 10700 | 1.05 | FKA 68 AM90<br>FKA 68 B5T2 | 90L-4 B14a<br>90L-4 B5T2 |
| | 20 | 700 | 68.95 | 11300 | 1.15 | | |
| | 23 | 615 | 60.66 | 11800 | 1.35 | | |
| | 25 | 580 | 57.28 | 12000 | 1.40 | | |
| | 29 | 495 | 48.77 | 12400 | 1.65 | | |
| | 32 | 450 | 44.32 | 12600 | 1.80 | | |
| | 37 | 390 | 38.39 | 12800 | 2.10 | | |
| | 40 | 360 | 35.62 | 12900 | 2.30 | | |
| | 47 | 305 | 30.22 | 13000 | 2.70 | | |
| | 52 | 275 | 27.28 | 13000 | 3.00 | | |
| | 59 | 245 | 24.00 | 13000 | 3.30 | | |
| | 10 | 1370 | 135.28 | 16500 | 1.15 | FKA 78 AM90<br>FKA 78 B5T3 | 90L-4 B14a<br>90L-4 B5T3 |
| | 11 | 1310 | 128.52 | 16900 | 1.20 | | |
| | 12 | 1150 | 113.56 | 17700 | 1.35 | | |
| | 15 | 990 | 97.05 | 18400 | 1.55 | | |
| | 16 | 900 | 88.97 | 18700 | 1.70 | | |
| | 18 | 795 | 78.07 | 19000 | 1.95 | | |
| | 19 | 750 | 73.99 | 19100 | 2.10 | | |
| | 22 | 660 | 64.75 | 19400 | 2.40 | | |
| | 24 | 595 | 58.34 | 19500 | 2.60 | | |
| | 28 | 520 | 51.18 | 19700 | 3.00 | | |
| | 31 | 460 | 45.16 | 19800 | 3.40 | | |
| | 35 | 405 | 40.04 | 19800 | 3.80 | | |
| | 9.5 | 1510 | 97.05 | 15700 | 1.05 | FKA 78 AM100<br>FKA 78 B5T3 | 100L1-6 B14a<br>100L1-6 B5T3 |
| | 10 | 1390 | 88.97 | 16400 | 1.10 | | |
| | 12 | 1220 | 78.07 | 17400 | 1.30 | | |
| | 8.1 | 1770 | 174.19 | 28300 | 1.55 | FKA 88 AM90<br>FKA 88 B5T4 | 90L-4 B14a<br>90L-4 B5T4 |
| | 8.6 | 1670 | 164.34 | 28300 | 1.60 | | |
| | 9.6 | 1500 | 147.32 | 28500 | 1.80 | | |
| | 11 | 1290 | 126.91 | 28600 | 2.10 | | |
| | 12 | 1180 | 115.82 | 28700 | 2.30 | | |
| | 14 | 1040 | 102.71 | 28800 | 2.60 | | |
| | 16 | 880 | 86.34 | 28800 | 3.10 | | |
| | 6.2 | 2290 | 147.32 | 27800 | 1.20 | FKA 88 AM100<br>FKA 88 B5T4 | 100L1-6 B14a<br>100L1-6 B5T4 |
| | 7.2 | 1980 | 126.91 | 28100 | 1.35 | | |
| | 7.9 | 1800 | 115.82 | 28200 | 1.50 | | |
| | 9.0 | 1600 | 102.71 | 28400 | 1.70 | | |

| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ | | |
|---|---|---|---|---|---|---|---|
| 2.2 | 134 | 156 | 10.49 | 2430 | 1.00 | FKA 38 AM100<br>FKA 38 B5T1 | 100L1-4 B14a<br>100L1-4 B5T1 |
| | 158 | 133 | 8.91 | 2440 | 1.20 | | |
| | 177 | 119 | 7.96 | 2430 | 1.30 | | |
| | 207 | 101 | 6.80 | 2410 | 1.50 | | |
| | 221 | 95 | 6.37 | 2400 | 1.55 | | |
| | 263 | 80 | 5.36 | 2350 | 1.75 | | |
| | 354 | 59 | 3.98 | 2250 | 2.10 | | |
| | 54 | 385 | 25.91 | 5260 | 1.05 | FKA 48 AM100<br>FKA 48 B5T2 | 100L1-4 B14a<br>100L1-4 B5T2 |
| | 65 | 325 | 21.81 | 5260 | 1.25 | | |
| | 72 | 290 | 19.58 | 5240 | 1.35 | | |
| | 84 | 250 | 16.86 | 5190 | 1.50 | | |
| | 89 | 235 | 15.86 | 5160 | 1.60 | | |
| | 103 | 205 | 13.65 | 5070 | 1.75 | | |
| | 116 | 182 | 12.19 | 4990 | 1.95 | | |
| | 120 | 175 | 11.77 | 4890 | 1.60 | | |
| | 133 | 157 | 10.56 | 4810 | 1.80 | | |
| | 155 | 136 | 9.10 | 4690 | 2.10 | | |
| | 29 | 725 | 48.77 | 11100 | 1.15 | FKA 68 AM100<br>FKA 68 B5T2 | 100L1-4 B14a<br>100L1-4 B5T2 |
| | 32 | 660 | 44.32 | 11500 | 1.25 | | |
| | 37 | 570 | 38.39 | 12100 | 1.40 | | |
| | 40 | 530 | 35.62 | 12300 | 1.55 | | |
| | 47 | 450 | 30.22 | 12600 | 1.80 | | |
| | 52 | 405 | 27.28 | 12800 | 2.00 | | |
| | 59 | 360 | 24.00 | 13000 | 2.20 | | |
| | 62 | 340 | 22.66 | 13000 | 2.30 | | |
| | 73 | 285 | 19.30 | 13000 | 2.60 | | |
| | 80 | 260 | 17.54 | 13000 | 2.80 | | |
| | 93 | 225 | 15.19 | 13000 | 3.10 | | |
| | 107 | 197 | 13.22 | 13000 | 3.40 | | |
| | 113 | 186 | 12.48 | 13000 | 2.90 | | |
| | 133 | 158 | 10.63 | 13000 | 3.20 | | |
| | 146 | 144 | 9.66 | 13000 | 3.30 | | |
| | 169 | 125 | 8.37 | 13000 | 3.50 | | |
| | 194 | 109 | 7.28 | 12700 | 3.90 | | |
| | 271 | 78 | 5.20 | 11700 | 4.50 | | |
| | 15 | 1450 | 97.05 | 16100 | 1.05 | FKA 78 AM100<br>FKA 78 B5T3 | 100L1-4 B14a<br>100L1-4 B5T3 |
| | 16 | 1330 | 88.97 | 16800 | 1.15 | | |
| | 18 | 1160 | 78.07 | 17600 | 1.35 | | |
| | 19 | 1100 | 73.99 | 17900 | 1.40 | | |
| | 22 | 960 | 64.75 | 18400 | 1.60 | | |
| | 24 | 870 | 58.34 | 18800 | 1.80 | | |
| | 28 | 765 | 51.18 | 19100 | 2.00 | | |
| | 31 | 675 | 45.16 | 19300 | 2.30 | | |
| | 35 | 595 | 40.04 | 19500 | 2.60 | | |
| | 40 | 525 | 35.20 | 19700 | 3.00 | | |
| | 46 | 460 | 30.89 | 19800 | 3.40 | | |
| | 48 | 435 | 29.27 | 19800 | 3.60 | | |
| | 55 | 380 | 25.62 | 19900 | 4.10 | | |



| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 2.2 | 9.6 | 2200 | 147.32 | 27900 | 1.25 | FKA 88 AM100<br>FKA 88 B5T4 | 100L1-4 B14a<br>100L1-4 B5T4 |
| | 11 | 1890 | 126.91 | 28200 | 1.45 | | |
| | 12 | 1730 | 115.82 | 28300 | 1.55 | | |
| | 14 | 1530 | 102.71 | 28500 | 1.75 | | |
| | 16 | 1290 | 86.34 | 28600 | 2.10 | | |
| | 18 | 1180 | 79.34 | 28700 | 2.30 | | |
| | 20 | 1050 | 70.46 | 28800 | 2.60 | | |
| | 22 | 940 | 63.00 | 28800 | 2.90 | | |
| 3.0 | 206 | 139 | 6.80 | 2080 | 1.10 | FKA 38 AM100<br>FKA 38 B5T1 | 100L2-4 B14a<br>100L2-4 B5T1 |
| | 220 | 130 | 6.37 | 2080 | 1.10 | | |
| | 261 | 110 | 5.36 | 2090 | 1.30 | | |
| | 352 | 81 | 3.98 | 2050 | 1.55 | | |
| | 72 | 400 | 19.58 | 4430 | 1.00 | FKA 48 AM100<br>FKA 48 B5T2 | 100L2-4 B14a<br>100L2-4 B5T2 |
| | 83 | 345 | 16.86 | 4490 | 1.10 | | |
| | 88 | 325 | 15.86 | 4500 | 1.15 | | |
| | 103 | 280 | 13.65 | 4510 | 1.30 | | |
| | 115 | 250 | 12.19 | 4490 | 1.40 | | |
| | 119 | 240 | 11.77 | 4370 | 1.15 | | |
| | 133 | 215 | 10.56 | 4350 | 1.30 | | |
| | 154 | 186 | 9.10 | 4290 | 1.50 | | |
| | 164 | 175 | 8.56 | 4270 | 1.55 | | |
| | 190 | 151 | 7.36 | 4190 | 1.65 | | |
| | 213 | 135 | 6.58 | 4120 | 1.80 | | |
| | 241 | 119 | 5.81 | 4030 | 1.95 | | |
| | 302 | 95 | 4.64 | 3860 | 2.20 | | |
| | 36 | 785 | 38.39 | 10600 | 1.00 | FKA 68 AM100<br>FKA 68 B5T2 | 100L2-4 B14a<br>100L2-4 B5T2 |
| | 39 | 730 | 35.62 | 11100 | 1.15 | | |
| | 46 | 620 | 30.22 | 11800 | 1.35 | | |
| | 51 | 560 | 27.28 | 12100 | 1.45 | | |
| | 58 | 490 | 24.00 | 12500 | 1.65 | | |
| | 62 | 465 | 22.66 | 12600 | 1.70 | | |
| | 73 | 395 | 19.30 | 12800 | 1.95 | | |
| | 80 | 360 | 17.54 | 13000 | 2.10 | | |
| | 92 | 310 | 15.19 | 13000 | 2.30 | | |
| | 106 | 270 | 13.22 | 13000 | 2.50 | | |
| | 112 | 255 | 12.48 | 13000 | 2.10 | | |
| | 132 | 220 | 10.63 | 13000 | 2.30 | | |
| | 145 | 198 | 9.66 | 13000 | 2.40 | | |
| | 19 | 1510 | 73.99 | 15600 | 1.00 | FKA 78 AM100<br>FKA 78 B5T3 | 100L2-4 B14a<br>100L2-4 B5T3 |
| | 22 | 1330 | 64.75 | 16800 | 1.15 | | |
| | 24 | 1190 | 58.34 | 17500 | 1.30 | | |
| | 27 | 1050 | 51.18 | 18100 | 1.50 | | |
| | 31 | 920 | 45.16 | 18600 | 1.70 | | |
| | 35 | 820 | 40.04 | 18900 | 1.90 | | |
| | 40 | 720 | 35.20 | 19200 | 2.20 | | |
| | 45 | 630 | 30.89 | 19400 | 2.50 | | |

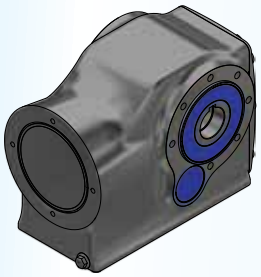
| $P_{1n}$ [kW] | $N_2$ min$^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ | | |
|---|---|---|---|---|---|---|---|
| 3.0 | 11 | 2600 | 126.91 | 27400 | 1.05 | FKA 88 AM100<br>FKA 88 B5T4 | 100L2-4 B14a<br>100L2-4 B5T4 |
| | 12 | 2370 | 115.82 | 27700 | 1.15 | | |
| | 14 | 2100 | 102.71 | 28000 | 1.30 | | |
| | 16 | 1770 | 86.34 | 28300 | 1.55 | | |
| | 18 | 1620 | 79.34 | 28400 | 1.65 | | |
| | 20 | 1440 | 70.46 | 28500 | 1.85 | | |
| | 22 | 1290 | 63.00 | 28600 | 2.10 | | |
| | 25 | 1160 | 56.64 | 28700 | 2.30 | | |
| | 28 | 1010 | 49.16 | 28800 | 2.70 | | |
| | 32 | 900 | 44.02 | 28800 | 2.90 | | |
| | 38 | 745 | 36.52 | 28400 | 3.40 | | |
| 4.0 | 47 | 810 | 30.22 | 10400 | 1.00 | FKA 68 AM112<br>FKA 68 B5T2 | 112M-4 B14a<br>112M-4 B5T2 |
| | 52 | 735 | 27.28 | 11000 | 1.10 | | |
| | 59 | 645 | 24.00 | 11600 | 1.25 | | |
| | 63 | 610 | 22.66 | 11800 | 1.30 | | |
| | 74 | 520 | 19.30 | 13000 | 1.45 | | |
| | 81 | 470 | 17.54 | 12500 | 1.55 | | |
| | 94 | 410 | 15.19 | 12800 | 1.70 | | |
| | 107 | 355 | 13.22 | 13000 | 1.90 | | |
| | 114 | 335 | 12.48 | 13000 | 1.60 | | |
| | 134 | 285 | 10.63 | 13000 | 1.75 | | |
| | 147 | 260 | 9.66 | 12900 | 1.85 | | |
| | 170 | 225 | 8.37 | 12500 | 1.95 | | |
| | 195 | 196 | 7.28 | 12100 | 2.10 | | |
| | 273 | 140 | 5.20 | 11200 | 2.50 | | |
| | 24 | 1570 | 58.34 | 15200 | 1.00 | FKA 78 AM112<br>FKA 78 B5T3 | 112M-4 B14a<br>112M-4 B5T3 |
| | 28 | 1380 | 51.18 | 16500 | 1.15 | | |
| | 31 | 1210 | 45.16 | 17400 | 1.30 | | |
| | 35 | 1080 | 40.04 | 18000 | 1.45 | | |
| | 37 | 1030 | 38.39 | 18200 | 1.45 | | |
| | 40 | 950 | 35.20 | 18500 | 1.65 | | |
| | 46 | 830 | 30.89 | 18900 | 1.85 | | |
| | 49 | 785 | 29.27 | 19000 | 1.95 | | |
| | 55 | 690 | 25.62 | 19300 | 2.30 | | |
| | 62 | 620 | 23.08 | 19500 | 2.50 | | |
| | 70 | 545 | 20.25 | 19600 | 2.80 | | |
| | 14 | 2760 | 102.71 | 27200 | 1.00 | FKA 88 AM112<br>FKA 88 B5T4 | 112M-4 B14a<br>112M-4 B5T4 |
| | 16 | 2320 | 86.34 | 27700 | 1.15 | | |
| | 18 | 2130 | 79.34 | 27900 | 1.25 | | |
| | 20 | 1900 | 70.46 | 28200 | 1.40 | | |
| | 23 | 1690 | 63.00 | 28300 | 1.60 | | |
| | 25 | 1520 | 56.64 | 28500 | 1.75 | | |
| | 29 | 1320 | 49.16 | 28600 | 2.00 | | |
| | 32 | 1180 | 44.02 | 28300 | 2.20 | | |
| | 39 | 980 | 36.52 | 27300 | 2.50 | | |

| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 5.5 | 74 | 710 | 19.30 | 11200 | 1.05 | FKA 68 AM132<br>FKA 68 B5T2 | 132S-4 B14a<br>132S-4 B5T2 |
| | 82 | 645 | 17.54 | 11600 | 1.15 | | |
| | 94 | 560 | 15.19 | 12100 | 1.25 | | |
| | 108 | 485 | 13.22 | 12500 | 1.40 | | |
| | 115 | 460 | 12.48 | 12600 | 1.15 | | |
| | 135 | 390 | 10.63 | 12400 | 1.30 | | |
| | 148 | 355 | 9.66 | 12200 | 1.35 | | |
| | 171 | 305 | 8.37 | 11900 | 1.45 | | |
| | 196 | 265 | 7.28 | 11600 | 1.55 | | |
| | 275 | 191 | 5.20 | 10800 | 1.85 | | |
| | 36 | 1470 | 40.04 | 15900 | 1.05 | FKA 78 AM132<br>FKA 78 B5T3 | 132S-4 B14a<br>132S-4 B5T3 |
| | 46 | 1130 | 30.89 | 17800 | 1.35 | | |
| | 49 | 1070 | 29.27 | 18000 | 1.45 | | |
| | 56 | 940 | 25.62 | 18500 | 1.65 | | |
| | 62 | 850 | 23.08 | 18800 | 1.85 | | |
| | 71 | 745 | 20.25 | 19100 | 2.00 | | |
| | 80 | 655 | 17.87 | 19400 | 2.20 | | |
| | 90 | 580 | 15.84 | 19200 | 2.40 | | |
| | 106 | 495 | 13.52 | 18600 | 2.70 | | |
| | 116 | 455 | 12.36 | 17900 | 2.20 | | |
| | 132 | 400 | 10.84 | 17400 | 2.50 | | |
| | 20 | 2590 | 70.46 | 27400 | 1.05 | FKA 88 AM132<br>FKA 88 B5T4 | 132S-4 B14a<br>132S-4 B5T4 |
| | 23 | 2310 | 63.00 | 27500 | 1.15 | | |
| | 25 | 2080 | 56.64 | 27300 | 1.30 | | |
| | 29 | 1810 | 49.16 | 26900 | 1.50 | | |
| | 32 | 1620 | 44.02 | 26500 | 1.60 | | |
| | 39 | 1340 | 36.52 | 25800 | 1.85 | | |
| | 46 | 1150 | 31.39 | 25200 | 2.30 | | |
| | 51 | 1020 | 27.88 | 24700 | 2.50 | | |

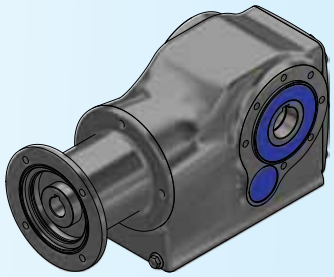
| $P_{1n}$ [kW] | $N_2$ $min^{-1}$ | $M_{2n}$ [Nm] | i | $F_{r2}$ [N] | $f_s$ |  |  |
|---|---|---|---|---|---|---|---|
| 7.5 | 46 | 1550 | 30.89 | 15400 | 1.00 | FKA 78 AM132<br>FKA 78 B5T3 | 132M-4 B14a<br>132M-4 B5T3 |
| | 49 | 1470 | 29.27 | 16000 | 1.05 | | |
| | 56 | 1280 | 25.62 | 17000 | 1.20 | | |
| | 62 | 1160 | 23.08 | 17700 | 1.35 | | |
| | 71 | 1010 | 20.25 | 18300 | 1.50 | | |
| | 80 | 890 | 17.87 | 18600 | 1.60 | | |
| | 90 | 795 | 15.84 | 18200 | 1.75 | | |
| | 106 | 675 | 13.52 | 17800 | 2.00 | | |
| | 116 | 620 | 12.36 | 17000 | 1.60 | | |
| | 132 | 545 | 10.84 | 16700 | 1.80 | | |
| | 150 | 480 | 9.56 | 16300 | 1.95 | | |
| | 169 | 425 | 8.48 | 15900 | 2.10 | | |
| | 198 | 365 | 7.24 | 15400 | 2.30 | | |
| | 29 | 2460 | 49.16 | 24200 | 1.10 | FKA 88 AM132<br>FKA 88 B5T4 | 132M-4 B14a<br>132M-4 B5T4 |
| | 32 | 2200 | 44.02 | 24200 | 1.20 | | |
| | 39 | 1830 | 36.52 | 23900 | 1.35 | | |
| | 46 | 1570 | 31.39 | 23500 | 1.70 | | |
| | 51 | 1400 | 27.88 | 23200 | 1.85 | | |
| | 57 | 1250 | 24.92 | 22800 | 2.00 | | |
| | 64 | 1120 | 22.41 | 22500 | 2.10 | | |
| | 74 | 970 | 19.45 | 21900 | 2.40 | | |
| | 82 | 870 | 17.42 | 21500 | 2.50 | | |
| | 89 | 800 | 16.00 | 20600 | 2.30 | | |
| | 99 | 725 | 14.45 | 20700 | 2.90 | | |

*The FKA 38 can be supplied with an integrated motor (B5T1) as well as with an IEC motor adaptor (AM)*
*The B5T1 version is meant to be assembled with a special motor, made with a non IEC flange and a shouldered shaft.*
*The AM version can be assembled with a standard motor with flange and shaft according to IEC.*

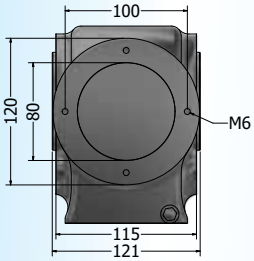
## FKA 38 B5T1

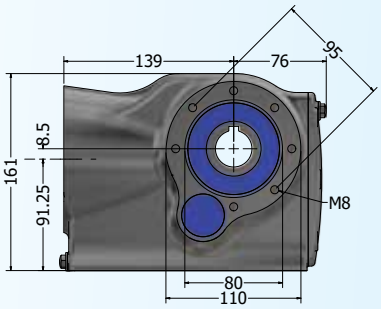


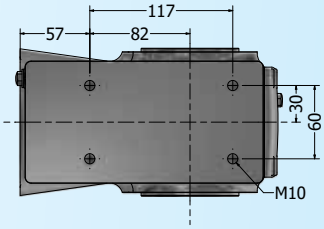
## FKA 38 AM..



