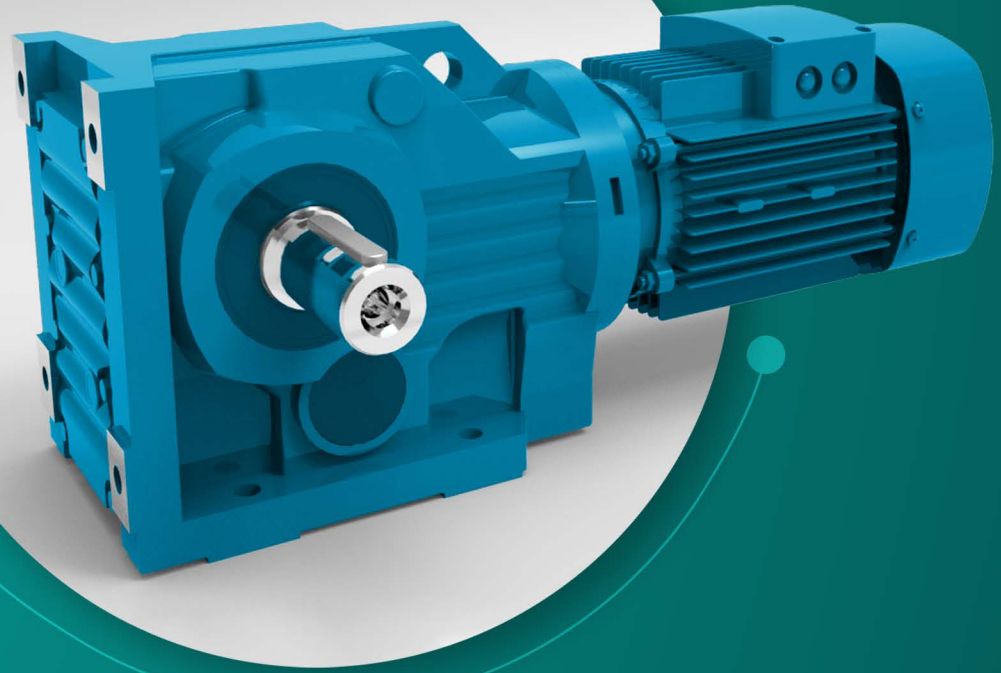
K Series Gearbox Units

Isfahan Shakerin Gearbox

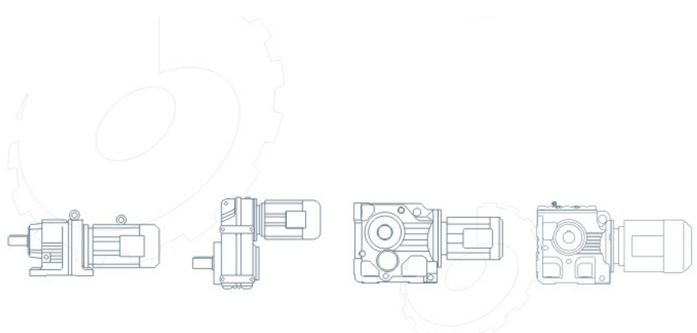


NEW

2022 Edition

گیربکس‌های سری K

شاکرین گیربکس اصفهان

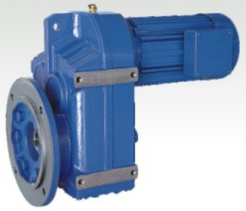


1.
Product pictures

SHR Helical Geared Motor

SHR	SHRF	SHRX	SHRXF
			

SHF Parallel Shaft–Helical Geared Motor

SHF	SHFA	SHFF	SHFAF
			

SHK Helical–Bevel Geared Motor

SHK	SHKA	SHKF	SHKAF
			

SHS Helical–Worm Geared Motor

SHS	SHSA	SHSF	SHSAF
			

2. معرفی محصولات
Product introduction

موتورگیربکس‌های سری ..SH شاکرین گیربکس، محرک‌هایی با سطح پیشرفته بین‌المللی مشتمل بر موتورگیربکس‌های هلیکال سری SHR، موتورگیربکس‌های هلیکال شافت موازی سری SHF، موتورگیربکس‌های هلیکال دنده مورب سری SHK و سری حلزونی- هلیکال SHS هستند.

موتورگیربکس‌های سری ..SH شاکرین گیربکس با دنبال کردن فلسفه استانداردسازی، بهینه نمودن و بهره‌گیری از روش آنالیز المان محدود و فن‌آوری صدای کمینه در طراحی چرخ‌دنده به طراحی پیشرفته دست می‌یابد و به این ترتیب دسته‌بندی نسبت‌ها دقیق خواهد بود.

شرکت ما همچنین تامین‌کننده دیگر اجزای سفارشی مانند موتورگیربکس مرکب، شرینک دیسک، شفت توخالی هزارخار و فلنج B14 است. لطفا برای اطلاعات بیشتر با شرکت ما تماس حاصل فرمایید.

SHAKERIN SH.. Series gear motor is the drive products with international advanced level, including SHR series Helical geared motor, SHF series Parallel shaft–Helical geared motor, SHK series Helical–Bevel geared motor, SHS series Helical –Worm.

SHAKERIN SH.. series products follow Motor the philosophy of modularization and optimization, adopt finite element analysis method and unique lower noise technology in designing gear, to insure advanced design. The classi fication of ratio is so acurate that.

Our corpotation also provides other product options such as combined geared motor, shrink disk, spline hollow shaft, B14 flange, please consult our company for further information.

3.
Model notes

3.1 Reducer Model Introduction

SHR	F	67	II	D	80	N	4	/	BMG	HF	TF	128.97	M1	180°
1	2	3	4	5	6	7	8		9	10	11	12	13	14

1 Product Code
SHR--Helical Geared Motor
SHF--Parallel Shaft-Helical Geared Motor
SHK--Helical-Bevel Geared Motor
SHS--Helical-Worm Geared Motor

2 Installation type
No Code--Feet mounted
F--Flange mounted
..F--Feet and Flange mounted
M--Flange mounted with extended bearing housing
X--Single stage Feet mounted
XF--Single stage Flange mounted

3 Gear Unit Size
67--Gear Unit Size 67

4 Flange Size
I--No Code--No flange or only one flange or the smallest flnge
II--Second bigger flange
III--Biggest flange

5 ElecSHRomotor
D--Three-phase Asychronous Motor (IP54)

6 Frame Size
80--Height of motor center is 80mm

7 Stator Length
D、K、N、S、M、ML、L

8 Number of Poles
4--4 Poles

9 Brake
No Code--No Brakes
BMG--Brakes

10 Brake Release
No Brake Release
Manual release (lock in the brake release position)
Brake Release
Manual release (automatic braking position)

11 Thermistor
No Code--No Thermistor
SHF--Thermistor Sensor

12 Ratio
128.97--Ratio 128.97

13 Mounting Position
M1--Mounting Position M1

14 Terminal Box Position
No Code--TerminalBox Position is 0°
180°--Terminal Box Position is 180°

SHF A 67 / G D 80 N 4 / BMG HF TF 109.04 M1 180°

1 2 3 4 5 6 7 8 9 10 11 12 13 14

1 Product Code

SHR--Helical Geared Motor
SHF--Parallel Shaft-Helical Geared Motor
SHK--Helical-Bevel Geared Motor
SHS--Helical-Worm Geared Motor

2 Unit Model

No Code--Feet mounted
F--Flange mounted
A--Hollow Shaft mounted
AF--Flange mounted with Hollow Shaft

3 Gear Unit Size

67--Gear Unit Size 67

4 Torque Arm

No Code--No Torque Arw
G--Torque Arm

5 ElecSHRomotor

D--Three-phase Asychronous Motor (IP54)

6 Frame Size

80--Height of motor center is 80mm

7 Stator Length

D、K、N、S、M、ML、L

8 Number of Poles

4--4 Poles

9 Brake

No Code--No Brakes
BMG--Brakes

10 Brake Release

No Brake Release
Manual release (lock in the brake release position)
Brake Release
Manual release (automatic braking position)

11 Thermistor

No Code--No Thermistor
SHF--Thermistor Sensor

12 Ratio

109.04--Ratio 109.04

13 Mounting Position

M1--Mounting Position M1

14 Terminal Box Position

No Code--TerminalBox Position is 0°
180°--Terminal Box Position is 180°

SHK A 67 / T D 80 N 4 / BMG / HF / TF / 108.03 / B / M1 / 180°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 Product Code

SHR--Helical Geared Motor
SHF--Parallel Shaft-Helical Geared Motor
SHK--Helical-Bevel Geared Motor
SHS--Helical-Worm Geared Motor

2 Unit Model

No Code--Feet mounted
F--Flange mounted
A--Hollow Shaft mounted
AF--Flange mounted with Hollow Shaft

3 Gear Unit Size

67--Gear Unit Size 67

4 Torque Arm

No Code--No Torque Arw
G--Torque Arm

5 ElecSHRomotor

D--Three-phase Asychronous Motor (IP54)

6 Frame Size

80--Height of motor center is 80mm

7 Stator Length

D、K、N、S、M、ML、L

8 Number of Poles

4--4 Poles

9 Brake

No Code--No Brakes
BMG--Brakes

10 Brake Release

No Brake Release
Manual release (lock in the brake release position)
Brake Release
Manual release (automatic braking position)

11 Thermistor

No Code--No Thermistor
SHF--Thermistor Sensor

12 Ratio

108.03--Ratio 108.03

13 Position of the Output Shaft

A--Shaft with A
B--Shaft with B
AB--Shaft with A+B

14 Mounting Position

M1--Mounting Position M1

15 Terminal Box Position

No Code--TerminalBox Position is 0°
180°--Terminal Box Position is 180°

SHS A 67 / T D 80 N 4 / BMG / HF / TF / 106.75 / d45 / B / M1 / 180°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1 Product Code
SHR--Helical Geared Motor
SHF--Parallel Shaft-Helical Geared Motor
SHK--Helical-Bevel Geared Motor
SHS--Helical-Worm Geared Motor

2 Unit Model
No Code--Feet mounted
F--Flange mounted
A--Hollow Shaft mounted
AF--Flange mounted with Hollow Shaft

3 Gear Unit Size
67--Gear Unit Size 67

4 Torque Arm
No Code--No Torque Arw
T--Torque Arm

5 ElecSHRomotor
D--Three-phase Asychronous Motor (IP54)

6 Frame Size
80--Height of motor center is 80mm

7 Stator Length
D、K、N、S、M、ML、L

8 Number of Poles
4--4 Poles

9 Brake
No Code--No Brakes
BMG--Brakes

10 Brake Release
No Code--No Brake Release
HF--Manual release (lock in the brake release position) Brake Release
HR--Manual release (automatic braking position)

11 Thermistor
No Code--No Thermistor
SHF--Thermistor Sensor

12 Ratio
106.75--Ratio 106.75

13 Hollow shaft diameter
d45--Hollow shaft diamerter is 45

14 Position of the Output Shaft
A--Shaft with A
B--Shaft with B
AB--Shaft with A+B

15 Mounting Position
M1--Mounting Position M1

16 Terminal Box Position
No Code--TerminalBox Position is 0°
180°--Terminal Box Position is 180°

3.2 Type of gear motor and gear motor with brake

SHR, SHF, SHK, SHS
Gear motor

There are the types of Helical (SHR), Parallel shaft-Helical (SHF), Helical-Bevei (SHK) and Helical-Worm (SHS) geared motors. we supplied in the table.

Model	Gear motor			
	(SHR) Helical	(SHF) Parallel shaft	(SHK) Helical bevel	(SHS) Helical worm
Foot mounted	•	•	•	•
B5 flange mounted	•	•	•	•
Foot/B5 flange mounted	• 2)	•	• 3)	-
Hollow shaft mounted	-	•	• 1)	• 1)
Hollow shaft with shrink disk	-	•	• 1)	• 1)
Splined hollow shaft mounted	-	•	• 1)	-
Hollow shaft with shrink disk+foot mounted	-	•	•	-
Hollow shaft with Key+foot mounted	-	•	•	-
Splined hollow shaft mounted+foot mouted	-	•	•	-
Hollow shaft with Key+B5 flange mounted	-	•	•	•
Hollow shaft with shrink disk+B5 flange mounted	-	•	•	•
Splined hollow shaft mounted+B5 flange mounted	-	•	•	-
Hollow shaft with Key+B14 flange mounted	-	•	•	•
Hollow shaft with shrink disk+B14 flange mounted	-	•	•	•
Splined hollow shaft mounted+B14 flange mounted	-	•	•	-

· The normal type
– Can't use
1) You can use torque arm
2) Only used for SHR12– SHR87
3) Only used for SHR127– SHR157

موتور گیربکس‌های چندمرحله‌ای
Multi-stage geared motor

با استفاده از موتورگیربکس‌های چندمرحله‌ای می‌توانید به دور خروجی بسیار پایین دسترسی پیدا کنید. در این روش از یک گیربکس هلیکال به عنوان گیربکس ثانویه در انتهای ورودی استفاده می‌شود.

توجه داشته باشید که نیروی موتور را متناسب با بالاترین گشتاور خروجی محدود نمایید.

You can achieve the particularly low output speed by using multi-stage geared motor. The method is mounting a helical gear unit as a second gear units on the input end. Notice that restrict the motor power according the maximum permitted output torque.

موتور گیربکس SHRM
SHRM geared motor

موتورگیربکس‌های SHRM نوع خاصی از موتورگیربکس‌های هلیکال دارای هاب یاتاقانی خروجی هستند. این موتورگیربکس‌ها برای کاربردهای سنگین طراحی شده و در موارد بارهای محوری زیاد و گشتاورهای موجی قابل استفاده می‌باشند. سایر مشخصات آنها همانند موتورگیربکس‌های هلیکال استاندارد است.

SHRM geared motors are a special type of helical geared motor with an expanded output bearing hub. They are specially designed for agitating applications and can be used in applications subject to high overhung and axial loads as well as flexural torque. The remaining data correspond with to the standard helical geared motors.

SHR
SHF
SHK
SHS

موتورهای ترمزدار
Brake motors

در صورت درخواست مشتری موتورها و موتورگیربکس‌ها قابل ارائه با ترمز مکانیکی سرخود هستند. این ترمز از نوع ترمز دیسکی الکترومغناطیسی دارای سیم‌پیچ جریان مستقیم بوده که به واسطه جریان الکتریکی رها شده و با استفاده از نیروی فنر، ترمز انجام می‌گیرد. با این طرح در صورت قطع جریان برق، عمل ترمزگیری انجام گرفته و انطباق با الزامات ایمنی را فراهم می‌نماید. این ترمز در صورت استفاده از خلاص‌کن مکانیکی می‌تواند به صورت مکانیکی نیز رها شود. برای نیل به این منظور یا از اهرم دستی و یا از پیچ تنظیم در مکانیزم ترمز استفاده می‌شود. اهرم دستی به صورت خودکار توسط فنر برگشت داده می‌شود و پیچ تنظیم می‌تواند قفل شود. ترمز توسط سیستم کنترل ترمز که در جعبه برق جاسازی شده فعال می‌گردد.

On request, Motors and geared motors can be supplied with an integrated mechanical brake. The brake is an electromagnetic disk brake with a DC coil which is released electrically and braked using spring force. The design principle means the brake is applied if the power fails. This means it complies with fundamental safety requirements. The brake can also be released mechanically if fitted with manual brake release. For this purpose, either a hand lever or a setscrew is supplied with the brake. The hand lever springs back automatically and the setscrew can be locked. The brake is activated by a brake control system which is in the wiring switch cabinet.

3.3 Unit designations for gear units and options

Helical gear units

SHR..	Foot-mounted
SHRF..	Flange-mounted
SHR..F	Foot and flange-mounted
SHRM..	Flange-mounted with the extended bearing housing
SHRX..	Single-stage flange-mounted
SHRXF..	Single-stage foot-mounted

Parallel shaft helical gear units

SHF..	Foot mounted
SHFA..B	Flange mounted with hollow shaft
SHFH..B	Foot mounted with hollow shaft and shrink disk
SHFV..B	Foot mounted with hollow shaft and splined hollow shaft
SHFF..	B5 flange mounted
SHFAF..	B5 flange mounted with hollow shaft
SHFHF..	B5 flange mounted with hollow shaft and shrink disk
SHFVF..	B5 flange mounted with spined hollow shaft disk
SHFA..	Hollow shaft mounted
SHFH..	Hollow shaft with shrink disk
SHFV..	Splined hollow shaft mounted
SHFAZ..	B14 flange mounted with hollow shaft
SHFHZ..	B14 flange mounted with hollow shaft disk
SHFVZ..	B14 flange mounted with splined hollow shaft

Helical-Bevel gear units

SHK..	Foot mounted
SHKA..B	Foot mounted with hollow shaft
SHKH..B	Foot mounted with hollow shaft and shrink disk
SHKV..B	Foot mounted with hollow shaft and splined hollow shaft
SHKF..	B5 flange mounted
SHKAF..	B5 flange mounted with hollow shaft
SHKHF..	B5 flange mounted with hollow shaft and shrink disk
SHKVF..	B5 flange mounted with spined hollow shaft disk
SHKA..	Hollow shaft mounted
SHKH..	Hollow shaft with shrink disk
SHKV..	Splined hollow shaft mounted
SHKAZ..	B14 flange mounted with hollow shaft
SHKHZ..	B14 flange mounted with hollow shaft disk
SHKVZ..	B14 flange mounted with spined hollow shaft

Helical-Worm gear units

SHS..	Foot mounted
SHSF..	B5 flange mounted
SHSAF..	B5 flange mounted with hollow shaft
SHSHF..	B5 flange mounted with hollow shaft and shrink disk
SHSA..	Hollow shaft mounted
SHSH..	Hollow shaft with shrink disk
YHSAZ..	B14 flange mounted with hollow shaft
YHSHZ..	B14 flange mounted with hollow shaft disk

3.4
3.4 The name of AC motors and its accessories

Pole–Changing AC motors with soft start

SD...	Pole–changing foot mounted

Motor options

BMG	Brake
../HF	..with lock manual brake release
../HR	..with automatic manual brake disengaging
/RE	Backstop
/TF	Thermistor sensor(PTC resistance)
/TH	Thermostat (bimetallic switch)
/U	Non–vemtilated
/V	Forced cooling fan.$3\times380–415V_{AC}$, 50HZ
/VS	Forced cooling fan.$1\times220–266V_{AC}$,50HZ
/VR	Forced cooling fan.$1\times24_{DC}$
/Z	Additional flywheel mass
/C	Protection cowl for the fan guard
–SRD	Roller motor

Encoder on AC motor options

/AV1Y	Absolute encoder with solid shaft. MSI and sin/cos signals and $24V_{DC}$ supply
/ES..T	Encoder with spread shaft. TTL(RS–422)SIgnals and $5V_{DC}$ supply
/ES..S	Encoder with spread shaft. Sin/cos signals and $24V_{DC}$ supply
/ES..R	Encoder with spread shaft,TTL(RS–422)signals and 24_{DC}supply
/ES..C	Encoder with spread shaft, HTL
/EV1T	Encoder with spread shaft. TTL(RS–422)signals and $5V_{DC}$supply
/EV1S	Encoder with spread shaft. signals and $24V_{DC}$ supply
/EV1R	Encoder with spread shaft. TTL(RS–422)signals and $24V_{DC}$ supply
/EV1C	Encoder with spread shaft, HTL
/NV1..	Proximity sensor with A track and $24V_{DC}$ supply
/NV2..	Proximity sensor with A/B track and $24V_{DC}$ supply

4.
Selection of gear reducer

4.1
4.1 Drive selection data

Certain data are essential to specify the components for your drive. These are.