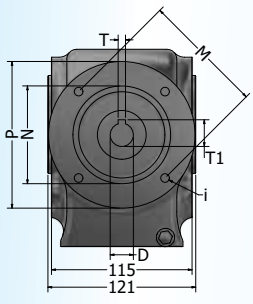
## FKA 38 B5T1

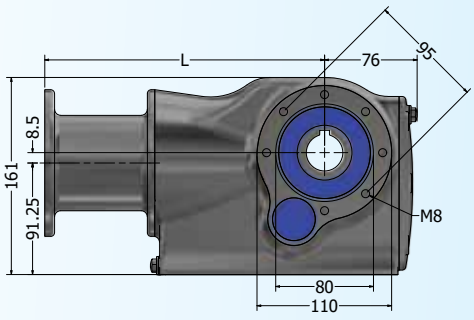


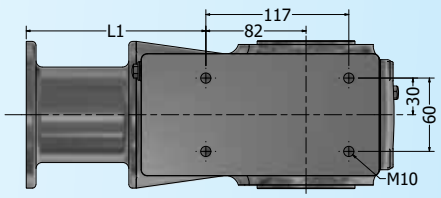




## FKA 38 AM

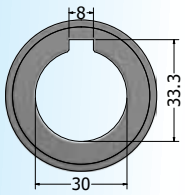


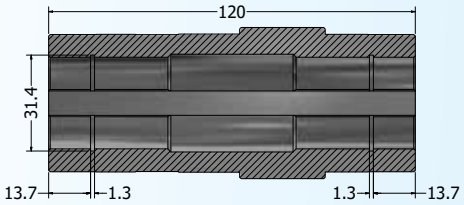




| Gearbox | Motor type | D | T | T1 | i | M | N | P | L | L1 |
|---|---|---|---|---|---|---|---|---|---|---|
| FKA 38 AM63 | IEC63 B5 | 11 | 4 | 12.8 | 9 | 115 | 95 | 140 | 229 | 147 |
| FKA 38 AM71 | IEC71 B5 | 14 | 5 | 16.3 | 9 | 130 | 110 | 160 | 229 | 147 |
| FKA 38 AM80 | IEC80 B14A | 19 | 6 | 21.8 | 7 | 100 | 80 | 120 | 229 | 147 |
| FKA 38 AM90 | IEC90 B14A | 24 | 8 | 27.3 | 9 | 115 | 95 | 140 | 229 | 147 |
| FKA 38 AM100 | IEC100 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 229 | 147 |

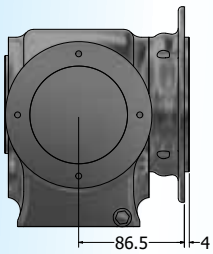
## Hollow Shaft Dimensions HA30

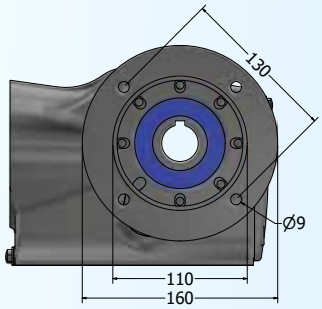


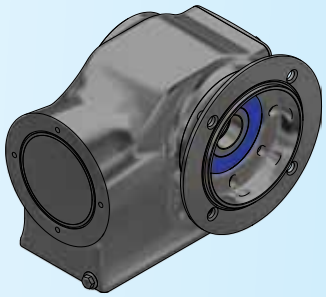




*The standard hollow shaft diameter for a FKA38 is 30mm*
*Different hollow shaft diameters on request*

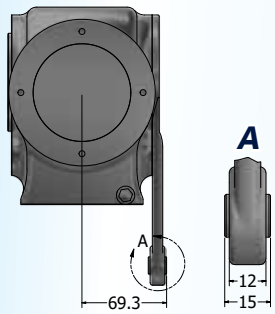
## Output Flange SS095 FL160

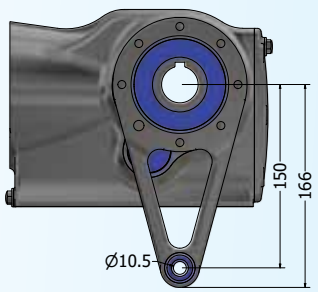


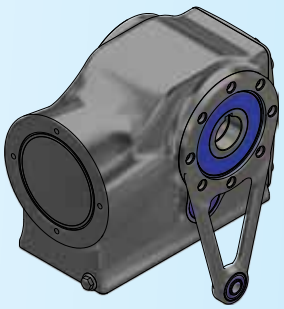



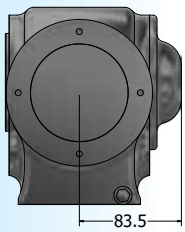
## Torque Arm SS095 MS

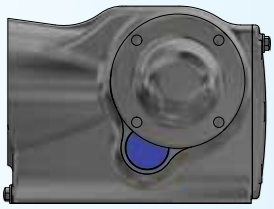


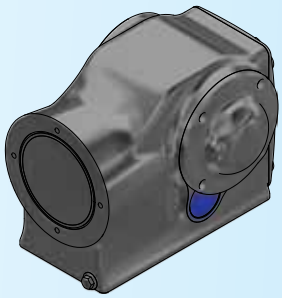



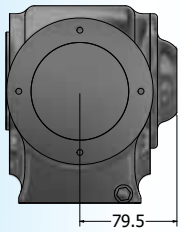
## Closed Safety Cap SS095 CC

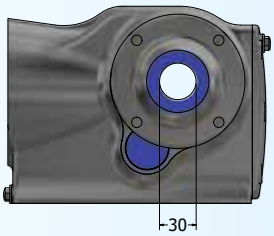


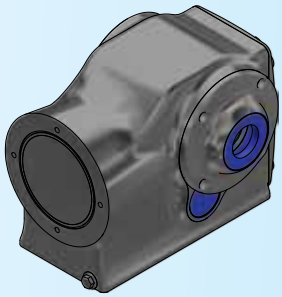





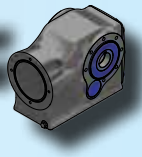
## Open Safety Cap SS095 CO30



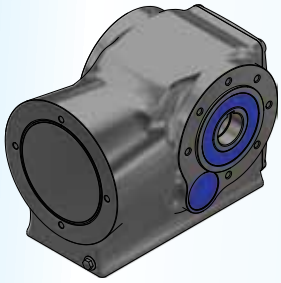



*The standard shaft diameter for a SS095 CO is 30mm*
*Different diameters on request*

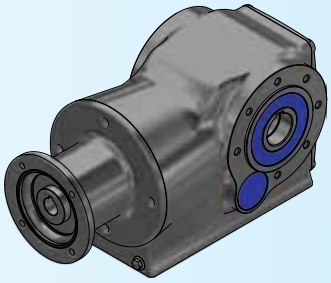


*The FKA 48 can be supplied with an integrated motor (B5T2) as well as with an IEC motor adaptor (AM)*
*The B5T2 version is meant to be assembled with a special motor, made with a non IEC flange and a shouldered shaft.*
*The AM version can be assembled with a standard motor with flange and shaft according to IEC.*

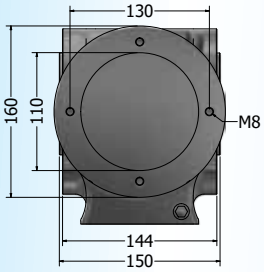
## FKA 48 B5T2

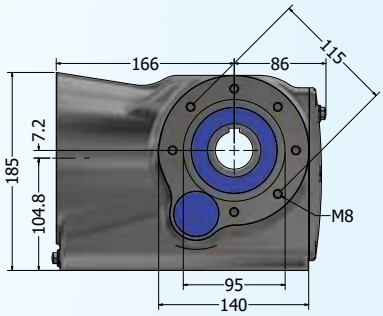


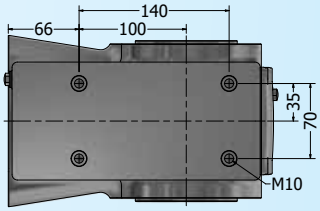
## FKA 48 AM..