	Drive selection data		
n_{amin}	Minimum output speed	[rpm]	
n_{amax}	Maximum output speed	[rpm]	
P_a at n_{amin}	Output power at minimum output speed	[kW]	
p_a at n_{amax}	Output power at maximum output speed	[kW]	
M_a at n_{amin}	Output torque at minimum output speed	[Nm]	
M_a at n_{amax}	Output torque at minimum output speed	[Nm]	
F_R	Overhung load on output shaft.Assumes force application is in the center of shaft end. If not, please specify the exact application point indicating the application angle and direction of rotation of the shaft for a check calculation	[N]	
F_A	Axial load(tension and compression)on output shaft	[N]	
J_{load}	Mass moment of inertia to be driven	[$10^{-4}kgm^2$]	
SHR/F/K/S M1–M6	Required gear unit type and mounting position(→sec. Mounting positions, churning losses)	–	
IP..	Required protect rank	–	
ϑ_{env}	Ambient temperature	[℃]	
H	Altitude	[M above sea level]	
S..,..%cdf	Operating mode and intermittency factor cdf; alternatively,exact load cycle can be specified.	–	
Z	Starting frequency;alternativly,exact load cycle can be specified	[No.per h]	
f_{mains}	Supply frequency	[Hz]	
V_{mot} V_{brake}	Operating voltage of motor and brake	[V]	
M_B	Required braking torque	[Nm]	
For inverter operation: Required control mode and setting range			

4.2
4.2 Project planning sequence

Example

The following flowchart diaplays a schematic view of the procedure for planning a project incorporating a positioning drive. The drive comprises a geard motor which is powered by and inverter

Calculation of the relevant application date
–Technical data and ambient conditions
–Positioning accuracy
–Speed setting range(true–running accuracy)
–calculation of the travel cycle

↓

Calculation of the relevant application date
–Static, dynamic and regenerative power
–Speeds
–Touque
–Travel cycle

↓

Cear unit selection
–Definition of gear unit size, reduction ratio and type
–Check for positioning accuracy
–Check for gear unit load ability(Ma max≥Ma(t))

↓

Control System selection depending on
–Positioning accuracy
–Speed range
–Control mode

↓

Inverter operation mode
–Voltage–controlled inverter with and without speed control
–Voltage–controlled, flux vector–controlled inverter with and without speed control
–Current–controlled, flux vector–controlled inverter

↓

Motor selection
–Maximum torque
–In dynamic drives: effective torque at medium speed
–Maximum speed
–In dynamic drives: torque curves
–Thermal loading(setting range, cyclic duration factor)
–Selection of the correct encoder
–Motor equipment(barke, plug connection, TF temperature sensor monitoring, erc.)

↓

Inverter selection
–Motor/inverter assignment
–Continuous power and peak power in voltage–controlled inverters
–Continuous current and peak current in current–controlled inverters

↓

Selecting the braking resistor
–Based on the calculated regenerative power and cdf

↓

Options
–EMC measures
–Operation/communication board
–Additional functions

↓

Check to see if all requirements have been met

Figure: Project planning process

4.3 راندمان گیربکس
4.3 Efficiency of gear units

راندمان گیربکس‌ها به طور کلی بر اساس دقت چرخ‌دنده‌ها، دقت درگیری دنده‌ها و یاتاقان‌بندی تعیین می‌گردد. توجه داشته باشید که راندمان یک گیربکس در شروع کار همیشه کمتر از میزان آن دردور خروجی عملیاتی است. این حقیقت به ویژه در موتورگیربکس‌های حلزونی - هلیکال و انگولار به طور محسوسی نمایان است.

The efficiency of the gear units is mainly determined by the gearing, mash and bearing friction. Please note that the starting efficiency of a gear unit is always less than its efficiency at operating speed. This fact is especially obvious in helical–worm and right–angle geared motors.

گیربکس‌های SHR، SHF، SHK
SHR, SHF, SHK gear units

راندمان گیربکس‌های هلیکال، شافت موازی و هلیکال - دنده مورب با توجه به تعداد مراحل چرخ‌دنده‌ها مابین ۹۴٪ برای ۳ مرحله‌ای و ۹۸٪ برای حالت تک مرحله‌ای متفاوت است.

The efficiency of helical, parallel shaft and helical–bevel gear units varies according to the unmber of gear stages, between 94%(3–stage)and 98%(1–stage).

گیربکس SHS
SHS gear units

اصطکاک لغزشی قابل توجهی توسط چرخ‌دنده‌های گیربکس‌های حلزونی - هلیکال تولید می‌شود که در نتیجه این گیربکس‌ها افت بیشتری نسبت به نمونه‌های SHF، SHR یا SHK دارا بوده و کارایی کمتری را نشان می‌دهند و دلایل آن عبارتند از:
- نسبت دنده حلزونی - هلیکال
- دور ورودی
- درجه حرارت گیربکس

گیربکس‌هایی که به صورت حلزونی- هلیکال در شرکت شاکرین گیربکس طراحی می‌شوند، به صورت ویژه دارای راندمان بالاتری نسبت به گیربکس‌های استاندارد هستند. راندمان ممکن است $\eta<0.5$ باشد در صورتیکه مکانیزم حلزونی- هلیکال دارای نسبت بالایی باشد.

The gearing in helical–worm and gear units produces a high proportion of sliding friction. As a result, these gear units may have higher gearing losses than YHR、YHF or YHK gear units, and thus be less efficient. The cause of factors are:

–Gear ratio of the helical–worm
–Input speed
–Gear unit temperature

SHAKERIN gear units are designed as helical worm which makes them significantly more efficient than standard worm gear units. The efficiency may reach $\eta<0.5$ if the helical–worm stage has a very high ratio step.

شرایط قفل خودکار گیربکس
Self–locking condition

گشتاور معکوس در گیربکس هلیکال حلزونی راندمانی برابر $\eta'=2-1/\eta$ تولید نموده که به میزان قابل توجهی کمتر از راندمان مطلوب است. گیربکس حلزونی- هلیکال یا گیربکس Spiroplan در صورتیکه راندمان $\eta\leq0.5$ خود قفل خواهد بود. تعداد محدودی از گیربکس‌های حلزونی- هلیکال با نسبت تبدیل بالا به صورت استاتیک خود قفل هستند.
در صورت تمایل به استفاده فنی از تاثیر ترمزی حالت خود قفلی، با شرکت تماس حاصل فرمایید.

Retrodriving torques on helical–worm gear units produce an efficiency of $\eta'=2-1/\eta$, which is significantly less favorable than the forwards efficiency η. The helical–worm or Spiroplan gear unit is self–locking if the forwards efficiency $\eta\leqslant0.5$.A few helical–worm gear units with the largest gear ratio are statically self–locking. Please contact company if you wish to wish to make technical use of the braking effect of self–locking characteristics.

در حال اجرا در فاز
Running–inphase

جناح دنده در گیربکس‌های حلزونی- هلیکال جدید هنوز آنچنان نرم و صاف نیستند. از آنجاییکه زاویه اصطکاک زیادتر است، راندمان در عمل کمتر خواهد بود.

The tooth flanks of new helical–worm and gear units are not yet completely smooth. For the friction angle is greater, the efficiency will be less than operation. This effect becomes more apparent in the greater ratio.

تناوب زمان عملیات روزانه در روز/ ساعت
فرکانس شروع Z: سیکل‌ها شامل کلیه مراحل استارت و ترمزی و تغییرات دور از کم به زیاد و زیاد به کم است.

Daily operating time in hours/day
Starting frequency Z:The cycles include all staring and and braking procedures as well as changes from low tohigh and high to low speed.

طبقه‌بندی بار

Load classification

طبقه‌بندی بار در سه دسته متمایز شده است:
۱- یکنواخت، ضریب شتاب جرمی تایید شده برابر یا کوچکتر از ۰/۲
۲- بار ضربه‌ای متوسط، ضریب شتاب جرمی تایید شده متوسط کوچکتر یا برابر ۳
۳- بار ضربه‌ای شدید، ضریب شتاب جرمی تایید شده کوچکتر یا برابر ۱۰

Three load classifications are differentiated:
Ⅰ. Uniform, approved mass acceleration factor≤0.2
Ⅱ. Moderate shock load, approved mass acceleration factor≤3
Ⅲ. Severe shock load, approved mass acceleration factor≤10

ضریب شتاب جرمی

Mass acceleration factor

ضریب شتاب جرمی بدین صورت محاسبه می‌شود:

The mass acceleration factor is calculated as follows:

$$\text{ضریب شتاب جرمی} = \frac{\text{تمامی ممان‌های اینرسی جرم K خارجی}}{\text{ممان اینرسی جرم در انتهای موتور}}$$

$$\text{Mass acceleration factor} = \frac{\text{All external kmass moments of inertia}}{\text{Mass moment of inertia on the motor end}}$$

تمامی ممان‌های اینرسی جرم خارجی عبارتند از ممان‌های اینرسی جرم ماشین متحرک (مصرف کننده) و گیربکس که بر اساس دور موتور کوچک شده است.
کوچک نمودن ممان‌های اینرسی بر اساس دور موتور از فرمول زیر انجام می‌شود:

"All external mass moments of inertia" are the mass moments of inertia of the driven machine and the gear unit, scaled down to the motor speed. The calculation for scaling down to the motor speed performed using the following formula: $J_x = j \cdot (\frac{n}{n_M})2$

J_x=Reduced mass moment of inertia on the motor shaft
J=Mass moment of inertia referenced to the output speed of the gear unit
N=Output speed of the gear unit
N_M=Motor speed

J_x: ممان اینرسی جرم کاسته شده در شافت موتور
J: ممان اینرسی جرم بر اساس دور خروجی گیربکس
N: دور خروجی گیربکس
N_M: دور موتور

"Mass moment of inertia on the motor" if it equips the brake and the flywheel fan (Z fan), the components' mass moment of inertia or large overhung loads. Please contact company in this case.
در صورتیکه از ترمز با پروانه خنک کننده استفاده شده باشد، برای اطلاع از ممان اینرسی جرم موتور با شرکت شاکرین گیربکس تماس حاصل نمایید.

در شروع کار، عدد راندمان داده شده باید طبق جدول زیر کاسته شود:

In The first beginning,the given efficiency number should minus as follows

	Helical-worm	i range
1start	approx.12%	approx.50-280
2start	approx.6%	approx.20-75
3start	approx.3%	approx.20-90
4start	-	-
5start	approx.3%	approx.6-25
6start	approx.2%	approx.7-25

اجرای فاز به صورت معمول ۲۴ ساعت درازا دارد. گیربکس‌های حلزونی- هلیکال موقعی به مقادیر لیست شده راندمان خود می‌رسند که:
- گیربکس کاملا در حال کار باشد
- گیربکس به دمای نرمال کار رسیده باشد
- با روان‌کننده مناسب پر شده باشد
- گیربکس در محدوده باری مناسب کار کند

The running-in phase normally lasts 24 hours. Helical-worm gear units achieve their listed rated efficiency values when:
-The gear unit has been run is completely
-The gear unit has reached normal operation temperature
-The recommended lubricant has been filled in
The gear unit is working within the rated load range

تلفات شدید

Churning losses

در بعضی از موقعیت‌های نصب اولین مجموعه چرخ‌دنده‌های کاهنده به صورت کامل در روان‌کننده غوطه‌ور می‌شود.
این حالت در گیربکس‌های بزرگ با سرعت دورانی زیاد مجموعه چرخ‌دنده‌های ورودی (اولیه)، سبب شکل‌گیری ضریبی می‌شود که قابل اغماض نیست. در صورت تمایل به استفاده از چنین گیربکس‌هایی لطفا با شرکت شاکرین گیربکس تماس حاصل نمایید.
در صورت امکان در گیربکس‌های SHD، SHK و SHR، از حالت نصب M1 استفاده نموده تا حالت فوق‌الذکر در کمترین میزان خود باشد.

In certain gear unit mounting positions the first reduction stage is completely immersed in the lubricant. For large gear unit sizes and high circumferential velocities of the input stage, this gives rise to churning losses constituting a factor which cannot be ignored. Please contact company if you wish to use gear units of this type. If possible, use the mounting position M1 for YHR, YHK and YHS gear units in order to keep the churning losses in low.

4.4 سرویس فاکتور
4.4 Service factor

تعیین سرویس فاکتور

Determining of the service factor

برای انتخاب گیربکس، لازم است ضریب یا عامل خاصی که آن را f_B می‌نامیم، در نظر گرفته شود. سرویس فاکتور توسط زمان کارکرد روزانه و تناوب استارت تعیین می‌شود. همچنین سه دسته طبقه‌بندی بار بخاطر تاثیر بر فاکتور شتاب جرمی در نظر گرفته می‌شود. در شکل زیر می‌توانید سرویس فاکتورهای مختلف را ملاحظه نمایید. سرویس فاکتور به دست آمده از این شکل بایستی باید کوچکتر یا مساوی سرویس فاکتور داده شده در جداول انتخاب گیربکس باشد.

Gear unit selection needs to consider a certain factor which we use f_B to express. Theservice factor is determined by the daily operating time and the starting frequency. Three load classifications are also considered to depend on the mass acceleration factor. You can read the different serive factor from the figure as follows. The service factor determined using this diagram must be small than or equal to the service factor as given in the selection tables.

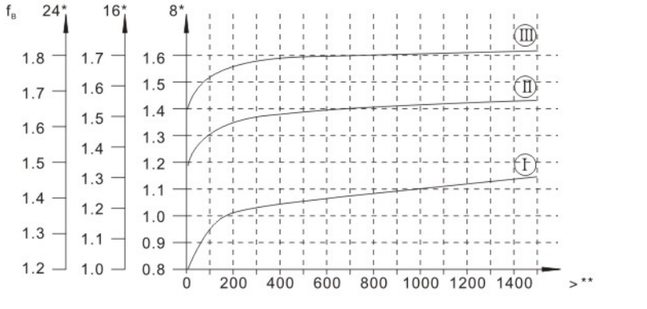


Fig:service factor f_s

Service factor: f_B

The method for determining the maximum approved continuous torque M_{axax} and then deriving the service factor $f_B=M_{amax}/M_a$ is not defined in a standard and varies greatly from manufacturer to manufacturer. With their service factor $f_B=1$, drives afford an extremely high level of safety and reliability in the fatigue strength range (exception:wearing of the worm wheel in helical–Worm gear units), Under a certain circumstances, the service factor may not be comparable to the information given details for your specific drive. If there is any questions, please contact company to get the special drive equipments' document in detail.

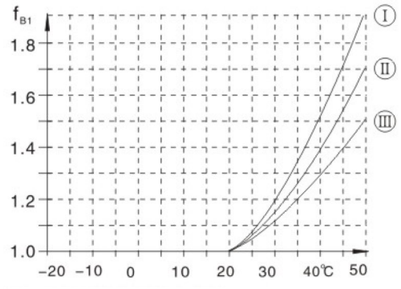
Example

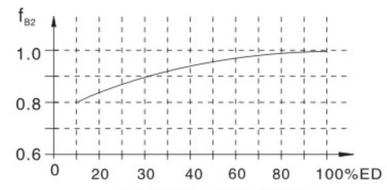
Mass acceleration factor 2.5(load classification II),14 hours/day operating time(check the figure at16h/d)and 300 cycles/hour produce a service factor f_B=1.51 as shown in Fig.2.According to the selection table, the selected motor must have an f_B Value of 1.15 or greater.

Helical–worm gear untis

Two further service factors have to be taken into account with helical–worm gear units in addition to the selection factor f_B shown in Fig.2.These are :
–f_{B1}=Service factor from the ambient temperature
–f_{B2}=Service factor from the cyclic duration factor

Additional service factors f_{B1} and f_{B2} can be determined by diagrams is Fig.4.For the f_{B1}factor,we can define it Just in the same way as f_B.





Additional service factors f_{B1} and f_{B2}

$$cdf\ (\%) = \frac{\text{Time under load in min/h}}{60}\ 100$$

Please contact company case of temperatures below –20℃(→f_{B1}).

The total service factor for helical–worm gear units is calculated as follows: $F_{btot}=f_B \cdot f_{B1} \cdot f_{B2}$

Example

If the geared motor with the service factor f_B=1.51 in the prevenient example is a helical–worm geared motor.

Ambient temperature υ =40℃→f_{B1}=1.38(read off at load classification II)

Time under load=40min/h→cdf=66.7%→f_{B2}=0.95
The total service factor is F_{Btot}=1.51 · 1.38 · 0.95=1.98

According to the selection tables, the selected helical–worm geared motor must have a f_B value of 1.98 or greater.