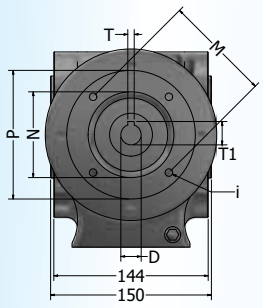
## FKA 48 B5T2

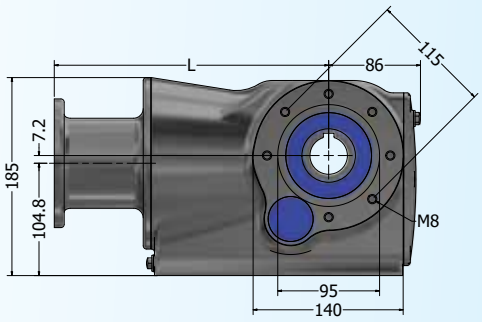


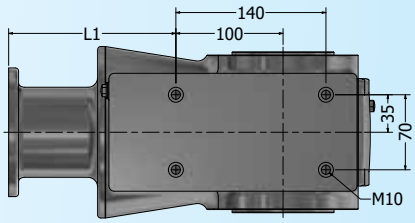




## FKA 48 AM

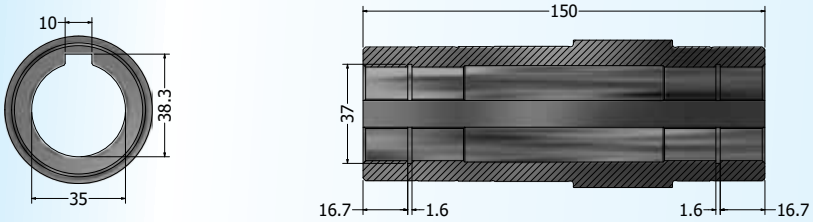


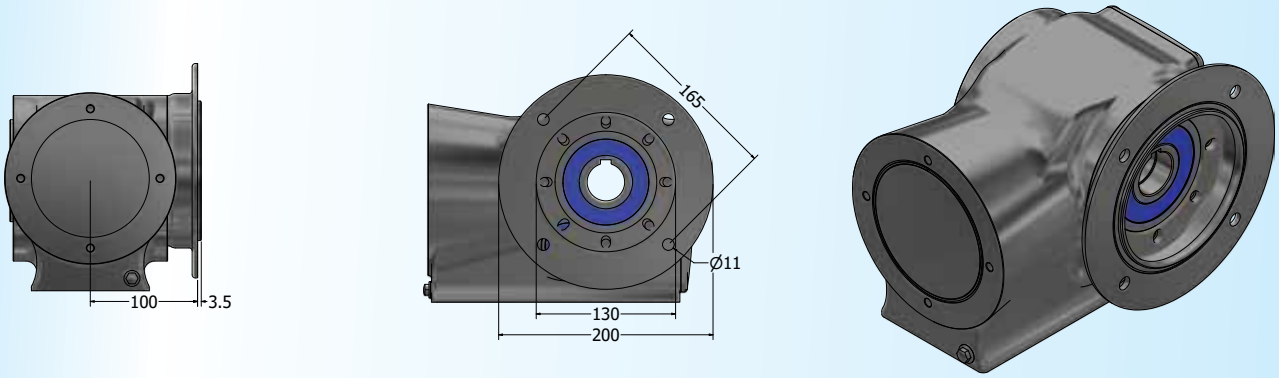

| Gearbox | Motor type | D | T | T1 | i | M | N | P | L | L1 |
|---|---|---|---|---|---|---|---|---|---|---|
| FKA 48 AM63 | IEC63 B5 | 11 | 4 | 12.8 | 9 | 115 | 95 | 140 | 256 | 156 |
| FKA 48 AM71 | IEC71 B5 | 14 | 5 | 16.3 | 9 | 130 | 110 | 160 | 256 | 156 |
| FKA 48 AM80 | IEC80 B14A | 19 | 6 | 21.8 | 7 | 100 | 80 | 120 | 256 | 156 |
| FKA 48 AM90 | IEC90 B14A | 24 | 8 | 27.3 | 9 | 115 | 95 | 140 | 256 | 156 |
| FKA 48 AM100 | IEC100 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 256 | 156 |

## Hollow Shaft Dimensions HA35

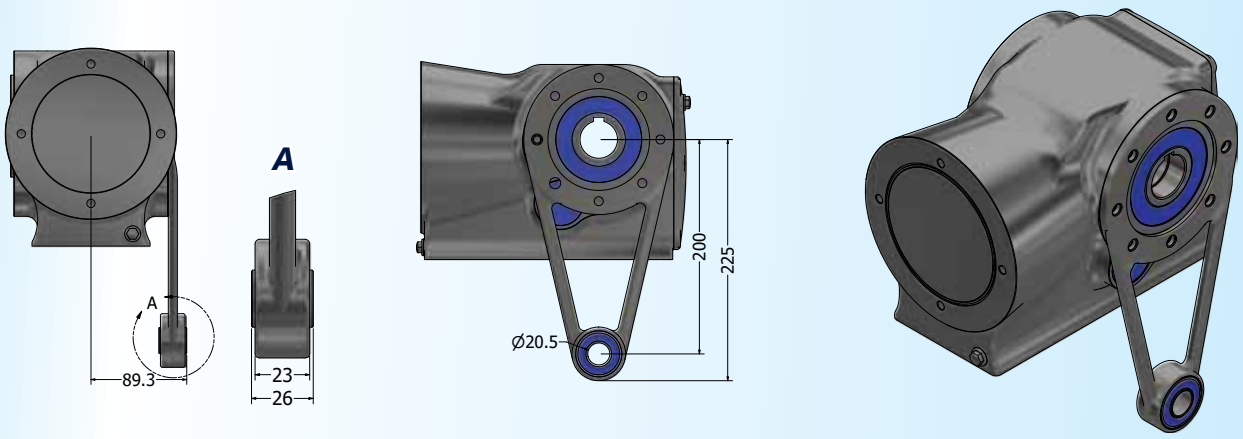



*The standard hollow shaft diameter for a FKA48 is 35mm*
*Different hollow shaft diameters on request*

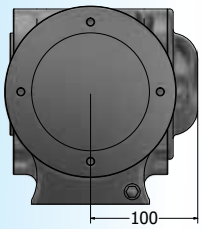
## Output Flange SS115 FL200

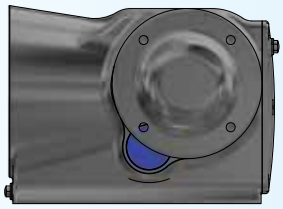


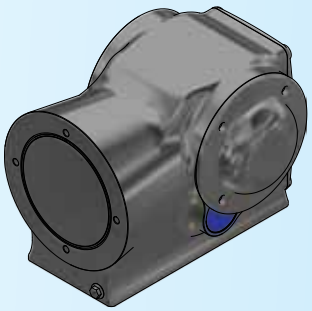

## Torque Arm SS115 MS



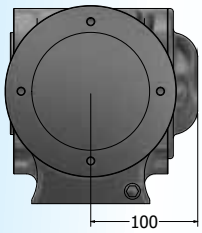
## Closed Safety Cap SS115 CC

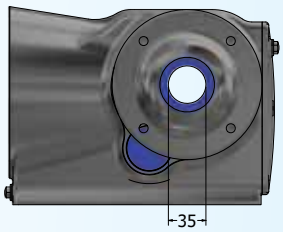


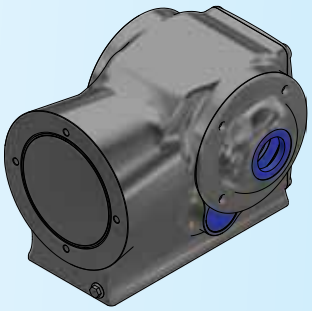





## Open Safety Cap SS115 CO35



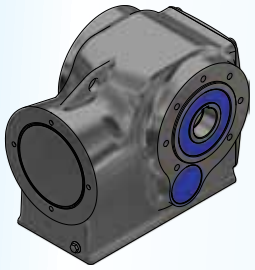



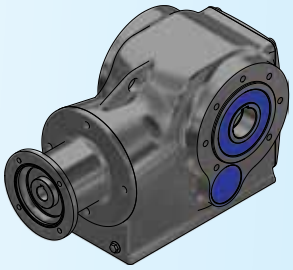
*The standard shaft diameter for a SS115 CO is 35mm*
*Different diameters on request*

*The FKA 68 can be supplied with an integrated motor (B5T2) as well as with an IEC motor adaptor (AM)*
*The B5T2 version is meant to be assembled with a special motor, made with a non IEC flange and a shouldered shaft.*
*The AM version can be assembled with a standard motor with flange and shaft according to IEC.*

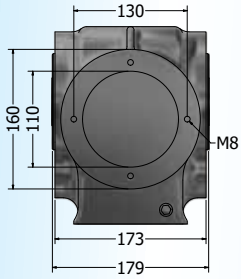
## FKA 68 B5T2

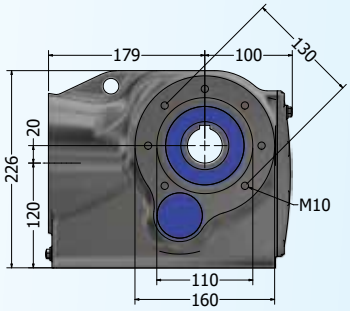


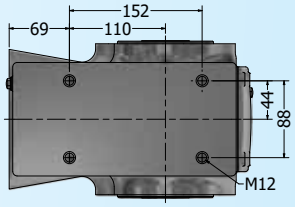
## FKA 68 AM..



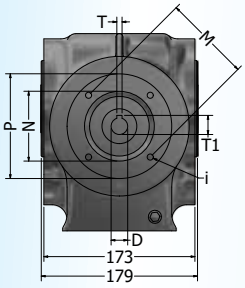
## FKA 68 B5T2

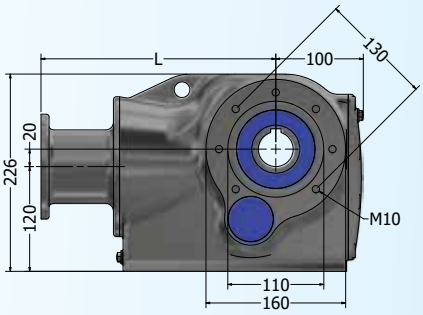


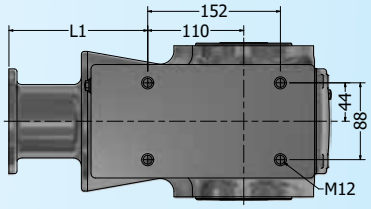




## FKA 68 AM

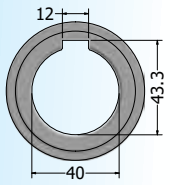


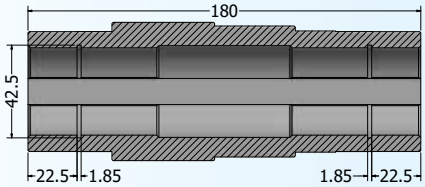




| Gearbox | Motor type | D | T | T1 | i | M | N | P | L | L1 |
|---|---|---|---|---|---|---|---|---|---|---|
| FKA 68 AM63 | IEC63 B5 | 11 | 4 | 12.8 | 9 | 115 | 95 | 140 | 269 | 159 |
| FKA 68 AM71 | IEC71 B5 | 14 | 5 | 16.3 | 9 | 130 | 110 | 160 | 269 | 159 |
| FKA 68 AM80 | IEC80 B14A | 19 | 6 | 21.8 | 7 | 100 | 80 | 120 | 269 | 159 |
| FKA 68 AM90 | IEC90 B14A | 24 | 8 | 27.3 | 9 | 115 | 95 | 140 | 269 | 159 |
| FKA 68 AM100 | IEC100 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 269 | 159 |
| FKA 68 AM112 | IEC112 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 269 | 159 |
| FKA 68 AM132 | IEC132 B14A | 38 | 10 | 41.3 | 11 | 165 | 130 | 200 | 305 | 195 |

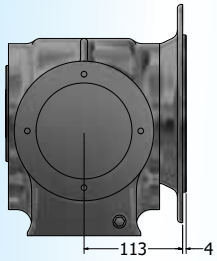
## Hollow Shaft Dimensions HA40

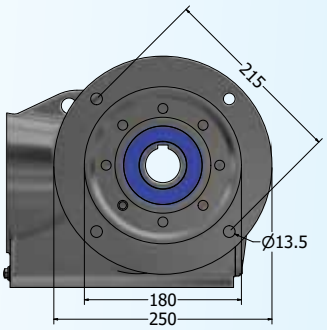


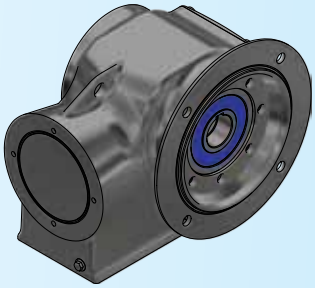




*The standard hollow shaft diameter for a FKA68 is 40mm*
*Different hollow shaft diameters on request*

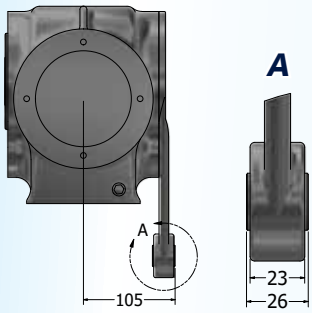
## Output Flange SS130 FL250

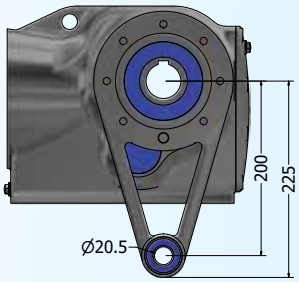


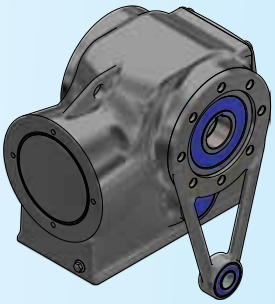



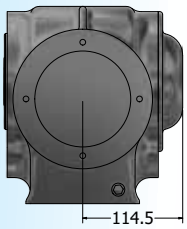
## Torque Arm SS130 MS

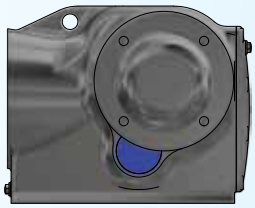


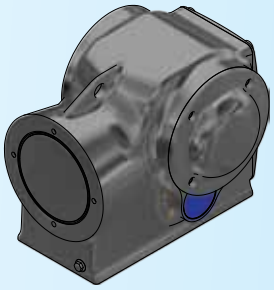



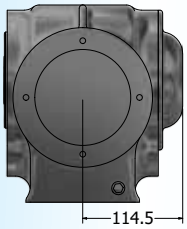
## Closed Safety Cap SS130 CC

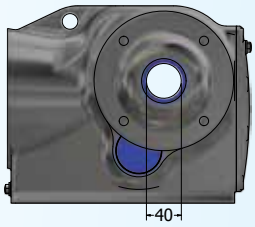


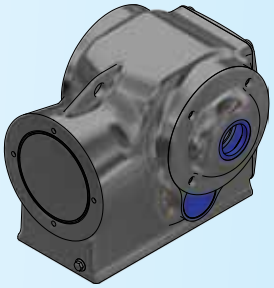





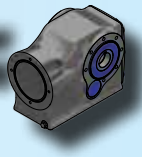
## Open Safety Cap SS130 CO40



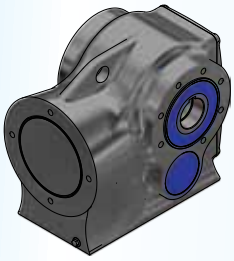



*The standard shaft diameter for a SS130 CO is 40mm*
*Different diameters on request*