سرویس فاکتور f_B

روش تعیین بالاترین گشتاور پیوسته تایید شده M_{amax} و سپس استخراج سرویس فاکتور $f_B=M_{amax}/M_a$ در استانداردی تعریف نشده است و از تولیدکننده‌ای به تولیدکننده دیگر، بسیار متفاوت است. با سرویس فاکتور f_B=1، گیربکس‌ها سطح بسیار بالایی از ایمنی و قابلیت اطمینان را در محدوده مقاومت خستگی ارائه می‌کنند. (به استثنا خوردگی چرخ حلزون در گیربکس‌های حلزونی- هلیکال) تحت شرایط خاص، سرویس فاکتور ممکن است قابل مقایسه با کمیت‌های داده شده برای گیربکس خاص شما نباشد. لطفا جهت کسب اطلاعات اختصاصی اجزای گیربکس با شرکت شاکرین گیربکس تماس حاصل نمایید.

مثال:

ضریب شتاب جرمی ۲/۵ (طبقه‌بندی ۲) زمان کارکرد ۱۴ ساعت در روز (جدول ۱۶ ساعت در روز را چک کنید) و ۳۰۰ دور در ساعت، سرویس فاکتور F=۱/۵۱ تولید می‌کند. همانطوریکه در جدول شماره ۲ نشان داده شده است. طبق جدول انتخابی، موتور انتخاب شده، باید دارای مقدار f_B ۱/۱۵ یا بیشتر باشد.

گیربکس حلزونی- هلیکال

در گیربکس‌های حلزونی- هلیکال علاوه بر فاکتور انتخابی f_B که در شکل ۲ نشان داده شده، دو سرویس فاکتور دیگر نیز باید در نظر گرفته شود:

f_{B1}: سرویس فاکتور از دمای محیط
f_{B2}: سرویس فاکتور از عامل مدت زمان چرخش

سرویس فاکتورهای مضاعف f_{B1} و f_{B2} با نمودارهای نشان داده شده در شکل ۴ معین می‌شوند. فاکتور f_{B1} همانند فاکتور f_B قابل تعریف است.

در صورت وجود دمای کمتر از ۲۰- درجه سانتیگراد، با شرکت تماس حاصل نمایید. -20°C(→f_{B1})

سرویس فاکتور کلی گیربکس‌های حلزونی - هلیکال با فرمول مقابل محاسبه می‌شود: $F_{btot}=f_B f_{B1} f_{B2}$

مثال:

چنانچه موتور گیربکس مثال دارای سرویس فکتور f_b=۱/۵۱ باشد، یک موتورگیربکس حلزونی- هلیکال باشد.
دمای محیطی= ۴۰ درجه سانتیگراد f_{B1}=1/38(به طبقه‌بندی بار ۲ مراجعه کنید)
زمان تحت بار= ۴۰ دقیقه بر ساعت cdf=66/7 f_{B2}=0/95
سرویس فاکتور کلی= F_{Btot}=1/511/380.95=1/98

مطابق جدول‌های انتخابی، موتور گیربکس حلزونی هلیکال انتخابی باید دارای f_b مساوی با ۱/۹۸ یا بیشتر باشد.

بارهای محوری و آویزان
4.5 Overhung and axial loads

Determining overhung load تعیین بار آویزان

برای تعیین بار آویزان، نوع وسیله انتقال در انتهای شافت باید در نظر گرفته شود. فاکتور مربوط به وسیله انتقال f_z در جدول ذیل آمده است:

When determining the overhung load, the type of transmission element mounted on the shaft end must be comsidered. The transmission element factors f_z are listed as follows:

Transmission element	Transmission element factor f_z	Comments
Gears	1.15	< 17teeth
Chain sprockets	1.40	< 13teeth
Chain sprockets	1.25	< 20teeth
Narrow V–belt pulleys	1.75	Pre–tensioning influence
Flat belt pulleys	2.50	Pre–tensioning influence
Toothed belt pulleys	2.5	Pre–tensioning influence

بار آویزان اعمال شده در موتور یا شافت دنده طبق فرمول زیر محاسبه می‌شود:

The overhung load exerted on the motor or gear shaft is the calculated as follows:

$$F_R = \frac{M_d \cdot 2000}{d_0} \cdot f_z$$

F_R Overhung load in N بار آویزان برحسب نیوتن
M_d Torque in N·m گشتاور برحسب نیوتن متر
d_o Mean diameter of the mounted transmission element in mm قطر متوسط وسیله انتقال نیرو برحسب میلیمتر
f_z Transmission element factor فاکتور وسیله انتقال

بار آویزان مجاز
Permitted overhung load

بر اساس نرخ عمر یاتاقان‌های ضد اصطکاک L_{H10} برای تعیین بارهای آویزان مجاز، در شرایط کاری خاص، بارهای آویزان مجاز می‌توانند بر اساس عمر و دوام اصلاح شده L_{na} تعیین گردند.
بارهای آویزان مجاز F_{Ra} شافت‌های خروجی گیربکس‌های پایه‌دار با شافت سالید در جداول انتخابی آورده شده‌اند.
در صورت مواجهه با نمونه‌های دیگر لطفا با شرکت شاکرین گیربکس تماس حاصل نمایید.

According the rate service life L_{H10} of the anti–friction bearings to define the permitted overhung loads. For the special operating conditions, the permitted overhung loads can be determined by the modified service life L_{na}.

The permitted overhung loads F_{Ra} for the output shafts of foot–mounted gear units with a sold shaft are listed in the selection tables for geared motors. Please contact company in case of other types.

The data refer to the radial force acting midway on the shaft end(with right–angle gear units on the A–side output).Worst case conditions have been asumed fot the force application angle ∝ and the direction of rotation.

در گیربکس‌های SHK و SHS و با موقعیت نصب M1 و نصب از وجه جلو، تنها ۵۰٪ از مقدار F_{Ra} مشخص شده در جداول انتخابی مجاز است.
موتور گیربکس‌های هلیکال- دنده مورب SHK167 و SHK187 با موقعیت نصب M1 تا M4: چنانچه موقعیت نصب با موقعیت داده شده متفاوت باشد، بار آویزان F_{Ra} در جداول انتخابی داده می‌شود.
موتور گیربکس‌های هلیکال با نصب پایه و فلانچ SHR..F: چنانچه انتقال گشتاور از طریق فلانچ باشد، مقدار بیشینه ۵۰٪ بار آویزان F_{Ra} داده شده در جداول انتخابی است.

Only 50% of the F_{Ra} Value specified in the selection tables permitted in mounting position M1 with wall attachment on the front face for SHK and SHS gear units.

Helical–bevel geared motors SHK167 and SHK187 in mounting positions M1 to M4:If the mounting position is different the position we offered (M1–M4), the overhung load F_{Ra} lasted in the selection tables.

Foot and flange–mounted helical geared motors(SHR..F): A maximum of 50% of the overhung load F_{Ra} specified in the selection tables in the case of torque transmission via the flange mounting.when the torque transmission via the flange mounting the overhung load F_{Ra} will only be 50% compared with the F_{Ra} lasted the selection tables.

بار آویزان تایید شده با مقادیر بالا
Higher approved overhung loads

می‌توان با درنظر گرفتن زاویه اعمال نیروی α و جهت چرخش، به بار آویزان بالاتر دست یافت. به علاوه در صورت استفاده از یاتاقان‌های سنگین HEAVY DUTY بارهای بیشتر در شافت خروجی مجاز است، به ویژه در گیربکس‌های SHK، SHF و SHR. در این موارد لطفا با شرکت شاکرین گیربکس تماس حاصل نمایید.

It possible to achieve a higher overhung load by exactly considering the force application angle ∝ and the direction of rotation. In addition, higger output shaft loads are permitted if heavy duty bearings are installed, especially with SHR、SHF and SHK gear units. Please contact company in this case.

تعریف اعمال نیرو
Definition of force application

اعمال نیرو طبق دیاگرام زیر تعریف می‌شود:

Force application is defined according to the following diagram:

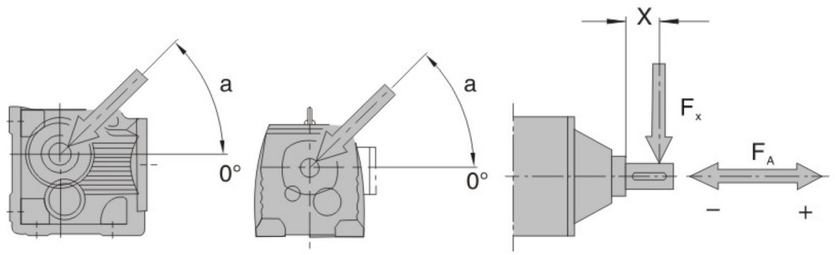


Fig: Defined of force application

F_x=Approved overhung load at point X[N] بار آویزان مجاز در نقطه X[N]
F_A=Approved axial load [N] بار محوری مجاز [N]

Approved axial loads

If there is no overhung load. then an axial load FA (tension or compression) amountion to 50% of the overhung load given in the selection tables is approved. This applies to the following geared motors:

- Helical geared motors except for SHK..to SHR..167..
- Parallel shaft and helical–bevel geared motors with solid shaft except for SHF97..
- Helical–worm geared motors with solid shaft

Please contact company for all other types of gear units and in the event of significantly greater axial loads or combinations of overhung load and axial load.

Overhung load conversion for off–center force application

The approved overhung loads given in the selection tables must be calculated using the following form–ulae in the event of force application not in the center of the shaft e–nd. The smaller of the two value F_{xl} (according to bearing service life)and F_{xw} (according to shaft strength) is the approved value for the overhung load at pointx. Note that the calculation apply to M_{amax}

F_{XL} acc.to bearing service life $\quad F_{XL} = F_{Ra} \cdot \frac{a}{b+x}$ [N]

F_{XW} from the shaft strength $\quad F_{XW} = \frac{c}{f+x}$ [N]

F_{Ra}
Approved overhung load(x=1/2)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,f
Gear unit constants for overhung load conversion[mm]

c
Gear unit constant for overhung load conversion[Nmm]

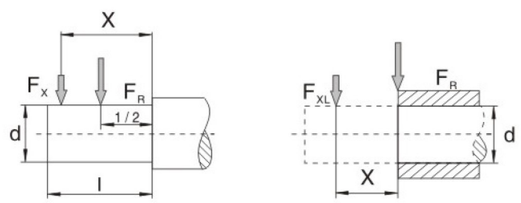


Fig: Overhung load Fx for off–center force application

Gear unit constants for overhung load conversion

Gear unit type	a [mm]	b [mm]	c [Nmm]	f [mm]	d [mm]	l [mm]
SHR17	88.5	68.5	6.527×10^4	17	20	40
SHR27	106.5	81.5	1.56×10^5	11.8	25	50
SHR37	118	93	1.24×10^5	0	25	50
SHR47	137	107	2.44×10^5	15	20	60
SHR57	147.5	112.5	3.77×10^5	18	35	70
SHR67	168.5	133.5	2.51×10^5	0	35	70
SHR77	173.7	133.7	3.97×10^5	0	40	80
SHR87	216.7	166.7	8.47×10^5	0	50	100
SHR97	255.5	195.5	1.19×10^6	0	60	120
SHR107	285.5	215.5	2.06×10^6	0	70	140
SHR137	343.5	258.5	6.14×10^6	30	90	170
SHR147	402	297	8.65×10^6	33	110	210
SHR167	450	345	1.26×10^7	0	120	210
SHRX57	43.5	23.5	1.51×10^5	34.2	20	40
SHRX67	52.5	27.5	2.42×10^5	39.7	25	50
SHRX77	60.5	30.5	1.95×10^5	0	30	60
SHRX87	73.5	33.5	7.69×10^5	48.9	40	80
SHRX97	86.5	36.5	1.43×10^6	53.9	50	100
SHRX107	102.5	42.5	2.47×10^6	62.3	60	120
SHF37	123.5	98.5	1.07×10^5	0	25	50
SHF47	153.5	123.5	1.78×10^5	0	30	60
SHF57	170.7	135.7	5.49×10^5	32	35	70
SHF67	181.3	141.3	4.12×10^5	0	40	80
SHF77	215.8	165.8	7.87×10^5	0	50	100
SHF87	263	203	1.19×10^6	0	60	120
SHF97	350	280	2.09×10^6	0	70	140
SHF107	373.5	288.5	4.23×10^6	0	90	170
SHF127	442.5	337.5	9.49×10^6	0	110	210
SHF157	512	407	1.05×10^7	0	120	210
SHK37	123.5	98.5	1.41×10^5	0	25	50
SHK47	153.5	123.5	1.78×10^5	0	30	60
SHK57	168.7	134.7	6.8×10^5	31	35	70
SHK67	181.3	141.3	4.12×10^5	0	40	80
SHK77	215.8	165.8	7.69×10^5	0	50	100
SHK87	252	192	1.64×10^6	0	60	120
SHK97	319	249	2.8×10^6	0	70	140
SHK107	373.5	288.5	5.53×10^6	0	90	170
SHK127	443.5	338.5	8.31×10^6	0	110	210
SHK157	509	404	1.18×10^7	0	120	210
SHK167	621.5	496.5	1.88×10^7	0	160	250
SHK187	720.5	560.5	3.04×10^7	0	190	320
SHS37	118.5	98.5	6.0×10^4	0	20	40
SHS47	130	105	1.33×10^5	0	25	50
SHS57	150	120	2.14×10^5	0	30	60
SHS67	184	149	3.04×10^5	0	35	70
SHS77	224	179	5.26×10^5	0	45	90
SHS87	281.5	221.5	1.68×10^6	0	60	120
SHS97	326.3	256.3	2.54×10^6	0	70	140

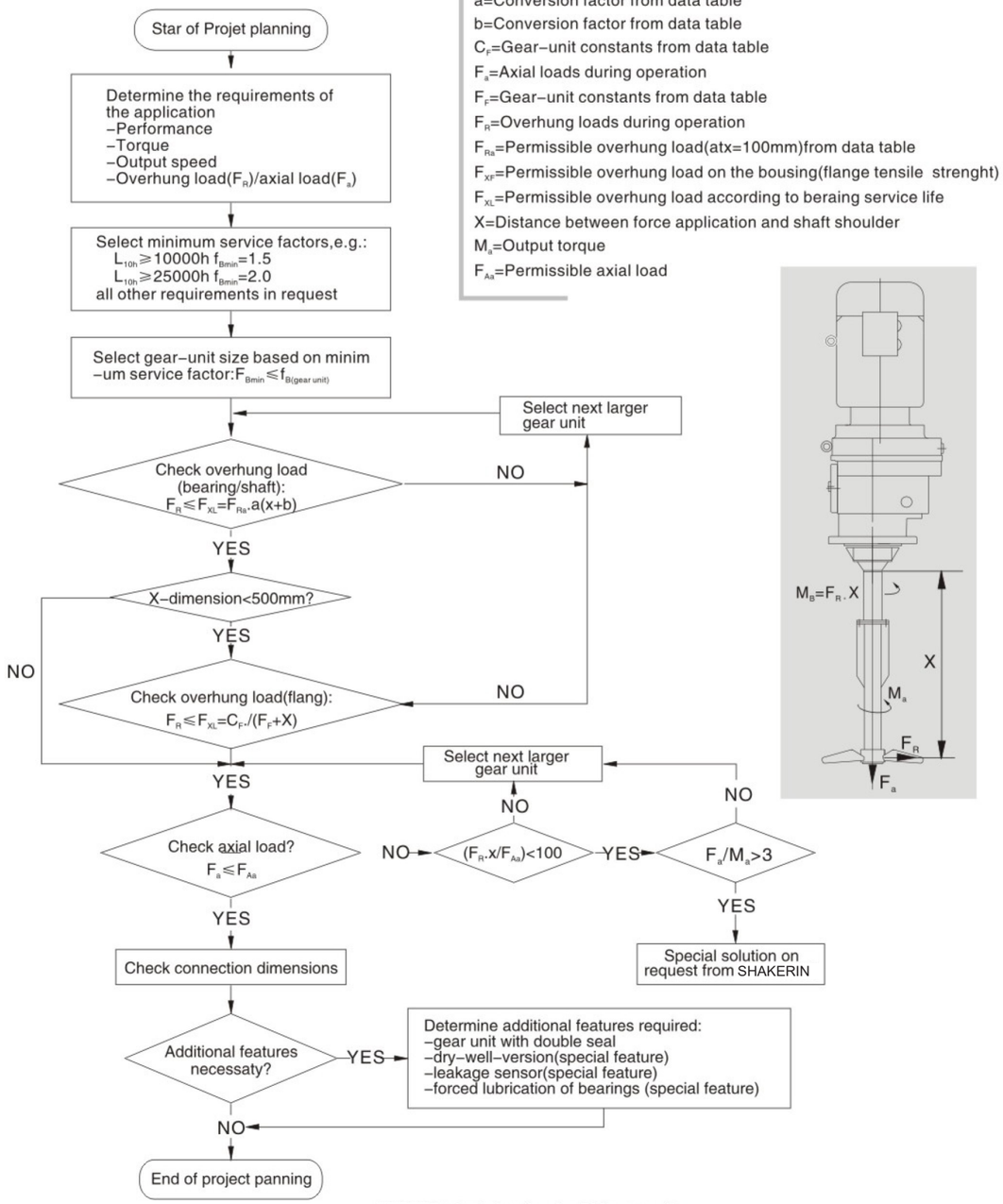
Values for types not listed are available on request.

4.6 SHRM gear reducer

Project planning

You must take account of the higher overhung and axial loads when planning projects with RM helical geared motors with extended bearing hosing.Please adhere to the following p–roject planning project planning procedure:

a=Conversion factor from data table
b=Conversion factor from data table
C_F=Gear–unit constants from data table
F_a=Axial loads during operation
F_F=Gear–unit constants from data table
F_R=Overhung loads during operation
F_{Ra}=Permissible overhung load(atx=100mm)from data table
F_{XF}=Permissible overhung load on the bousing(flange tensile strenght)
F_{XL}=Permissible overhung load according to beraing service life
X=Distance between force application and shaft shoulder
M_a=Output torque
F_{Aa}=Permissible axial load



YHRM Project planning for RM gear units

برنامه‌ریزی پروژه

در هنگام برنامه‌ریزی پروژه‌ها با موتورهای هلیکال RM با پوسته یاتاقان (توسعه یافته) باید بارهای اضافه و محوری بالاتر را محاسبه کنید.
لطفا به روش برنامه‌ریزی پروژه زیر توجه کنید.

a= عامل تبدیل از جدول داده‌ها
b= عامل تبدیل از جدول داده‌ها
C_F= مقدار ثابت گیربکس از داده‌های جدول
F_a= بار محوری در طی عملیات
F_F= مقدار ثابت گیربکس از داده‌های جدول
F_R= بار اضافه در طی عملیات
F_{Ra}= بار مجاز اضافه (atx=100 mm) از داده‌های جدول
F_{XF}= بار اضافه مجاز روی محفظه (استحکام کشش فلنج)
F_{XL}= بار اضافه مجاز مطابق با عمر مفید بلبرینگ (یاتاقان)
X= فاصله بین اعمال نیرو و شانه شفت
M_a= گشتاور خارجی
F_{Aa}= بار محوری مجاز

Permitted overhung loads and axial forces

The permitted overhung loads F_{Ra} and axial loads F_{Aa} are specified for variousservice factors f_B and normal b –earing service life L_{H10}

f_{Bmin}=1.5
L_{10h}=10000h

Gear unit size	Na[rpm]	<16	16–25	26–40	41–60	61–100	101–250	161–250	251–400
SHRM57	F_{RA}[N]	400	400	400	400	400	405	410	415
	F_{RA}[N]	18800	1500	11500	9700	7100	5650	4450	3800
SHRM67	F_{RA}[N]	575	575	575	580	575	585	590	600
	F_{RA}[N]	19000	18900	15300	11900	9210	7470	5870	5050
SHRM77	F_{RA}[N]	1200	1200	1200	1200	1200	1210	1210	1220
	F_{RA}[N]	22000	22000	19400	15100	11400	9220	7200	6710
SHRM87	F_{RA}[N]	1970	1970	1970	1970	1980	1990	2000	2010
	F_{RA}[N]	30000	30000	23600	18000	14300	11000	8940	8030
SHRM97	F_{RA}[N]	2980	2980	2980	2990	3010	3050	3060	3080
	F_{RA}[N]	40000	36100	27300	20300	15900	12600	9640	7810
SHRM107	F_{RA}[N]	4230	4230	4230	4230	4230	4230	3580	3830
	F_{RA}[N]	48000	41000	30300	23000	18000	13100	9550	9030
SHRM137	F_{RA}[N]	8710	8710	8710	8710	7220	5060	3980	6750
	F_{RA}[N]	70000	70000	70000	57600	46900	44000	35600	32400
SHRM147	F_{RA}[N]	11100	11100	11100	11100	11100	10600	8640	10800
	F_{RA}[N]	70000	70000	69700	58400	45600	38000	32800	30800
SHRM167	F_{RA}[N]	14600	14600	14600	14600	14600	14700	–	–
	F_{RA}[N]	70000	70000	70000	60300	45300	36900	–	–

F_{Bmin}=2.0
L_{10h}=25000h

Gear unit size	Na[rpm]	<16	16–25	26–40	41–60	61–100	101–250	161–250	251–400
SHRM57	F_{RA}[N]	410	410	410	410	410	415	415	420
	F_{RA}[N]	12100	9600	7350	6050	4300	3350	2600	2200
SHRM67	F_{RA}[N]	590	590	590	595	590	595	600	605
	F_{RA}[N]	15800	12000	9580	7330	5580	4460	3460	2930
SHRM77	F_{RA}[N]	1210	1210	1210	1210	1210	1220	1220	1220
	F_{RA}[N]	20000	15400	11900	9070	6670	5280	4010	3700
SHRM87	F_{RA}[N]	2000	2000	2000	2000	2000	1720	1690	1710
	F_{RA}[N]	24600	19200	14300	10600	8190	6100	5490	4860
SHRM97	F_{RA}[N]	3040	3040	3040	3050	3070	3080	2540	2430
	F_{RA}[N]	28400	22000	16200	11600	8850	6840	5830	4760
SHRM107	F_{RA}[N]	4330	4330	4330	4330	4330	3350	2810	2990
	F_{RA}[N]	32300	24800	17800	13000	9780	8170	5950	5620
SHRM137	F_{RA}[N]	8850	8850	8850	8830	5660	4020	3200	5240
	F_{RA}[N]	70000	59900	48000	37900	33800	31700	25600	23300
SHRM147	F_{RA}[N]	11400	11400	11400	11400	11400	8320	6850	8440
	F_{RA}[N]	70000	60600	45900	39900	33500	27900	24100	22600
SHRM167	F_{RA}[N]	15100	15100	15100	15100	15100	13100	–	–
	F_{RA}[N]	70000	63500	51600	37800	26800	23600	–	–

Conversion factors and gear unit constants

The following conversion factors and gear unit constants apply to calculating the permitted overhung load F_{XL} at paint X≠1000mm for SHRM gear motors.

Gear unit size	a	b	$c_F(f_B=1.5)$	$C_F(f_B=2.0)$	F_F
SHRM57	1047	47	1220600	1260400	277
SHRM67	1047	47	2047600	2100000	297.5
SHRM77	1050	50	2512800	2574700	340.5
SHRM87	1056.5	56.5	4917800	5029000	414
SHRM97	1061	61	10911600	11124100	481
SHRM107	1069	69	15367000	15652000	554.5
SHRM137	1088	88	25291700	25993600	650
SHRM147	1091	91	30038700	31173900	756
SHRM167	1089.5	89.5	42096100	43654300	869

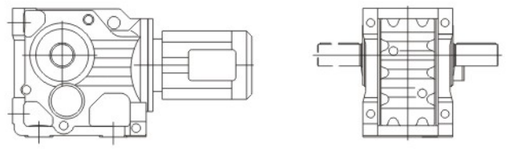
Additional weights of SHRM gear units

Gear unit size	Additional weight in addition to RF, related to the smallest RF flange △m[kg]
SHRM57	12.0
SHRM67	15.8
SHRM77	25.0
SHRM87	29.7
SHRM97	51.3
SHRM107	88.0
SHRM137	111.1
SHRM147	167.4
SHRM167	195.4

7.
SHK Helical – Bevel Geared Motor

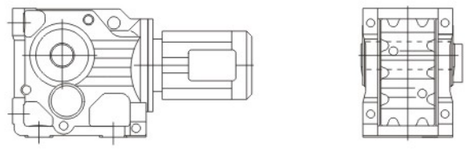
7.1 Versions of geared motors

The following types of helical – bevel geared motor can be supplied:



SHK..D..

Foot – mounted helical – bevel geared motor

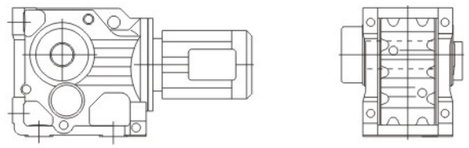


SHKA..B D..

Foot – mounted helical – bevel geared motor with hollow shaft.

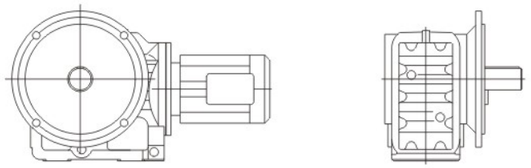
SHKV..B D..

Foot – mounted helical – bevel geared motorwith hollow shaft and splined hollow shaft to DIN 5480.



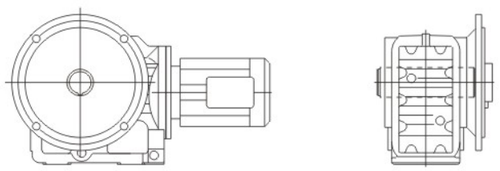
SHKH..B D..

Foot – mounted helical – bevel geared motor with hollow shaft and shrink disk



SHKF..D..

Helical – bevel geared motor in B5 flange – mounted version

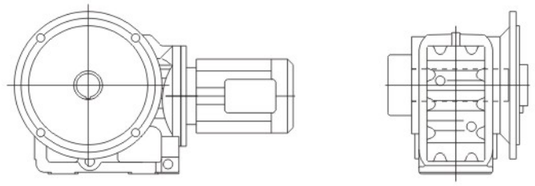


SHKAF..D..

Helical – bevel geared motor in B5 flange – mounted version with hollow shaft.

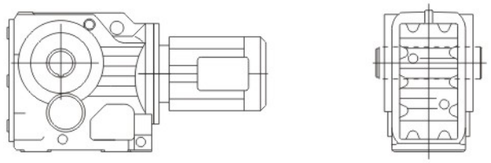
SHKVF..D..

Helical – bevel geared motor in B5 flange – mounted version with hollow shaft and splined hollow shaft to DIN 5480.



SHKHF..D..

Helical – bevel geared motor in B5 flange – mounted version with hollow shaft and shrink disk.

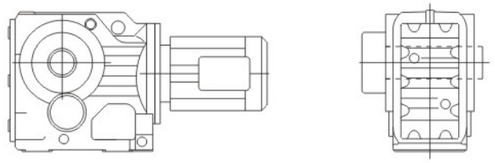


SHKA..D..

Heical – bevel geared motor with hollow shaft

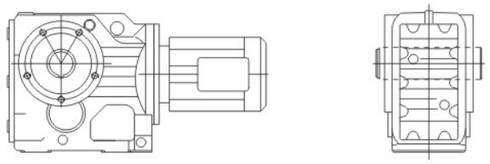
SHKV..D..

Helical – bevel geared motor with hollow shaft and splined hollow shaft to DIN 5480.



SHKH..D..

Helical – bevel geared motor with hollow shaft and shrink disk

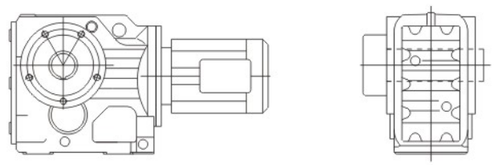


SHKAZ..D..

Helical – bevel geared motor in B14 flange – mounted version with hollow shaft

SHKVZ..D..

Helical – bevel geared motor in B14 flange – mounted version with hollow shaft and splined hollow to DIN 5480.



SHKHZ..D..

Helical – bevel geared motor in B14 flange – mounted version with hollow shaft and shrink disk.

7.2 Type of Combination

The below is combination table between gear box and electro motor in each list the ratio range.

Gear unit size	Stages	D63 D71	D80	D90	D100	D112	D132S	D132M
SHK/KF/KA/KAF37	3	5.36–106.38	5.36–83.69	5.36–24.99 29.96–72.54	5.36–10.49 13.08–20.19 29.96–58.60			
SHK/KF/KA/KAF47	3	7.36–11.77 13.65–31.30 39.61–131.87	5.81–104.37	5.81–90.86	5.81–21.81 25.91 35.39–63.30 75.20			
SHK/KF/KA/KAF57	3	9.59–11.92 19.34–35.70 48.89–145.14	7.55–11.92 15.22–123.85	6.57–108.29	6.57–90.26	6.57–30.28 38.49–76.56		
SHK/KF/KA/KAF67	3	10.63–12.48 19.30–35.62 48.77–144.79	8.37–12.48 15.19–123.54	7.28–108.03	7.28–90.04	7.28–30.22 38.39–76.37	7.28–24.00 38.39–60.66	7.28–24.00 38.39–60.66
SHK/KF/KA/KAF77	3	25.62–38.39 64.75–192.18	10.84–12.36 20.25–38.39 51.18–154.02	7.24–135.28	7.24–113.56	7.24–97.05	7.24–30.89 40.04–78.07	7.24–30.89 40.04–78.07
SHK/KF/KA/KAF87	3		27.88–31.39 70.46–197.37	11.17 16.00 19.45–31.39 49.16–174.19	8.29–11.17 14.45–147.32	8.29–11.17 14.45–126.91	7.21–102.71	7.21–102.71
SHK/KF/KA/KAF97	3			24.75–38.30 62.55–176.05	18.96–38.30 47.93–176.05	18.96–38.30 47.93–153.21	8.71–123.93	8.71–123.93
SHK/KF/KA/KAF107	3				13.43 22.62–29.00 32.69 57.17–143.47	13.43 22.62–29.00 32.69 57.17–143.47	8.69–29.00 32.69–143.47	8.69–29.00 32.69–143.47
SHK/KF/KA/KAF127	3							12.79 21.15–36.25 47.82–146.07

Gear unit size	Stages	D132ML	D160M	D160L	D180	D200
SHK/KF/KA/KAF77	3	7.24–23.08 40.04–58.34	7.24–23.08 40.04–58.34			
SHK/KF/KA/KAF87	3	7.21–79.34	7.21–79.34	7.21–79.34	7.21–14.45 17.42–24.92 36.52–63.00	
SHK/KF/KA/KAF97	3	8.71–96.80	8.71–96.80	8.71–96.80	8.71–30.82 41.87–77.89	8.71–24.75 41.87–62.55
SHK/KF/KA/KAF107	3	8.69–112.41	8.69–112.41	8.69–112.41	8.69–90.96	8.69–31.28 37.00–73.30
SHK/KF/KA/KAF127	3	10.74–12.79 17.77–136.14	10.74–12.79 17.77–136.14	10.74–12.79 17.77–136.14	8.68–110.18	8.68–89.89
SHK/KF/KA/KAF157	3		18.37–31.30 46.79–150.41	18.37–31.30 46.79–150.41	14.92–122.39	12.65–100.22
SHK/KH167	3		24.52–32.25 51.77–164.50	24.52–32.25 51.77–164.50	20.32–32.25 42.89–134.99	17.34–109.83
SHK/KH187	3		33.23–42.51 88.00–179.86	33.23–42.51 88.00–179.86	27.92–42.51 73.96–179.86	17.18–179.86

Gear unit size	Stages	D225	D250M	D280	D315	D315M_A/B
SHK/KF/KA/KAF107	3	8.69–31.28 37.00–73.30				
SHK/KF/KA/KAF127	3	8.68–89.89	8.68–31.37 40.19–70.95	8.68–31.37 40.19–70.95		
SHK/KF/KA/KAF157	3	12.65–100.22	12.65–79.75	12.65–79.75	12.65–23.95 38.02–61.02	12.65–18.37 38.02–46.79
SHK/KH167	3	17.34–109.83	17.34–87.86	17.34–87.86	17.34–68.07	17.34–24.52 36.61–51.77
SHK/KH187	3	17.18–179.86	17.18–144.59	17.18–144.59	17.18–112.60	17.18–33.23 45.50–88.00

7.3 Ratio and Max .Torque

SHK37-57, SHK37R, SHK47R n_e=1400 1/min

SHK37 — 200Nm

i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
106.38	13	200	5640	AD_1
97.81	14	200	5640	
83.69	17	200	5640	
72.54	19	200	5520	
67.80	21	200	5360	
58.60	24	200	5020	
49.79	28	200	4660	
44.46	31	200	4420	
37.97	37	200	4100	
35.57	39	200	3970	
29.96	47	200	3650	AD_2
28.83	49	200	3580	
24.99	56	200	3330	
23.36	60	195	3260	
20.19	69	185	3110	
17.15	82	180	2900	
15.31	91	175	2780	
13.08	107	165	2650	
12.14	115	160	2600	
10.49	133	160	2410	
8.91	157	160	2200	
7.96	176	155	2110	
6.80	206	150	1980	
6.37	220	145	1950	
5.36	261	140	1810	

SHK47 — 400Nm

i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
131.87	11	400	5920	Ad_2
121.48	12	400	5920	
104.37	13	400	5920	
90.86	15	400	5920	
85.12	16	400	5920	
75.20	19	400	5920	
69.84	20	400	5920	
63.30	22	400	5920	
56.83	25	400	5920	
48.95	29	400	5920	
46.03	30	400	5920	
39.61	35	400	5920	
35.39	40	400	5920	
31.30	45	400	5700	
29.32	48	400	5520	
25.91	54	400	5170	
24.06	58	400	4970	
21.81	64	400	4710	
19.58	72	400	4440	
16.86	83	380	4230	
15.86	88	380	4080	
13.65	103	360	3890	
12.19	115	350	3720	
11.77	119	280	4060	
10.56	133	280	3830	
9.10	154	280	3540	
8.56	164	270	3500	AD_3
7.36	190	250	3390	
6.58	213	240	3270	
5.81	241	230	3140	

SHK57 — 600Nm

i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
145.14	9.6	600	7470	AD_2
123.85	11	600	7470	
108.29	13	600	7470	
102.88	14	600	7470	
90.26	16	600	7470	
76.56	18	600	7470	
69.12	20	600	7470	
60.81	23	600	7470	
57.42	24	600	7470	
48.89	29	600	7470	
44.43	32	600	7470	
38.49	36	600	7470	
35.70	39	600	7470	
30.28	46	600	7310	
27.34	51	600	6930	
24.05	58	600	6480	
22.71	62	600	6280	
19.34	72	575	5910	
17.57	80	555	5740	
15.22	92	535	5430	AD_3
13.25	106	510	5190	
11.92	117	415	5150	
11.26	124	415	4990	
9.59	146	405	4650	
8.71	161	390	4520	
7.55	185	365	4360	
6.57	213	345	4190	

SHK67-87, SHK67R-87R n_e=1400 1/min

SHK67 — 820Nm

i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
144.79	9.7	820	10300	AD_2
123.54	11	820	10300	
108.03	13	820	10300	
102.62	14	820	10300	
90.04	16	820	10300	
76.37	18	820	10300	
68.95	20	820	10300	
60.66	23	820	10300	
57.28	24	820	10300	
48.77	29	820	10300	
44.32	32	820	10300	
38.39	36	820	10500	
35.62	39	820	10300	
30.22	46	820	10300	AD_3
27.28	51	820	10300	
24.00	58	800	10500	
22.66	62	780	10700	
19.30	73	760	10800	
17.54	80	740	11000	
15.19	92	700	11300	
13.22	106	670	11500	
12.48	112	530	12300	
10.63	132	500	11800	
9.66	145	480	11500	
8.37	167	440	11100	
7.28	192	420	10700	