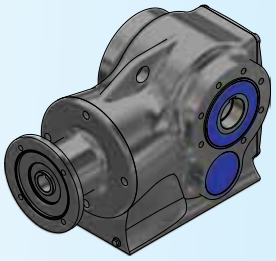


*The FKA 78 can be supplied with an integrated motor (B5T3) as well as with an IEC motor adaptor (AM)*
*The B5T3 version is meant to be assembled with a special motor, made with a non IEC flange and a shouldered shaft.*
*The AM version can be assembled with a standard motor with flange and shaft according to IEC.*

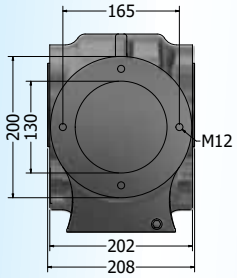
## FKA 78 B5T3

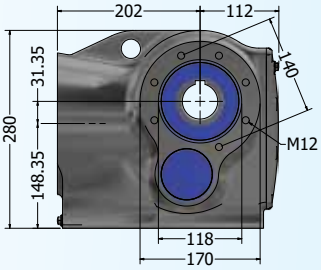


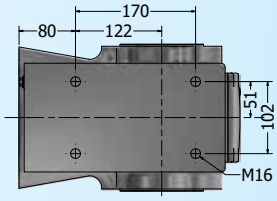
## FKA 78 AM..



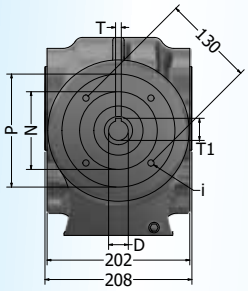
## FKA 78 B5T3

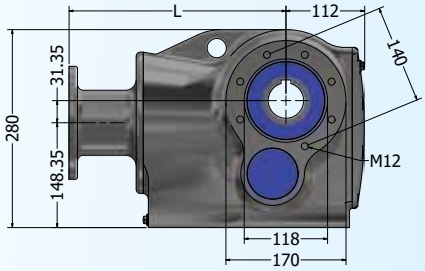


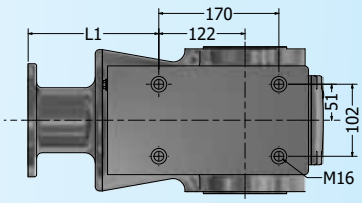




## FKA 78 AM

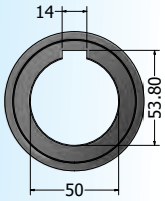


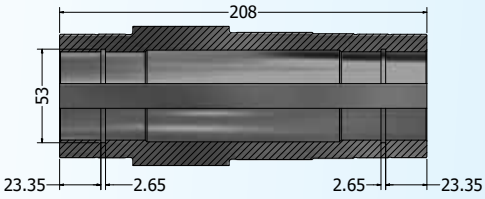




| Gearbox | Motor type | D | T | T1 | i | M | N | P | L | L1 |
|---|---|---|---|---|---|---|---|---|---|---|
| FKA 78 AM71 | IEC71 B5 | 14 | 5 | 16.3 | 9 | 130 | 110 | 160 | 307 | 185 |
| FKA 78 AM80 | IEC80 B14A | 19 | 6 | 21.8 | 9 | 100 | 80 | 120 | 307 | 185 |
| FKA 78 AM90 | IEC90 B14A | 24 | 8 | 27.3 | 9 | 115 | 95 | 140 | 307 | 185 |
| FKA 78 AM100 | IEC100 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 307 | 185 |
| FKA 78 AM112 | IEC112 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 307 | 185 |
| FKA 78 AM132 | IEC132 B14A | 38 | 10 | 41.3 | 13.5 | 165 | 130 | 200 | 327 | 205 |

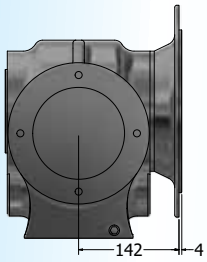
## Hollow Shaft Dimensions HA50

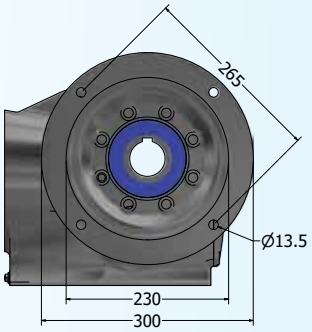


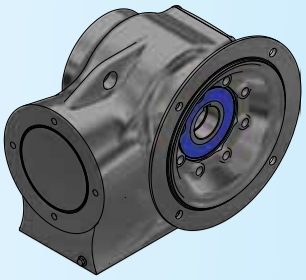



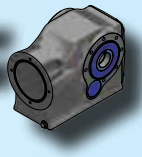

*The standard hollow shaft diameter for a FKA78 is 50mm*
*Different hollow shaft diameters on request*

## Output Flange SS140 FL300



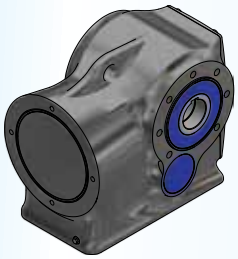



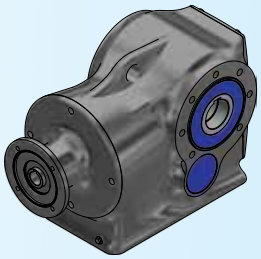


*The FKA 88 can be supplied with an integrated motor (B5T4) as well as with an IEC motor adaptor (AM)*
*The B5T4 version is meant to be assembled with a special motor, made with a non IEC flange and a shouldered shaft.*
*The AM version can be assembled with a standard motor with flange and shaft according to IEC.*

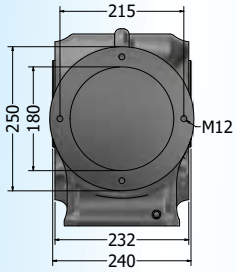
## FKA 88 B5T4

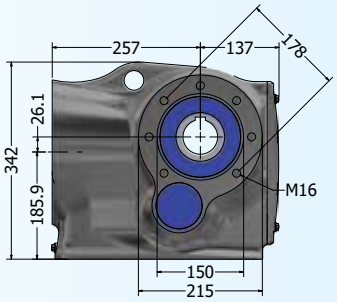


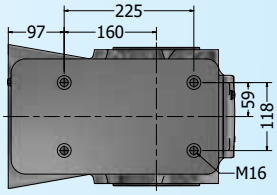
## FKA 88 AM..