SHK77 — 1550Nm

i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
192.18	7.3	1450	16100	AD_2
179.37	7.8	1450	16100	
154.02	9.1	1550	15400	
135.28	10	1550	15400	
128.52	11	1550	15400	
113.56	12	1550	15400	
97.05	14	1550	15400	
88.97	16	1550	15400	
78.07	18	1550	15400	
73.99	19	1550	15400	
64.75	22	1550	15400	
58.34	24	1550	15400	
51.18	27	1550	15400	
45.16	31	1550	15400	
40.04	35	1550	15400	AD_3
38.39	36	1550	15700	
35.20	40	1550	15400	
30.89	45	1550	15400	
29.27	48	1550	15400	AD_4
25.62	55	1550	15400	
23.08	61	1550	15400	
20.25	69	1500	15700	
17.87	78	1450	16100	
15.84	88	1400	15500	
13.52	104	1340	14800	
12.36	113	1000	15100	
10.84	129	990	14400	
9.56	146	940	13900	
8.48	165	890	13500	
7.24	193	820	13100	

SHK87 — 2700Nm

i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
197.37	7.1	2700	27300	AD_2
174.19	8.0	2700	27300	
164.34	8.5	2700	27300	
147.32	9.5	2700	27300	
126.91	11	2700	27300	
115.82	12	2700	27300	
102.71	14	2700	27300	
86.34	16	2700	27300	
79.34	18	2700	27300	AD_3
70.46	20	2700	27300	
63.00	22	2700	26200	
56.64	25	2700	25000	
49.16	28	2700	23500	
44.02	32	2600	22800	
36.52	38	2500	21400	
31.39	45	2700	19200	AD_4
27.88	50	2600	18500	
24.92	56	2500	18000	
22.41	62	2300	17900	
19.45	72	2300	16800	
17.42	80	2200	16300	
16.00	87	1800	16000	
14.45	97	2100	15300	
12.56	111	2000	14800	
11.17	125	1500	14900	
10.00	140	1500	14200	AD_5
8.29	169	1400	13500	
7.21	194	1300	13200	

SHK97-127, SHK97R, SHK107R n_e=1400 1/min

SHK97			4300Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
176.05	8.0	4300	40000	AD_3
153.21	9.1	4300	40000	
140.28	10	4300	40000	
123.93	11	4300	40000	
105.13	13	4300	40000	
96.80	14	4300	40000	
86.52	16	4300	38800	
77.89	18	4300	37100	
70.54	20	4300	35600	
62.55	22	4300	33800	AD_4
56.55	25	4300	32300	
47.93	29	4300	30000	
41.87	33	4300	28300	
38.30	37	4300	27100	AD_5
34.23	41	4300	25700	
30.82	45	4300	24500	
27.91	50	4300	23300	
24.75	57	4300	22000	
22.37	63	4300	20900	
18.96	74	4300	19100	
16.56	85	4300	17800	
13.85	101	4300	16100	AD_6
11.99	117	3890	16200	
10.41	134	2870	16400	AD_5
8.71	161	2660	15800	AD_6

SHK107			8000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
143.47	9.8	8000	65000	AD_4
121.46	12	8000	61700	
112.41	12	8000	59700	
100.75	14	8000	57000	
90.96	15	8000	54600	
82.61	17	8000	52400	
73.30	19	8000	49700	
66.52	21	8000	47600	
57.17	24	8000	44400	
49.90	28	7840	42200	
42.33	33	7360	40500	AD_5
37.00	38	7200	38500	
32.69	43	7200	36300	
31.28	45	6800	36700	
29.00	48	7200	34000	AD_6
26.32	53	7200	32000	
22.62	62	7200	28900	
19.74	71	7200	26100	
16.75	84	7050	23600	
14.64	96	6890	21900	
13.43	104	4300	29200	
11.73	119	4300	27500	
9.94	141	4190	25800	
8.69	161	4070	24600	

SHK127			13000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
146.07	9.6	13000	79200	AD_4
136.14	10	13000	79200	
122.48	11	13000	79200	
110.18	13	13000	79200	
89.89	16	13000	75100	AD_5
81.98	17	13000	72100	
70.95	20	13000	67700	
62.60	22	13000	64000	
54.07	26	13000	59000	
47.82	29	13000	56500	
40.19	35	13000	52000	Ad_6
36.25	39	13000	49400	AD_7
31.37	45	13000	45900	
27.68	51	13000	43000	
23.91	59	13000	39800	
21.15	66	13000	37200	AD_8
17.77	79	13000	33600	
14.35	98	12100	31800	
12.79	109	8530	35400	
10.74	130	8000	33900	
8.68	161	7230	32500	

SHK157-187, SHK97R17, SHK47/57R37 n_e=1400 1/min

SHK157			18000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
150.41	9.3	18000	112200	AD_5
122.39	11	18000	106500	
100.22	14	18000	98000	
91.65	15	18000	94400	
79.75	18	18000	88900	
70.38	20	18000	84200	
61.02	23	18000	79000	
54.29	26	18000	74900	AD_6
46.79	30	18000	70000	AD_7
38.02	37	18000	63300	
31.30	45	18000	57500	AD_8
27.62	51	18000	54000	
23.95	58	18000	50000	
21.31	66	18000	47000	
18.37	76	18000	43200	
14.92	94	18000	38200	
12.65	111	17000	36700	

SHK167			32000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
164.50	8.5	32000	150000	AD_5
134.99	10	32000	150000	AD_6
109.83	13	32000	150000	
87.86	16	32000	147200	AD_7
78.14	18	32000	140100	
68.07	21	32000	132000	
60.74	23	32000	125600	
51.77	27	32000	117000	AD_8
42.89	33	32000	107400	
36.61	38	32000	99700	
32.25	43	32000	93700	
28.77	49	32000	88600	
24.52	57	32000	81700	
20.32	69	32000	74000	
17.34	81	32000	67900	

SHK187			50000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
179.86	7.8	50000	190000	AD_6
165.21	8.5	50000	190000	
144.59	9.7	50000	190000	
129.69	11	50000	188200	AD_7
112.60	12	50000	177200	
102.16	14	50000	169900	
88.00	16	50000	159000	AD_8
73.96	19	50000	147000	
64.04	22	50000	137500	
53.36	26	50000	126100	
45.50	31	50000	116600	
42.51	33	50000	112700	
38.57	36	50000	107200	
33.23	42	50000	99100	
27.92	50	50000	90200	
24.18	58	47600	86800	
20.15	69	43900	84000	
17.18	81	41400	80800	

SHK37R17			200Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
6832	0.20	200	5640
5922	0.24	200	5640
5491	0.25	200	5640
4759	0.29	200	5640
4160	0.34	200	5640
3645	0.38	200	5640
3205	0.44	200	5640
2801	0.50	200	5640
2454	0.57	200	5640
2166	0.65	200	5640
1891	0.74	200	5640
1660	0.84	200	5640
1466	0.95	200	5640
1288	1.1	200	5640
1136	1.2	200	5640
996	1.4	200	5640
876	1.6	200	5640
761	1.8	200	5640
671	2.1	200	5640
585	2.4	200	5640
512	2.7	200	5640
451	3.1	200	5640
396	3.5	200	5640
346	4.0	200	5640
304	4.6	200	5640
267	5.2	200	5640
234	6.0	200	5640
205	6.8	200	5640
181	7.7	200	5640
160	8.8	200	5640
136	10	200	5640
127	11	200	5640
110	13	200	5640
96	15	200	5640

SHK47R37			400Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
10138	0.14	400	5920
8534	0.16	400	5920
7662	0.18	400	5920
6826	0.21	400	5920
5983	0.23	400	5920
5159	0.27	400	5920
4601	0.30	400	5920
3940	0.36	400	5920
3477	0.40	400	5920
3043	0.46	400	5920
2733	0.51	400	5920
2354	0.59	400	5920
2063	0.68	400	5920
1819	0.77	400	5920
1586	0.88	400	5920
1388	1.0	400	5920
1222	1.1	400	5920
1097	1.3	400	5920
945	1.5	400	5920
831	1.7	400	5920
718	1.9	400	5920
639	2.2	400	5920
552	2.5	400	5920
495	2.8	400	5920
426	3.3	400	5920
375	3.7	400	5920
327	4.3	400	5920
289	4.8	400	5920
256	5.5	400	5920
225	6.2	400	5920
198	7.1	400	5920
171	8.2	400	5920
153	9.2	400	5920
131	11	400	5920
112	13	400	5920
99	14	400	5920
94	15	400	5920

SHK57R37			600Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
12169	0.12	600	7470
11162	0.13	600	7470
9503	0.15	600	7470
8547	0.16	600	7470
7277	0.19	600	7470
6478	0.22	600	7470
5662	0.25	600	7470
5033	0.28	600	7470
4340	0.32	600	7470
3854	0.36	600	7470
3390	0.41	600	7470
2924	0.48	600	7470
2593	0.54	600	7470
2249	0.62	600	7470
1986	0.70	600	7470
1743	0.80	600	7470
1539	0.91	600	7470
1354	1.0	600	7470
1174	1.2	600	7470
1036	1.4	600	7470
906	1.5	600	7470
806	1.7	600	7470
699	2.0	600	7470
615	2.3	600	7470
544	2.6	600	7470
473	3.0	600	7470
421	3.3	600	7470
362	3.9	600	7470
319	4.4	600	7470
280	5.0	600	7470
246	5.7	600	7470
215	6.5	600	7470
192	7.3	600	7470
166	8.4	600	7470
145	9.7	600	7470
129	11	600	7470
111	13	600	7470
97	14	600	7470

SHK67/77R37, SHK87R57 n_e=1400 1/min

SHK67R37			820Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
12139	0.12	820	10300
11134	0.13	820	10300
9479	0.15	820	10300
8173	0.17	820	10300
7259	0.19	820	10300
6462	0.22	820	10300
5648	0.25	820	10300
4846	0.29	820	10300
4329	0.32	820	10300
3750	0.37	820	10300
3315	0.42	820	10300
2917	0.48	820	10300
2532	0.55	820	10300
2244	0.62	820	10300
1981	0.71	820	10300
1739	0.81	820	10300
1535	0.91	820	10300
1351	1.0	820	10300
1171	1.2	820	10300
1034	1.4	820	10300
903	1.6	820	10300
793	1.8	820	10300
697	2.0	820	10300
613	2.3	820	10300
542	2.6	820	10300
471	3.0	820	10300
420	3.3	820	10300
361	3.9	820	10300
323	4.3	820	10300
279	5.0	820	10300
246	5.7	820	10300
217	6.5	820	10300
191	7.3	820	10300
166	8.4	820	10300
144	9.7	820	10300
122	11	820	10300

SHK77R37			1550Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
15310	0.09	1550	15400
14043	0.10	1550	15400
11955	0.12	1550	15400
10217	0.14	1550	15400
8809	0.16	1550	15400
7528	0.19	1550	15400
6606	0.21	1550	15400
5774	0.24	1550	15400
5089	0.28	1550	15400
4489	0.31	1550	15400
3961	0.35	1550	15400
3485	0.40	1550	15400
2901	0.48	1550	15400
2717	0.52	1550	15400
2370	0.59	1550	15400
2050	0.68	1550	15400
1772	0.79	1550	15400
1514	0.92	1550	15400
1388	1.0	1550	15400
1218	1.1	1550	15400
1053	1.3	1550	15400
924	1.5	1550	15400
815	1.7	1550	15400
709	2.0	1550	15400
622	2.3	1550	15400
552	2.5	1550	15400
485	2.9	1550	15400
428	3.3	1550	15400
367	3.8	1550	15400
328	4.3	1550	15400
280	4.8	1550	15400
252	5.6	1550	15400
221	6.3	1550	15400
195	7.2	1550	15400
175	8.0	1550	15400
154	9.1	1550	15400

SHK87R57			2700Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
14829	0.09	2700	27300
13168	0.11	2700	27300
11737	0.12	2700	27300
10217	0.14	2700	27300
9073	0.15	2700	27300
7854	0.18	2700	27300
6832	0.20	2700	27300
5930	0.24	2700	27300
5240	0.27	2700	27300
4562	0.31	2700	27300
4037	0.35	2700	27300
3609	0.39	2700	27300
3107	0.45	2700	27300
2728	0.51	2700	27300
2371	0.59	2700	27300
2088	0.67	2700	27300
1854	0.76	2700	27300
1657	0.84	2700	27300
1415	0.99	2700	27300
1229	1.1	2700	27300
1078	1.3	2700	27300
951	1.5	2700	27300
837	1.7	2700	27300
726	1.9	2700	27300
638	2.2	2700	27300
562	2.5	2700	27300
474	3.0	2700	27300
426	3.3	2700	27300
373	3.8	2700	27300
330	4.2	2700	27300
294	4.8	2700	27300
250	5.6	2700	27300
236	5.9	2700	27300
201	7.0	2700	27300
183	7.7	2700	27300
159	8.8	2700	27300
141	9.9	2700	27400

SHK97R57, SHK107/127R77 n_e=1400 1/min

SHK97R57			4300Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
18091	0.08	4300	40000
16666	0.08	4300	40000
14897	0.09	4300	40000
13182	0.11	4300	40000
11677	0.12	4300	40000
10317	0.14	4300	40000
9083	0.15	4300	40000
8054	0.17	4300	40000
6970	0.20	4300	40000
6027	0.23	4300	40000
5391	0.26	4300	40000
4669	0.30	4300	40000
4082	0.34	4300	40000
3583	0.39	4300	40000
3108	0.45	4300	40000
2757	0.51	4300	40000
2419	0.58	4300	40000
2123	0.66	4300	40000
1856	0.75	4300	40000
1625	0.86	4300	40000
1430	0.98	4300	40000
1261	1.1	4300	40000
1102	1.3	4300	40000
957	1.5	4300	40000
855	1.6	4300	40000
743	1.9	4300	40000
652	2.1	4300	40000
573	2.4	4300	40000
504	2.8	4300	40000
437	3.2	4300	40000
382	3.7	4300	40000
342	4.1	4300	40000
305	4.6	4300	40000
258	5.4	4300	40000
232	6.0	4300	40000
199	7.0	4300	40000

SHK107R77			8000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
14311	0.10	8000	65000
12211	0.11	8000	65000
10677	0.13	8000	65000
9524	0.15	8000	65000
8328	0.17	8000	65000
7270	0.19	8000	65000
6184	0.23	8000	65000
5662	0.25	8000	65000
5138	0.27	8000	65000
4359	0.32	8000	65000
3810	0.37	8000	65000
3358	0.42	8000	65000
2977	0.47	8000	65000
2599	0.54	8000	65000
2286	0.61	8000	65000
1939	0.72	8000	65000
1713	0.82	8000	65000
1554	0.90	8000	65000
1336	1.0	8000	65000
1166	1.2	8000	65000
1030	1.4	8000	65000
904	1.5	8000	65000
793	1.8	8000	65000
696	2.0	8000	65000
615	2.3	8000	65000
522	2.7	8000	65000
461	3.0	8000	65000
408	3.4	8000	65000
364	3.8	8000	65000
318	4.4	8000	65000
286	4.9	8000	65000
251	5.6	8000	65000
222	6.3	8000	65000
196	7.1	8000	65000
174	8.0	7200	65000
154	9.1	7200	65000
140	10	7200	65000

SHK127R77			13000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
17550	0.08	13000	79200
16006	0.09	13000	79200
14975	0.09	13000	79200
12440	0.11	13000	79200
10915	0.13	13000	79200
9819	0.14	13000	79200
8443	0.17	13000	79200
7482	0.19	13000	79200
6565	0.21	13000	79200
5804	0.24	13000	79200
5027	0.28	13000	79200
4423	0.32	13000	79200
3889	0.36	13000	79200
3311	0.42	13000	79200
3009	0.47	13000	79200
2607	0.54	13000	79200
2268	0.62	13000	79200
1926	0.73	13000	79200
1757	0.80	13000	79200
1541	0.91	13000	79200
1342	1.0	13000	79200
1177	1.2	13000	79200
1025	1.4	13000	79200
899	1.6	13000	79200
790	1.8	13000	79200
704	2.0	13000	79200
610	2.3	13000	79200
549	2.6	13000	79200
477	2.9	13000	79200
418	3.3	13000	79200

SHK127R87, SHK157R97, SHK157R107 n_e=1400 1/min

SHK127R87			13000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
536	2.6	13000	79200
473	3.0	13000	79200
418	3.3	13000	79200
367	3.8	13000	79200
330	4.2	13000	79200
287	4.9	13000	79200
253	5.5	13000	79200
213	6.6	13000	79200
200	7.0	13000	79200
166	8.4	13000	79200
147	9.5	13000	79200

SHK157R97			18000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
17679	0.08	18000	112200
15729	0.09	18000	112200
14721	0.10	18000	112200
13097	0.11	18000	112200
11368	0.12	18000	112200
10114	0.14	18000	112200
8718	0.16	18000	112200
7734	0.18	18000	112200
6881	0.20	18000	112200
5931	0.24	18000	112200
5074	0.28	18000	112200
4514	0.31	18000	112200
3979	0.35	18000	112200
3516	0.40	18000	112200
3051	0.46	18000	112200
2610	0.54	18000	112200
2322	0.60	18000	112200
2029	0.69	18000	112200
1805	0.78	18000	112200
1659	0.84	18000	112200
1365	1.0	18000	112200
1229	1.1	18000	112200
1093	1.3	18000	112200
942	1.5	18000	112200
854	1.6	18000	112200
756	1.9	18000	112200
661	2.1	18000	112200
567	2.5	18000	112200
504	2.8	18000	112200
434	3.2	18000	112200
379	3.7	18000	112200
333	4.2	18000	112200
291	4.8	18000	112200

SHK157R107			18000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
385	3.6	18000	112200
325	4.3	18000	112200
299	4.7	18000	112200
253	5.5	18000	112200
230	6.1	18000	112200
213	6.6	18000	112200
187	7.5	18000	112200
157	8.9	18000	112200
122	11	18000	106500
107	13	18000	100700