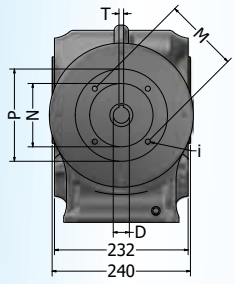
## FKA 88 B5T4

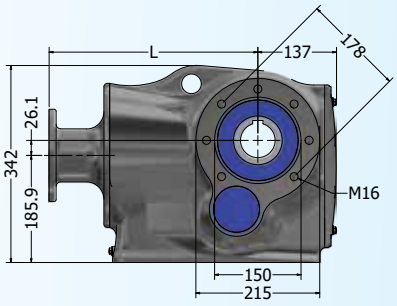


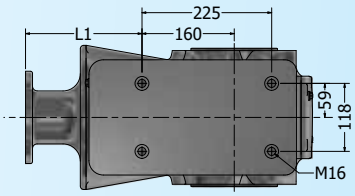




## FKA 88 AM

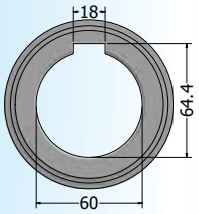


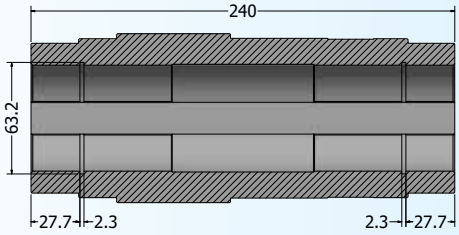




| Gearbox | Motor type | D | T | T1 | i | M | N | P | L | L1 |
|---|---|---|---|---|---|---|---|---|---|---|
| FKA 88 AM80 | IEC80 B14A | 19 | 6 | 21.8 | 9 | 100 | 80 | 120 | 362 | 202 |
| FKA 88 AM90 | IEC90 B14A | 24 | 8 | 27.3 | 9 | 115 | 95 | 140 | 362 | 202 |
| FKA 88 AM100 | IEC100 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 362 | 202 |
| FKA 88 AM112 | IEC112 B14A | 28 | 8 | 31.3 | 9 | 130 | 110 | 160 | 362 | 202 |
| FKA 88 AM132 | IEC132 B14A | 38 | 10 | 41.3 | 13.5 | 165 | 130 | 200 | 382 | 222 |

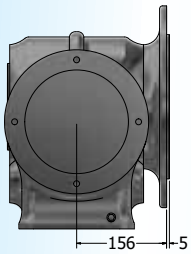
## Hollow Shaft Dimensions HA60

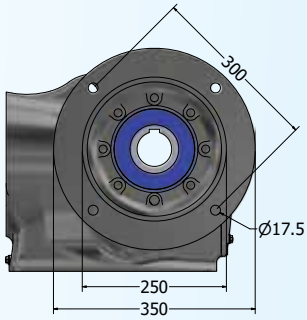


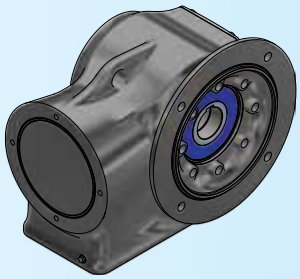




*The standard hollow shaft diameter for a FKA88 is 60mm*
*Different hollow shaft diameters on request*

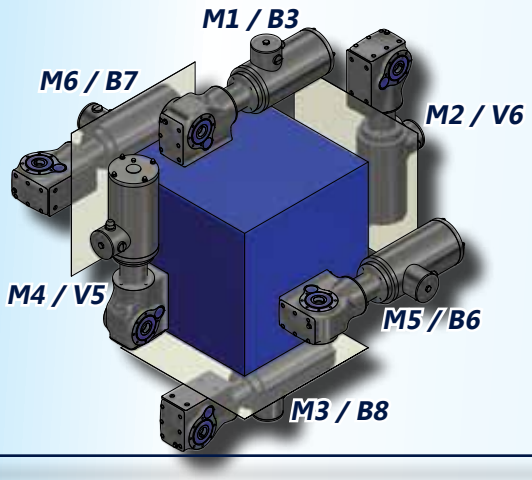
## Output Flange SS178 FL350



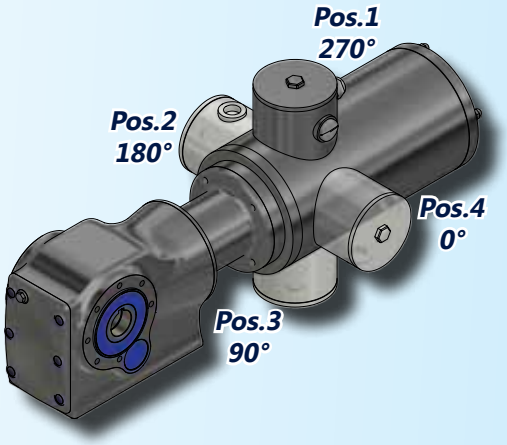



## Mounting Positions




## Terminal Box Positions




## Lubrication Quantity

| Oil Quantity in ML. | Mounting Position | | | | | |
|---|---|---|---|---|---|---|
| Gearbox | M1 (B3) | M3 (B8) | M6 (B7) | M5 (B6) | M4 (V5) | M2 (V6) |
| FKA 38 B5T1 / AM.. | 900 | 900 | 1000 | 1000 | 1400 | 1000 |
| FKA 48 B5T2 / AM.. | 2000 | 2000 | 2000 | 2000 | 2700 | 2300 |
| FKA 68 B5T2 / AM.. | 2900 | 3750 | 3900 | 3900 | 4100 | 3100 |
| FKA 78 B5T3 / AM.. | 4000 | 5000 | 3750 | 3750 | 6000 | 3750 |
| FKA 88 B5T4 / AM.. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |

## Lubrication Type

| Gearbox | Oil Type | Temp. Range |
|---|---|---|
| FKA 38<br>FKA 48<br>FKA 68<br>FKA 78<br>FKA 88 | Matrix Foodmax 460 | -20˚C ~ +40˚C |
| | Castrol Optileb GT 460 | -20˚C ~ +40˚C |
| | Bechem Berusynth 460 H1 | -20˚C ~ +40˚C |
| | Shell Casida Fluid GL460 | -20˚C ~ +40˚C |
| | Mobil SHC Cibus 460 | -20˚C ~ +40˚C |

## Weight

| Gearbox | Weight | Gearbox | Weight |
|---|---|---|---|
| FKA 38 B5T1 | 11.5 Kg. | FKA 38 AM.. | 15 Kg. |
| FKA 48 B5T2 | 16.0 Kg. | FKA 48 AM.. | 20 Kg. |
| FKA 68 B5T2 | 25.5 Kg. | FKA 68 AM.. | 30 Kg. |
| FKA 78 B5T3 | 43.0 Kg. | FKA 78 AM.. | 50 Kg. |
| FKA 88 B5T4 | N.A. | FKA 88 AM.. | N.A. |

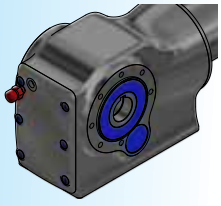
*Given values are average values and may vary depending on oil quantity and number of gear stage's*

## Maintenance

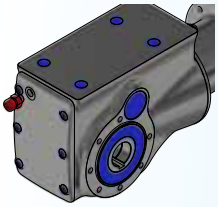
*For maintenance instructions*
*please see our maintenance manual on page .....*

## Positioning of the debreather

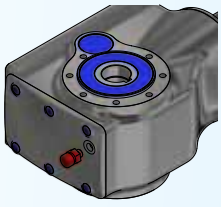
M1 / B3



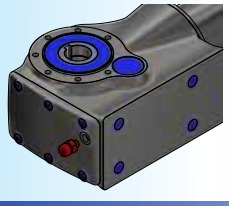
M3 / B8



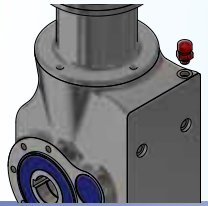
M5 / B6



M6 / B7



M4 / V5



M2 / V6