SHK167/187R97, SHK167/187R107 n_e=1400 1/min

SHK167R97			32000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
19723	0.07	32000	150000
17406	0.08	32000	150000
15000	0.09	32000	150000
13238	0.11	32000	150000
11573	0.12	32000	150000
10264	0.14	32000	150000
8628	0.16	32000	150000
6562	0.21	32000	150000
5355	0.26	32000	150000
4788	0.29	32000	150000
4079	0.34	32000	150000
3376	0.41	32000	150000
2755	0.51	32000	150000
2263	0.62	32000	150000
2182	0.64	32000	150000
1704	0.82	32000	150000
1408	0.99	32000	150000
1296	1.1	32000	150000
1101	1.3	32000	150000
944	1.5	32000	150000
843	1.7	32000	150000
757	1.8	32000	150000
632	2.2	32000	150000
561	2.5	32000	150000
481	2.9	32000	150000
423	3.3	32000	150000
369	3.8	32000	150000

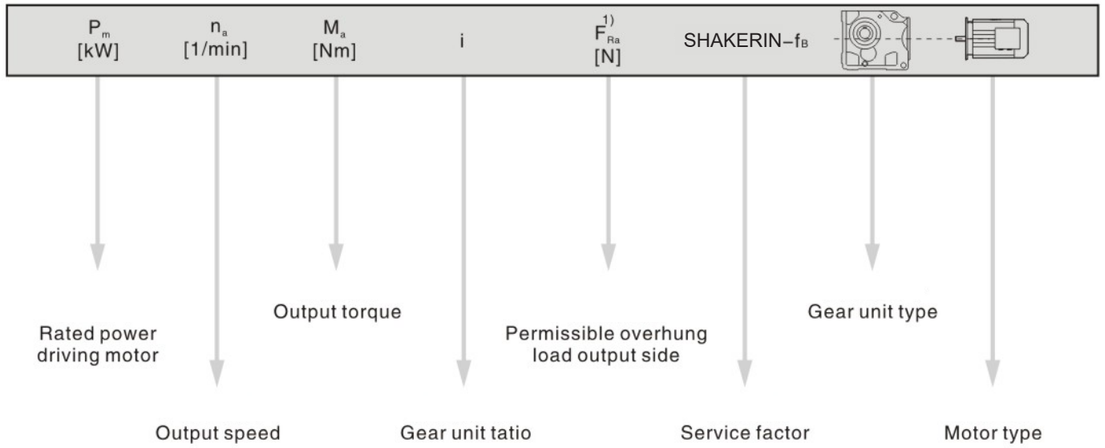
SHK167R107			32000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
318	4.4	32000	150000
278	5.0	32000	150000
244	5.7	32000	150000
213	6.6	32000	150000
206	6.8	32000	150000
180	7.8	32000	150000
160	8.8	32000	150000
135	10	32000	150000
118	12	32000	150000

SHK187R97			50000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
32625	0.04	50000	190000
27165	0.05	50000	190000
24353	0.06	50000	190000
19144	0.07	50000	190000
16978	0.08	50000	190000
14272	0.10	50000	190000
13116	0.11	50000	190000
11647	0.12	50000	190000
10413	0.13	50000	190000
9363	0.15	50000	190000
8126	0.17	50000	190000
7343	0.19	50000	190000
6747	0.21	50000	190000
5991	0.23	50000	190000
5358	0.26	50000	190000
4817	0.29	50000	190000
4370	0.32	50000	190000
3609	0.39	50000	190000
3062	0.46	50000	190000
2818	0.50	50000	190000
2519	0.56	50000	190000
2268	0.62	50000	190000
2054	0.68	50000	190000
1821	0.77	50000	190000
1605	0.87	50000	190000
1395	1.0	50000	190000
1196	1.2	50000	190000
1046	1.3	50000	190000
945	1.5	50000	190000
738	1.9	50000	190000
621	2.3	50000	190000
527	2.7	50000	190000

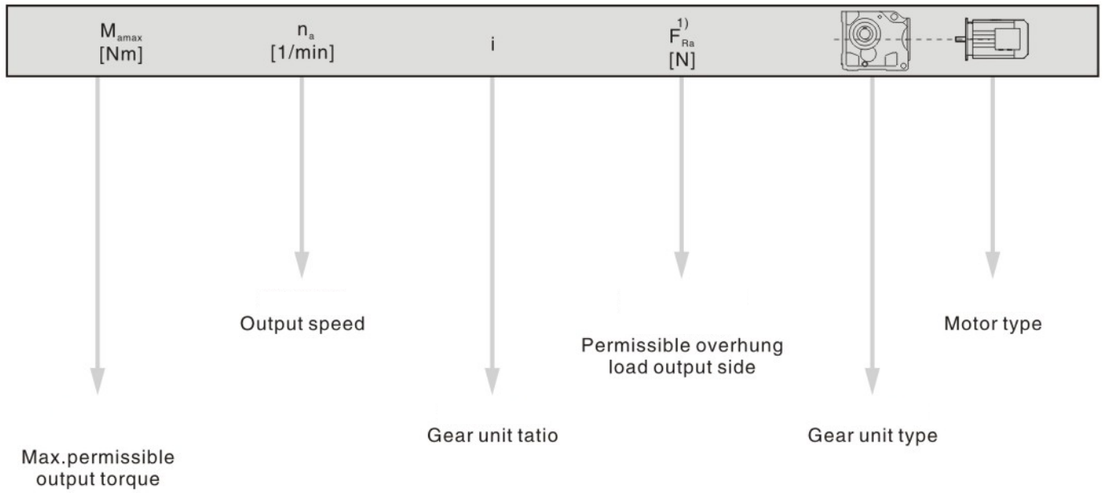
SHK187R107			50000Nm
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
835	1.7	50000	190000
729	1.9	50000	190000
622	2.3	50000	190000
520	2.7	50000	190000
454	3.1	50000	190000
355	3.9	50000	190000
261	5.4	50000	190000
221	6.3	50000	190000
193	7.3	50000	190000
163	8.6	50000	190000

7.4 Selection table

Selection table for geared motors



For particularly low output speeds



Cuttine
※ ※EEXE motor is optional.
1)
1) Overhung load specified for foot –mounted gear unit with solid shaft

Notice:

In drives for particularly low output speeds (multi–stage geared motor) , the motor power must belimited according to maximum permitted output torque of the gear unit.

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} 1) [N]	Service factor f_B	Model
0.12kW					
0.08	11800	17550	79800	1.10	
0.09	10700	16006	80400	1.20	
0.09	9880	14975	80700	1.30	SHK 127 R77 D63S4
0.11	8010	12440	81500	1.60	SHKF 127 R77 D63S4
0.13	6920	10915	81800	1.90	SHKA 127 R77 D63S4
0.14	6320	9819	82000	2.1	SHKAF 127 R77 D63S4
0.16	5220	8443	82300	2.5	
0.18	4820	7482	82300	2.7	
0.10	9590	14311	65000	0.85	
0.11	8060	12211	65000	1.00	
0.13	6930	10677	65000	1.15	
0.14	6280	9524	65000	1.25	SHK 107 R77 D63S4
0.17	5410	8328	65000	1.50	SHKF 107 R77 D63S4
0.19	4720	7270	65000	1.70	SHKA 107 R77 D63S4
0.22	3760	6184	65000	2.1	SHKAF 107 R77 D63S4
0.24	3320	5662	65000	2.4	
0.27	3020	5138	65000	2.7	
0.32	2700	4359	65000	3.0	
0.17	5310	8054	39500	0.80	
0.20	4350	6970	40000	1.00	
0.23	3890	6027	40000	1.10	SHK 97 R57 D63S4
0.26	3560	5391	40000	1.20	SHKF 97 R57 D63S4
0.30	2950	4669	40000	1.45	SHKA 97 R57 D63S4
0.34	2640	4082	40000	1.65	SHKAF 97 R57 D63S4
0.39	2320	3583	40000	1.85	
0.44	2040	3108	40000	2.1	
0.50	1720	2757	40000	2.5	
0.57	1580	2419	40000	2.7	
0.65	1370	2123	40000	3.2	SHK 97 R57 D63S4
0.74	1220	1856	40000	3.5	SHKF 97 R57 D63S4
0.85	1000	1625	40000	4.3	SHKA 97 R57 D63S4
0.96	860	1430	40000	5.0	SHKAF 97 R57 D63S4
1.1	830	1261	40000	5.2	
1.2	725	1102	40000	5.9	
0.26	3380	5240	26300	0.80	
0.30	2850	4562	27100	0.95	SHK 87 R57 D63S4
0.34	2610	4037	27400	1.05	SHKF 87 R57 D63S4
0.38	2330	3609	27700	1.15	SHKA 87 R57 D63S4
0.44	1990	3107	28100	1.35	SHKAF 87 R57 D63S4
0.51	1700	2728	28300	1.60	
0.58	1500	2371	28500	1.80	
0.66	1380	2088	28600	1.95	
0.74	1220	1854	28700	2.2	
0.83	1090	1657	28700	2.5	SHK 87 R57 D63S4
0.97	930	1415	28800	2.9	SHKF 87 R57 D63S4
1.1	800	1229	28900	3.4	SHKA 87 R57 D63S4
1.3	695	1078	28900	3.9	SHKAF 87 R57 D63S4
1.5	585	951	29000	4.6	
1.6	505	837	29000	5.4	
1.9	435	726	29000	6.2	
					SHK 77 R37 D63S4
0.51	1790	2717	13400	0.85	SHKF 77 R37 D63S4
0.58	1510	2370	15700	1.05	SHKA 77 R37 D63S4
					SHKAF 77 R37 D63S4
0.67	1380	2050	16500	1.10	
0.78	1180	1772	17500	1.30	
0.91	1010	1514	18300	1.55	
0.99	920	1388	18600	1.70	SHK 77 R37 D63S4
1.1	810	1218	19000	1.90	SHKF 77 R37 D63S4
1.3	710	1053	19200	2.2	SHKA 77 R37 D63S4
1.5	620	924	19500	2.5	SHKAF 77 R37 D63S4
1.7	550	815	19600	2.8	
2.0	440	709	19800	3.5	
2.2	385	622	19900	4.0	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} 1) [N]	Service factor f_B	Model
0.12kW					
1.0	930	1351	9230	0.90	
1.2	795	1171	10500	1.05	
1.3	695	1034	11300	1.20	
1.5	585	903	12000	1.40	
1.7	545	793	12200	1.50	
2.0	440	697	12700	1.85	SHK 67 R37 D63S4
2.2	390	613	12900	2.1	SHKF 67 R37 D63S4
2.5	340	542	13000	2.4	SHKA 67 R37 D63S4
2.9	315	471	13000	2.6	SHKAF 67 R37 D63S4
3.3	265	420	13000	3.1	
3.8	235	361	13000	3.5	
4.3	210	323	13000	3.9	
4.9	176	279	13000	4.7	
5.6	155	246	13000	5.3	
6.3	134	217	13000	6.1	
1.5	585	906	7750	1.05	
1.7	525	806	8220	1.15	
2.0	445	699	8690	1.35	
2.2	390	615	8930	1.55	
2.5	340	544	9120	1.75	SHK 57 R37 D63S4
2.9	310	473	9250	1.95	SHKF 57 R37 D63S4
3.3	265	421	9420	2.3	SHKA 57 R37 D63S4
3.8	235	362	9510	2.5	SHKAF 57 R37 D63S4
4.3	210	319	9610	2.9	
4.9	176	280	9710	3.4	
5.6	155	246	9770	3.9	
6.4	135	215	9830	4.4	
7.2	122	192	9860	4.9	
2.2	430	639	2520	0.95	
2.5	370	552	6350	1.10	SHK 47 R37 D63S4
2.8	315	495	6930	1.25	SHKF 47 R37 D63S4
3.2	280	426	7240	1.45	SHKA 47 R37 D63S4
3.7	235	375	7560	1.70	SHKAF 47 R37 D63S4
4.2	215	327	7670	1.85	
4.8	189	289	7830	2.1	
4.0	235	346	4840	0.85	
4.5	200	304	5640	1.00	
5.2	182	267	5830	1.10	SHK 37 R17 D63S4
5.9	157	234	6060	1.25	SHKF 37 R17 D63S4
6.7	138	205	6220	1.45	SHKA 37 R17 D63S4
7.6	120	181	6330	1.65	SHKAF 37 R17 D63S4
8.6	105	160	6420	1.90	
10	88	136	6500	2.3	
					SHK 67 D63M6
6.2	184	144.79	13000	4.4	SHKF 67 D63M6
					SHKA 67 D63M6
					SHKAF 67 D63M6
6.2	185	145.14	9680	3.2	
7.3	158	123.85	9760	3.8	SHK 57 D63M6
8.3	138	108.29	9820	4.3	SHKF 57 D63M6
8.8	131	102.88	9840	4.6	SHKA 57 D63M6
10	115	90.26	9880	5.2	SHKAF 57 D63M6
12	98	76.56	9930	6.2	
9.5	121	145.14	9870	5.0	
11	103	123.85	9920	5.8	SHK 57 D63S4
13	90	108.29	9950	6.7	SHKF 57 D63S4
13	85	102.88	9960	7.0	SHKA 57 D63S4
15	75	90.26	9990	8.0	SHKAF 57 D63S4
					SHK 47 D63M6
6.8	168	131.87	7930	2.4	SHKF 47 D63M6
7.4	155	121.48	7990	2.6	SHKA 47 D63M6
8.6	133	104.37	8070	3.0	SHKAF 47 D63M6
					SHK 47 D63S4
10	110	131.87	8140	3.7	SHKF 47 D63S4
11	101	121.48	8170	4.0	SHKA 47 D63S4
					SHKAF 47 D63S4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.12kW					
8.5	136	106.38	6230	1.50	SHK 37 D63M6
9.2	125	97.81	6300	1.60	SHKF 37 D63M6
11	107	83.69	6410	1.90	SHKA 37 D63M6
12	92	72.54	6480	2.2	SHKAF 37 D63M6
13	88	106.38	6500	2.3	SHK 37 D63S4
14	81	97.81	6530	2.5	SHKF 37 D63S4
16	70	83.69	6570	2.9	SHKA 37 D63S4
19	60	72.54	6600	3.3	SHKAF 37 D63S4
20	56	67.80	6610	3.5	
24	49	58.60	6430	4.1	
28	41	49.79	6130	4.8	
31	37	44.46	5930	5.4	
36	32	37.97	5660	6.3	
39	30	35.57	5550	6.8	
46	25	29.96	5270	8.0	
48	24	28.83	5210	8.4	
55	21	24.99	4980	9.6	
59	19	23.36	4880	10	
68	17	20.19	4660	11	
80	14	17.15	4430	13	
90	13	15.31	4280	14	
105	11	13.08	4070	15	
114	10	12.14	3970	16	
0.18kW					
0.09	16300	14975	73200	0.80	SHK 127R77D63M4
0.11	13400	12440	79000	0.95	SHKF 127R77D63M4
0.12	11600	10915	79900	1.10	SHKA 127R77D63M4
0.13	10500	9819	80400	1.25	SHKAF 127R77D63M4
0.16	8850	8443	81100	1.45	
0.18	8040	7482	81400	1.60	
0.20	6990	6565	81800	1.85	
0.23	5940	5804	82100	2.2	
0.26	5220	5027	82300	2.5	
0.30	4530	4423	82400	2.9	
0.34	3960	3889	82500	3.3	
0.40	3310	3311	82600	3.9	
0.16	8990	8328	65000	0.90	SHK 107R77D63M4
0.18	7850	7270	65000	1.00	SHKF 107R77D63M4
0.21	6420	6184	65000	1.25	SHKA 107R77D63M4
0.23	5760	5662	65000	1.40	SHKAF 107R77D63M4
0.26	5230	5138	65000	1.55	
0.30	4570	4359	65000	1.75	
0.35	4000	3810	65000	2.0	
0.39	3440	3358	65000	2.3	
0.44	3090	2977	65000	2.6	
0.51	2700	2599	65000	3.0	
0.58	2340	2286	65000	3.4	
0.28	4960	4669	39900	0.85	SHK 97 R57D63M4
0.32	4390	4082	40000	1.00	SHKF 97 R57D63M4
0.37	3860	3583	40000	1.10	SHKA 97 R57D63M4
0.42	3370	3108	40000	1.25	SHKAF 97 R57D63M4
0.48	2910	2757	40000	1.50	
0.55	2640	2419	40000	1.65	SHK 97 R57D63M4
0.62	2290	2123	40000	1.90	SHKF 97 R57D63M4
0.71	2030	1856	40000	2.1	SHKA 97 R57D63M4
0.81	1710	1625	40000	2.5	SHKAF 97 R57D63M4
0.92	1490	1430	40000	2.9	
1.0	1380	1261	40000	3.1	
1.2	1210	1102	40000	3.6	
1.4	1040	957	40000	4.1	
1.5	930	855	40000	4.6	
1.8	755	743	40000	5.7	
2.0	675	652	40000	6.4	
0.42	3330	3107	26400	0.80	SHK 87 R57D63M4
0.48	2880	2728	27100	0.95	SHKF 87 R57D63M4
0.56	2520	2371	27500	1.05	SHKA 87 R57D63M4
					SHKAF 87 R57D63M4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.18kW					
0.63	2290	2088	27800	1.20	SHK 87 R57 D63M4
0.71	2030	1854	28000	1.35	SHKF 87 R57 D63M4
0.80	1820	1657	28200	1.50	SHKA 87 R57 D63M4
0.93	1540	1415	28400	1.75	SHKAF 87 R57 D63M4
1.1	1340	1229	28600	2.0	
1.2	1160	1078	28700	2.3	
1.4	1000	951	28800	2.7	
1.6	870	837	28800	3.1	
1.8	755	726	28900	3.6	
0.87	1670	1514	14500	0.95	SHK 77 R37 D63M4
0.95	1530	1388	15500	1.00	SHKF 77 R37 D63M4
1.1	1340	1218	16700	1.15	SHKA 77 R37 D63M4
1.2	1170	1053	17600	1.35	SHKAF 77 R37 D63M4
1.4	1030	924	18200	1.50	
1.6	910	815	18700	1.70	
1.9	750	709	19100	2.1	
2.1	655	622	19400	2.4	
2.4	590	552	19500	2.6	
2.7	515	485	19700	3.0	
3.1	455	428	19800	3.4	
3.6	400	367	19900	3.9	
1.5	980	903	5660	0.85	SHK 67 R37 D63M4
1.7	890	793	9620	0.90	SHKF 67 R37 D63M4
1.9	745	697	10900	1.10	SHKA 67 R37 D63M4
2.2	655	613	11600	1.25	SHKAF 67 R37 D63M4
2.4	580	542	12000	1.40	
2.8	520	471	12300	1.60	
3.2	445	420	12600	1.85	
3.7	395	361	12800	2.1	
4.1	350	323	13000	2.3	
4.7	295	279	13000	2.8	
2.2	660	615	5580	0.90	SHK 57 R37 D63M4
2.4	580	544	7800	1.05	SHKF 57 R37 D63M4
2.8	515	473	8300	1.15	SHKA 57 R37 D63M4
3.1	450	421	8670	1.35	SHKAF 57 R37 D63M4
3.6	395	362	8900	1.50	
4.1	350	319	9100	1.75	
4.7	300	280	9290	2.0	
5.4	260	246	9420	2.3	
6.1	230	215	9540	2.6	
6.9	205	192	9610	2.9	
7.9	178	166	9700	3.4	
3.5	400	375	5930	1.00	SHK 47 R37 D63M4
4.0	360	327	6440	1.10	SHKF 47 R37 D63M4
4.6	315	289	6920	1.25	SHKA 47 R37 D63M4
5.2	275	256	7290	1.45	SHKAF 47 R37 D63M4
5.9	245	225	7500	1.65	
6.7	210	198	7710	1.90	
7.7	183	171	7860	2.2	
8.6	164	153	7950	2.4	
10	142	131	8040	2.8	
6.4	225	205	5300	0.90	SHK 37 R17 D63M4
7.3	199	181	5650	1.00	SHKF 37 R17 D63M4
8.2	175	160	5900	1.15	SHKA 37 R17 D63M4
9.7	148	136	6140	1.35	SHKAF 37 R17 D63M4
10	140	127	6200	1.45	
6.0	285	144.79	13000	2.9	SHK 67 D63L6
7.0	245	123.54	13000	3.4	SHKF 67 D63L6
8.1	215	108.03	13000	3.8	SHKA 67 D63L6
8.5	205	102.62	13000	4.0	SHKAF 67 D63L6
9.1	189	144.79	13000	4.3	SHK 67 D63M4
11	161	123.54	13000	5.1	SHKF 67 D63M4
12	141	108.03	13000	5.8	SHKA 67 D63M4
					SHKAF 67 D63M4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.18kW					
6.0	285	145.14	9340	2.1	SHK 57 D63L6
7.0	245	123.85	9480	2.5	SHKF 57 D63L6
8.0	215	108.29	9590	2.8	SHKA 57 D63L6
8.5	205	102.88	9620	3.0	SHKAF 57 D63L6
9.6	178	90.26	9700	3.4	
9.1	189	145.14	9670	3.2	SHK 57 D63M4
11	161	123.85	9750	3.7	SHKF 57 D63M4
12	141	108.29	9810	4.3	SHKA 57 D63M4
13	134	102.88	9830	4.5	SHKAF 57 D63M4
15	118	90.26	9880	5.1	
17	100	76.56	9920	6.0	
6.6	260	131.87	7380	1.55	SHK 47 D63L6
7.2	240	121.48	7530	1.65	SHKF 47 D63L6
8.3	205	104.37	7740	1.95	SHKA 47 D63L6
9.6	180	90.86	7880	2.2	SHKAF 47 D63L6
10	168	85.12	7930	2.4	
10	172	131.87	7910	2.3	SHK 47 D63M4
11	158	121.48	7970	2.5	SHKF 47 D63M4
13	136	104.37	8060	2.9	SHKA 47 D63M4
15	118	90.86	8120	3.4	SHKAF 47 D63M4
16	111	85.12	8140	3.6	
8.2	210	106.38	5520	0.95	SHK 37 D63L6
8.9	193	97.81	5710	1.05	SHKF 37 D63L6
10	165	83.69	5990	1.20	SHKA 37 D63L6
12	143	72.54	6170	1.40	SHKAF 37 D63L6
12	139	106.38	6210	1.45	SHK 37 D63M4
14	127	97.81	6280	1.55	SHKF 37 D63M4
16	109	83.69	6400	1.85	SHKA 37 D63M4
18	95	72.54	6470	2.1	SHKAF 37 D63M4
19	88	67.80	6500	2.3	
23	76	58.60	6280	2.6	
27	65	49.79	6010	3.1	
30	58	44.46	5830	3.5	
35	49	37.97	5580	4.1	
37	46	35.57	5480	4.3	
44	39	29.96	5220	5.1	
46	38	28.83	5160	5.3	
53	33	24.99	4950	6.2	
57	30	23.36	4850	6.4	
65	26	20.19	4650	7.0	
77	22	17.15	4430	8.1	
86	20	15.31	4280	8.8	
101	17	13.08	4080	9.7	
109	16	12.14	3980	10	
126	14	10.49	3810	12	
148	12	8.91	3620	14	
166	10	7.96	3490	15	
0.25kW					
0.13	15300	9819	75300	0.85	SHK 127R77 D63L4
0.15	13000	8443	79200	1.00	SHKF 127R77 D63L4
0.17	11700	7482	79900	1.10	SHKA 127R77 D63L4
0.20	10200	6565	80600	1.30	SHKAF 127R77 D63L4
0.22	8770	5804	81200	1.50	
0.26	7670	5027	81600	1.70	
0.29	6680	4423	81900	1.95	
0.33	5850	3889	82100	2.2	
0.39	4930	3311	82300	2.6	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.25kW					
0.21	9440	6184	65000	0.85	SHK 107R77D63L4
0.23	8520	5662	65000	0.95	SHKF 107R77D63L4
0.25	7730	5138	65000	1.05	SHKA 107R77D63L4
0.30	6700	4359	65000	1.20	SHKAF 107R77D63L4
0.34	5850	3810	65000	1.35	
0.39	5070	3358	65000	1.60	
0.44	4540	2977	65000	1.75	
0.50	3970	2599	65000	2.0	
0.57	3450	2286	65000	2.3	
0.67	2930	1939	65000	2.7	
0.76	2640	1713	65000	3.0	SHK 107R77D63L4
0.84	2390	1554	65000	3.3	SHKF 107R77D63L4
0.97	2060	1336	65000	3.9	SHKA 107R77D63L4
					SHKAF 107R77D63L4
0.42	4890	3108	40000	0.90	SHK 97 R57D63L4
0.47	4250	2757	40000	1.00	SHKF 97 R57D63L4
					SHKA 97 R57D63L4
					SHKAF 97 R57D63L4
0.54	3840	2419	40000	1.10	SHK 97 R57D63L4
0.61	3340	2123	40000	1.30	SHKF 97 R57D63L4
0.70	2950	1856	40000	1.45	SHKA 97 R57D63L4
0.80	2520	1625	40000	1.70	SHKAF 97 R57D63L4
0.91	2190	1430	40000	1.95	
1.0	2010	1261	40000	2.1	
1.2	1750	1102	40000	2.5	
1.4	1520	957	40000	2.8	
1.5	1360	855	40000	3.2	
0.62	3320	2088	26400	0.80	SHK 87 R57D63L4
0.70	2950	1854	27000	0.90	SHKF 87 R57D63L4
0.78	2640	1657	27400	1.00	SHKA 87 R57D63L4
0.92	2250	1415	27800	1.20	SHKAF 87 R57D63L4
1.1	1950	1229	28100	1.40	
1.2	1700	1078	28300	1.60	
1.4	1470	951	28500	1.85	
1.5	1280	837	28600	2.1	
1.8	1110	726	28700	2.4	
2.0	990	638	28800	2.7	
1.2	1690	1053	14300	0.90	SHK 77 R37D63L4
1.4	1480	924	15800	1.05	SHKF 77 R37D63L4
1.6	1310	815	16900	1.20	SHKA 77 R37D63L4
1.8	1100	709	17900	1.40	SHKAF 77 R37D63L4
2.1	960	622	18400	1.60	
2.3	860	552	18000	1.80	
2.7	755	485	19100	2.0	
3.0	665	428	19300	2.3	
3.5	580	367	19500	2.7	
4.0	515	328	19700	3.0	
4.5	460	290	19800	3.4	
5.2	395	252	19900	3.9	
5.9	345	221	19900	4.5	
6.7	305	195	20000	5.1	
7.4	270	175	20000	5.7	
2.1	960	613	7350	0.85	SHK 67 R37D63L4
2.4	850	542	10100	0.95	SHKF 67 R37D63L4
2.8	755	471	10900	1.10	SHKA 67 R37D63L4
3.1	655	420	11600	1.25	SHKAF 67 R37D63L4
3.6	575	361	12000	1.45	
4.0	510	323	12400	1.60	
4.7	435	279	12700	1.90	
5.3	385	246	12900	2.1	
6.0	335	217	13000	2.4	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.25kW					
3.1	655	421	5750	0.90	
3.6	575	362	7840	1.05	
4.1	505	319	8380	1.20	
4.7	435	280	8720	1.35	
5.3	385	246	8950	1.55	SHK 57 R37 D63L4
6.1	335	215	9150	1.80	SHKF 57 R37 D63L4
6.8	300	192	9280	2.0	SHKA 57 R37 D63L4
7.8	260	166	9430	2.3	SHKAF 57 R37 D63L4
9.0	225	145	9550	2.7	
10	205	129	9620	2.9	
12	173	111	9720	3.5	
13	152	97	9780	4.0	
4.4	540	154.02	19600	2.9	SHK 77 D80N8
5.0	475	135.28	19700	3.3	SHKF 77 D80N8
5.3	450	128.52	19800	3.4	SHKA 77 D80N8
6.0	400	113.56	19900	3.9	SHKAF 77 D80N8
4.6	520	192.18	19700	2.8	SHK 77 D71D6
4.9	485	179.37	19700	3.0	SHKF 77 D71D6
5.7	420	154.02	19800	3.7	SHKA 77 D71D6
6.5	365	135.28	19900	4.2	SHKAF 77 D71D6
5.5	435	123.54	12700	1.90	SHK 67 D80N8
6.3	380	108.03	12900	2.2	SHKF 67 D80N8
6.6	360	102.62	12900	2.3	SHKA 67 D80N8
7.6	315	90.04	13000	2.6	SHKAF 67 D80N8
6.1	395	144.79	12800	2.1	SHK 67 D71D6
7.1	335	123.54	13000	2.5	SHKF 67 D71D6
8.1	395	108.03	13000	2.8	SHKA 67 D71D6
8.6	280	102.62	13000	3.0	SHKAF 67 D71D6
9.0	265	144.79	13000	3.1	SHK 67 D63L4
11	225	123.54	13000	3.6	SHKF 67 D63L4
12	198	108.03	13000	4.1	SHKA 67 D63L4
13	189	102.62	13000	4.3	SHKAF 67 D63L4
6.1	395	145.14	8910	1.50	
7.1	335	123.85	9150	1.80	SHK 57 D71D6
8.1	295	108.29	9310	2.0	SHKF 57 D71D6
8.6	280	102.88	9360	2.2	SHKA 57 D71D6
9.8	245	90.26	9480	2.5	SHKAF 57 D71D6
11	210	76.56	9610	2.9	
9.0	265	145.14	9410	2.2	
11	225	123.85	9540	2.6	SHK 57 D63L4
12	199	108.29	9640	3.0	SHKF 57 D63L4
13	189	102.88	9670	3.2	SHKA 57 D63L4
14	166	90.26	9740	3.6	SHKAF 57 D63L4
17	141	76.56	9810	4.3	
6.7	360	131.87	6470	1.10	
7.2	330	121.48	6780	1.20	SHK 47 D71D6
8.4	285	104.37	7210	1.40	SHKF 47 D71D6
9.7	245	90.86	7480	1.60	SHKA 47 D71D6
10	230	85.12	7590	1.75	SHKAF 47 D71D6
9.9	240	131.87	7510	1.65	
11	225	121.48	7640	1.80	SHK 47 D63L4
12	192	104.37	7820	2.1	SHKF 47 D63L4
14	167	90.86	7930	2.4	SHKA 47 D63L4
15	156	85.12	7980	2.6	SHKAF 47 D63L4
11	225	83.69	5300	0.90	
12	197	72.54	5680	1.00	SHK 37 D71D6
13	184	67.80	5810	1.10	SHKF 37 D71D6
15	159	58.60	6050	1.25	SHKA 37 D71D6
18	135	49.79	6230	1.50	SHKAF 37 D71D6

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.25kW					
12	195	106.38	5690	1.00	
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	2.2	
29	82	44.46	5650	2.5	
34	70	37.97	5430	2.9	
37	65	35.57	5340	3.1	
43	55	29.96	5100	3.6	SHK 37 D63L4
45	53	28.83	5050	3.8	SHKF 37 D63L4
52	46	24.99	4860	4.4	SHKA 37 D63L4
56	43	23.36	4770	4.6	SHKAF 37 D63L4
64	37	20.19	4580	5.0	
76	32	17.15	4370	5.7	
85	28	15.31	4230	6.2	
99	24	13.08	4030	6.9	
107	22	12.14	3940	7.2	
124	19	10.49	3780	8.3	
146	16	8.91	3590	9.8	
163	15	7.96	3470	11	
191	13	6.80	3310	12	
204	12	6.37	3240	12	
0.37kW					
0.18	16600	7482	72600	0.80	
0.21	14500	6565	76900	0.90	SHK 127 R77 D71D4
0.24	12600	5804	79400	1.05	SHKF 127 R77 D71D4
0.27	11000	5027	80200	1.20	SHKA 127 R77 D71D4
0.31	9610	4423	80800	1.35	SHKAF 127 R77 D71D4
0.35	8430	3889	81300	1.55	
0.42	7120	3311	81700	1.85	
0.72	4230	1926	82500	3.1	SHK 127 R77 D71D4
0.79	3860	1757	82500	3.4	SHKF 127 R77 D71D4
0.90	3360	1541	82600	3.9	SHKA 127 R77 D71D4
					SHKAF 127 R77 D71D4
0.36	8380	3810	65000	0.95	
0.41	7300	3358	65000	1.10	SHK 107 R77 D71D4
0.46	6510	2977	65000	1.25	SHKF 107 R77 D71D4
0.53	5690	2599	65000	1.40	SHKA 107 R77 D71D4
0.60	4970	2286	65000	1.60	SHKAF 107 R77 D71D4
0.71	4210	1939	65000	1.90	
0.81	3790	1713	65000	2.1	SHK 107 R77 D71D4
0.89	3440	1554	65000	2.3	SHKF 107 R77 D71D4
1.0	2950	1336	65000	2.7	SHKA 107 R77 D71D4
1.2	2580	1166	65000	3.1	SHKAF 107 R77 D71D4
0.65	4770	2123	40000	0.90	
0.74	4200	1856	40000	1.00	
0.85	3610	1625	40000	1.20	
0.96	3160	1430	40000	1.35	SHK 97 R57 D71D4
1.1	2850	1261	40000	1.50	SHKF 97 R57 D71D4
1.2	2490	1102	40000	1.70	SHKA 97 R57 D71D4
1.4	2160	957	40000	2.0	SHKAF 97 R57 D71D4
1.6	1930	855	40000	2.2	
1.9	1620	743	40000	2.7	
2.1	1430	652	40000	3.0	
2.4	1280	573	40000	3.4	
0.97	3200	1415	26600	0.85	
1.1	2770	1229	27200	0.95	
1.3	2420	1078	27600	1.10	
1.5	2110	951	27900	1.30	SHK 87 R57 D71D4
1.6	1850	837	28200	1.45	SHKF 87 R57 D71D4
1.9	1600	726	28400	1.70	SHKA 87 R57 D71D4
2.2	1420	638	28500	1.90	SHKAF 87 R57 D71D4
2.5	1240	562	28600	2.2	
2.9	1040	474	28800	2.6	
3.2	940	426	28800	2.9	
3.7	810	373	28900	3.3	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.37kW					
1.7	1860	815	10600	0.85	
2.0	1580	709	15200	1.00	
2.2	1380	622	16500	1.10	
2.5	1230	552	17300	1.25	
2.8	1080	485	18000	1.45	SHK 77 R37 D71D4
3.2	950	428	18500	1.60	SHKF 77 R37 D71D4
3.8	830	367	18900	1.85	SHKA 77 R37 D71D4
4.2	735	328	19200	2.1	SHKAF 77 R37 D71D4
4.8	655	290	19400	2.4	
5.5	565	252	19600	2.8	
6.2	495	221	19700	3.1	
7.1	435	195	19800	3.5	
7.9	390	175	19900	4.0	
9.0	340	154	19900	4.5	
3.3	940	420	9000	0.90	
3.8	820	361	10300	1.00	
4.3	725	323	11100	1.15	
4.9	625	279	11800	1.30	SHK 67 R37 D71D4
5.6	550	246	12200	1.50	SHKF 67 R37 D71D4
6.3	485	217	12500	1.70	SHKA 67 R37 D71D4
7.2	430	191	12700	1.90	SHKAF 67 R37 D71D4
8.3	370	166	12900	2.2	
9.6	320	144	13000	2.5	
11	275	122	13000	3.0	
4.9	625	280	7430	0.95	
5.6	550	246	8040	1.10	
6.4	480	215	8520	1.25	
7.2	430	192	8750	1.40	SHK 57 R37 D71D4
8.3	370	166	9000	1.60	SHKF 57 R37 D71D4
9.6	325	145	9200	1.85	SHKA 57 R37 D71D4
11	290	129	9320	2.1	SHKAF 57 R37 D71D4
12	245	111	9480	2.4	
14	215	97	9580	2.8	
3.9	910	174.19	28800	3.0	SHK 87 D90S8
4.1	850	164.34	28900	3.2	SHKF 87 D90S8
4.6	765	147.32	28900	3.5	SHKA 87 D90S8
					SHKAF 87 D90S8
					SHK 87 D80K6
4.6	775	197.37	28900	3.5	SHKF 87 D80K6
5.2	685	174.19	28900	4.0	SHKA 87 D80K6
					SHKAF 87 D80K6
5.0	705	135.28	19300	2.2	SHK 77 D90S8
5.3	670	128.52	19300	2.3	SHKF 77 D90S8
6.0	590	113.56	19500	2.6	SHKA 77 D90S8
7.0	505	97.05	19700	3.1	SHKAF 77 D90S8
5.8	605	154.02	19500	2.6	SHK 77 D80K6
6.7	530	135.28	19600	2.9	SHKF 77 D80K6
7.0	505	128.52	19700	3.1	SHKA 77 D80K6
7.9	445	113.56	19800	3.5	SHKAF 77 D80K6
7.2	490	192.18	19700	3.0	SHK 77 D71D4
7.7	460	179.37	19800	3.2	SHKF 77 D71D4
9.0	395	154.02	19900	3.9	SHKA 77 D71D4
					SHKAF 77 D71D4
6.3	560	108.03	12100	1.45	SHK 67 D90S8
6.6	535	102.62	12300	1.55	SHKF 67 D90S8
7.6	470	90.04	12600	1.75	SHKA 67 D90S8
					SHKAF 67 D90S8
7.3	485	123.54	12500	1.70	SHK 67 D80K6
8.3	425	108.03	12700	1.95	SHKF 67 D80K6
8.8	405	102.62	12800	2.0	SHKA 67 D80K6
10	355	90.04	13000	2.3	SHKAF 67 D80K6
9.5	370	144.79	12900	2.2	
11	315	123.54	13000	2.6	SHK 67 D71D4
13	275	108.03	13000	3.0	SHKF 67 D71D4
15	230	90.04	13000	3.6	SHKA 67 D71D4
18	196	76.37	13000	4.2	SHKAF 67 D71D4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.37kW					
7.3	485	123.85	8490	1.25	
8.3	425	108.29	8770	1.40	SHK 57 D80K6
8.8	405	102.88	8870	1.50	SHKF 57 D80K6
10	355	90.26	9070	1.70	SHKA 57 D80K6
12	300	76.56	9280	2.0	SHKAF 57 D80K6
13	270	69.12	9390	2.2	
9.5	370	145.14	9000	1.60	
11	315	123.85	9220	1.90	SHK 57 D71D4
13	275	108.29	9370	2.2	SHKF 57 D71D4
13	265	102.88	9420	2.3	SHKA 57 D71D4
15	230	90.26	9530	2.6	SHKAF 57 D71D4
18	196	76.56	9650	3.1	
20	177	69.12	9700	3.4	
8.6	410	104.37	5490	1.00	SHK 47 D80K6
9.9	355	90.86	6480	1.10	SHKF 47 D80K6
11	335	85.12	6730	1.20	SHKA 47 D80K6
12	295	75.20	7100	1.35	SHKAF 47 D80K6
10	340	131.87	6690	1.20	SHK 47 D71D4
11	310	121.48	6960	1.30	SHKF 47 D71D4
13	265	104.37	7330	1.50	SHKA 47 D71D4
					SHKAF 47 D71D4
15	235	90.86	7580	1.70	SHK 47 D71D4
16	220	85.12	7670	1.85	SHKF 47 D71D4
18	193	75.20	7810	2.1	SHKA 47 D71D4
20	179	69.84	7880	2.2	SHKAF 47 D71D4
22	162	63.30	7960	2.5	
14	250	97.81	2520	0.80	
16	215	83.69	5470	0.95	
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	2.1	
39	91	35.57	4990	2.2	
46	77	29.96	4800	2.6	SHK 37 D71D4
48	74	28.83	4750	2.7	SHKF 37 D71D4
55	64	24.99	4590	3.1	SHKA 37 D71D4
59	60	23.36	4510	3.3	SHKAF 37 D71D4
68	52	20.19	4350	3.6	
80	44	17.15	4160	4.1	
90	39	15.31	4040	4.5	
105	34	13.08	3860	4.9	
114	31	12.14	3780	5.1	
132	27	10.49	3630	5.9	
155	23	8.91	3460	7.0	
173	20	7.96	3350	7.6	
203	17	6.80	3190	8.6	
217	16	6.37	3130	8.9	
257	14	5.36	2970	10	
0.55kW					
0.08	55900	16978	179800	0.90	
0.10	46500	14272	190000	1.10	SHK 187 R97 D80K4
0.10	42500	13116	190000	1.20	SHKF 187 R97 D80K4
0.12	37400	11647	190000	1.35	SHKA 187 R97 D80K4
0.19	23900	7343	190000	2.1	SHKAF 187 R97 D80K4
0.12	38400	11573	150000	0.85	
0.13	33800	10264	150000	0.95	SHK 167 R97 D80K4
0.16	28100	8628	150000	1.15	SHKF 167 R97 D80K4
0.21	21400	6562	150000	1.50	SHKA 167 R97 D80K4
0.25	17200	5355	150000	1.85	SHKAF 167 R97 D80K4
0.33	13200	4079	150000	2.4	

SHR SHF SHK SHS

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.55kW					
0.20	22400	6881	109700	0.80	SHK 157R97D80K4
0.23	19300	5931	111500	0.95	SHKF 157R97D80K4
0.34	13000	3979	114400	1.40	SHKA 157R97D80K4
0.45	9940	3051	115300	1.80	SHKAF 157R97D80K4
0.31	14900	4423	76200	0.85	SHK 127R77D80K4
0.35	13000	3889	79200	1.00	SHKF 127R77D80K4
0.41	11100	3311	80200	1.20	SHKA 127R77D80K4
0.45	10000	3009	80700	1.30	SHKAF 127R77D80K4
0.52	8630	2607	81200	1.50	
0.71	6560	1926	81900	2.0	
0.77	5980	1757	82100	2.2	SHK 127R77D80K4
0.88	5220	1541	82300	2.5	SHKF 127R77D80K4
1.0	4570	1342	82400	2.8	SHKA 127R77D80K4
1.2	3990	1177	82500	3.3	SHKAF 127R77D80K4
1.3	3490	1025	82600	3.7	
0.46	10100	2977	65000	0.80	SHK 107R77D80K4
0.52	8770	2599	65000	0.90	SHKF 107R77D80K4
0.59	7690	2286	65000	1.05	SHKA 107R77D80K4
0.70	6520	1939	65000	1.25	SHKAF 107R77D80K4
0.79	5850	1713	65000	1.35	
0.87	5310	1554	65000	1.50	
1.0	4570	1336	65000	1.75	SHK 107R77D80K4
1.2	3990	1166	65000	2.0	SHKF 107R77D80K4
1.3	3450	1030	65000	2.3	SHKA 107R77D80K4
1.5	3000	904	65000	2.7	SHKAF 107R77D80K4
1.7	2700	793	65000	3.0	
2.0	2360	696	65000	3.4	
2.2	2050	615	65000	3.9	
0.95	4880	1430	40000	0.90	
1.1	4380	1261	40000	1.00	
1.2	3820	1102	40000	1.15	
1.4	3320	957	40000	1.30	SHK 97 R57D80K4
1.6	2960	855	40000	1.45	SHKF 97 R57D80K4
1.8	2520	743	40000	1.70	SHKA 97 R57D80K4
2.1	2220	652	40000	1.95	SHKAF 97 R57D80K4
2.4	1970	573	40000	2.2	
2.7	1700	504	40000	2.5	
3.1	1470	437	40000	2.9	
3.6	1300	382	40000	3.3	
4.5	1040	305	40000	4.1	
1.4	3260	951	26500	0.85	
1.6	2860	837	27100	0.95	
1.9	2480	726	27600	1.10	
2.1	2190	638	27900	1.25	
2.4	1920	562	28100	1.40	SHK 87 R57D80K4
2.9	1620	474	28400	1.65	SHKF 87 R57D80K4
3.2	1450	426	28500	1.85	SHKA 87 R57D80K4
3.7	1260	373	28600	2.1	SHKAF 87 R57D80K4
4.1	1110	330	28700	2.4	
4.6	990	294	28800	2.7	
5.4	850	250	28900	3.2	
5.8	800	236	28900	3.4	
6.8	680	201	28900	4.0	
2.5	1900	552	5780	0.80	
2.8	1670	485	14500	0.95	
3.2	1470	428	15900	1.05	
3.7	1270	367	17100	1.20	SHK 77 R37D80K4
4.2	1130	328	17800	1.35	SHKF 77 R37D80K4
4.7	1000	290	18300	1.55	SHKA 77 R37D80K4
5.4	870	252	18800	1.80	SHKAF 77 R37D80K4
6.2	760	221	19100	2.0	
7.0	670	195	19300	2.3	
7.8	600	175	19500	2.6	
8.8	530	154	19600	2.9	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.55kW					
4.9	960	279	7360	0.85	
5.5	840	246	10100	0.95	SHK 67 R37 D80K4
6.2	745	217	10900	1.10	SHKF 67 R37 D80K4
7.1	660	191	11500	1.25	SHKA 67 R37 D80K4
8.2	570	166	12100	1.45	SHKAF 67 R37 D80K4
9.4	495	144	12400	1.65	
11	420	122	12700	1.95	
7.1	660	192	5180	0.90	
8.2	575	166	7850	1.05	SHK 57 R37 D80K4
9.4	495	145	8430	1.20	SHKF 57 R37 D80K4
11	445	129	8680	1.35	SHKA 57 R37 D80K4
12	380	111	8970	1.60	SHKAF 57 R37 D80K4
14	335	97	9150	1.80	
3.9	1350	174.19	28600	2.0	SHK 87 D90L8
4.1	1270	164.34	28600	2.1	SHKF 87 D90L8
4.6	1140	147.32	28700	2.4	SHKA 87 D90L8
					SHKAF 87 D90L8
4.6	1150	197.37	28700	2.3	SHK 87 D80N6
5.2	1020	174.19	28800	2.7	SHKF 87 D80N6
5.5	960	164.34	28800	2.8	SHKA 87 D80N6
6.1	860	147.32	28900	3.1	SHKAF 87 D80N6
5.0	1040	135.28	18100	1.50	SHK 77 D90L8
5.3	990	128.52	18300	1.55	SHKF 77 D90L8
6.0	880	113.56	18700	1.75	SHKA 77 D90L8
7.0	750	97.05	19100	2.1	SHKAF 77 D90L8
5.8	900	154.02	18700	1.70	SHK 77 D80N6
6.7	790	135.28	19000	1.95	SHKF 77 D80N6
7.0	750	128.52	19100	2.1	SHKA 77 D80N6
7.9	665	113.56	19400	2.3	SHKAF 77 D80N6
8.8	595	154.02	19500	2.6	
10	520	135.28	19700	3.0	SHK 77 D80K4
11	495	128.52	19700	3.1	SHKF 77 D80K4
12	440	113.56	19800	3.5	SHKA 77 D80K4
14	375	97.05	19900	4.1	SHKAF 77 D80K4
7.3	720	123.54	11100	1.15	
8.3	630	108.03	11700	1.30	SHK 67 D80N6
8.8	600	102.62	11900	1.35	SHKF 67 D80N6
10	525	90.04	12300	1.55	SHKA 67 D80N6
12	445	76.37	12600	1.85	SHKAF 67 D80N6
11	475	123.54	12500	1.70	SHK 67 D80K4
13	415	108.03	12800	1.95	SHKF 67 D80K4
15	350	90.04	13000	2.4	SHKA 67 D80K4
18	295	76.37	13000	2.8	SHKAF 67 D80K4
8.3	630	108.29	7360	0.95	
8.8	600	102.88	7630	1.00	SHK 57 D80N6
10	525	90.26	8220	1.15	SHKF 57 D80N6
12	445	76.56	8670	1.35	SHKA 57 D80N6
13	405	69.12	8870	1.50	SHKAF 57 D80N6
15	355	60.81	9070	1.70	
16	335	57.42	9150	1.80	
11	480	123.85	8520	1.25	
13	420	108.29	8800	1.45	SHK 57 D80K4
13	395	102.88	8890	1.50	SHKF 57 D80K4
15	350	90.26	9100	1.70	SHKA 57 D80K4
18	295	76.56	9300	2.0	SHKAF 57 D80K4
20	265	69.12	9410	2.2	
22	235	60.81	9520	2.6	
24	220	57.42	9560	2.7	
13	405	104.37	5880	1.00	
15	350	90.86	6550	1.15	SHK 47 D80K4
16	330	85.12	6790	1.20	SHKF 47 D80K4
18	290	75.20	7150	1.40	SHKA 47 D80K4
19	270	69.84	7310	1.50	SHKAF 47 D80K4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.55kW					
21	245	63.30	7500	1.65	SHK 47 D80K4
24	220	56.83	7660	1.80	SHKF 47 D80K4
28	189	48.95	7830	2.1	SHKA 47 D80K4
30	178	46.03	7880	2.2	SHKAF 47 D80K4
23	225	58.60	4850	0.90	
27	192	49.79	4790	1.05	
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	2.1	SHK 37 D80K4
58	90	23.36	4260	2.2	SHKF 37 D80K4
67	78	20.19	4130	2.4	SHKA 37 D80K4
79	66	17.15	3980	2.7	SHKAF 37 D80K4
89	59	15.31	3880	3.0	
104	51	13.08	3730	3.3	
112	47	12.14	3660	3.4	
130	41	10.49	3520	4.0	
153	34	8.91	3370	4.7	
171	31	7.96	3270	5.1	
200	26	6.80	3130	5.7	
214	25	6.37	3070	5.9	
254	21	5.36	2920	6.8	
0.75kW					
0.11	58400	13116	175300	0.85	
0.12	51500	11647	187300	0.95	SHK 187 R97 D80N4
0.19	32800	7343	190000	1.50	SHKH 187 R97 D80N4
1.20	30000	6747	190000	1.65	
0.23	26500	5991	190000	1.90	
0.16	38600	8628	150000	0.85	
0.21	29300	6562	150000	1.10	SHK 167 R97 D80N4
0.26	23700	5355	150000	1.35	SHKH 167 R97 D80N4
0.34	18200	4079	150000	1.75	
0.41	15100	3376	150000	2.1	
0.35	17800	3979	112300	1.00	SHK 157 R97 D80N4
0.45	13600	3051	114100	1.30	SHKF 157 R97 D80N4
					SHKA 157 R97 D80N4
					SHKAF 157 R97 D80N4
					SHK 157 R97 D80N4
0.83	7440	1659	115900	2.4	SHKF 157 R97 D80N4
1.0	6040	1365	116200	3.0	SHKA 157 R97 D80N4
					SHKAF 157 R97 D80N4
0.42	15100	3311	75800	0.85	SHK 127 R77 D80N4
0.46	13700	3009	78600	0.95	SHKF 127 R77 D80N4
0.53	11800	2607	79800	1.10	SHKA 127 R77 D80N4
					SHKAF 127 R77 D80N4
0.72	8930	1926	81100	1.45	
0.79	8150	1757	81400	1.60	SHK 127 R77 D80N4
0.90	7120	1541	81700	1.85	SHKF 127 R77 D80N4
1.0	6220	1342	82000	2.1	SHKA 127 R77 D80N4
1.2	5440	1177	82200	2.4	SHKAF 127 R77 D80N4
1.4	4750	1025	82400	2.7	
1.5	4150	899	82500	3.1	
0.81	7960	1713	65000	1.00	
0.89	7230	1554	65000	1.10	
1.0	6210	1336	65000	1.30	SHK 107 R77 D80N4
1.2	5420	1166	65000	1.50	SHKF 107 R77 D80N4
1.3	4710	1030	65000	1.70	SHKA 107 R77 D80N4
1.5	4120	904	65000	1.95	SHKAF 107 R77 D80N4
1.7	3680	793	65000	2.2	
2.0	3210	696	65000	2.5	
2.2	2800	615	65000	2.8	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.75kW					
1.2	5180	1102	39700	0.85	
1.4	4490	957	40000	0.95	
1.6	4020	855	40000	1.05	
1.9	3430	743	40000	1.25	
2.1	3020	652	40000	1.40	SHK 97R57 D80N4
2.4	2680	573	40000	1.60	SHKF 97R57 D80N4
2.7	2320	504	40000	1.85	SHKA 97R57 D80N4
3.2	2010	437	40000	2.1	SHKAF 97R57 D80N4
3.6	1770	382	40000	2.4	
4.5	1420	305	40000	3.0	
5.4	1190	258	40000	3.6	
5.9	1080	232	40000	4.0	
6.9	920	199	40000	4.7	
1.9	3370	726	26300	0.80	
2.2	2970	638	26900	0.90	
2.5	2610	562	27400	1.05	
2.9	2200	474	27900	1.25	SHK 87R57 D80N4
3.2	1980	426	28100	1.35	SHKF 87R57 D80N4
3.7	1720	373	28300	1.55	SHKA 87R57 D80N4
4.2	1520	330	28500	1.80	SHKAF 87R57 D80N4
4.7	1350	294	28600	2.0	
5.5	1160	250	28700	2.3	
5.8	1100	236	28700	2.5	
6.9	930	201	28800	2.9	
3.8	1720	367	14000	0.90	
4.2	1540	328	15500	1.00	SHK 77R37 D80N4
4.8	1360	290	16600	1.15	SHKF 77R37 D80N4
5.5	1180	252	17500	1.30	SHKA 77R37 D80N4
6.2	1030	221	18200	1.50	SHKAF 77R37 D80N4
3.9	1830	176.05	40000	2.3	SHK 97 D100M8
4.5	1590	153.21	40000	2.7	SHKF 97 D100M8
4.9	1460	140.28	40000	3.0	SHKA 97 D100M8
					SHKAF 97 D100M8
4.7	1530	147.32	28500	1.75	SHK 87 D100M8
5.4	1320	126.91	28600	2.0	SHKF 87 D100M8
6.0	1200	115.82	28700	2.2	SHKA 87 D100M8
6.7	1070	102.71	28700	2.5	SHKAF 87 D100M8
5.2	1390	174.19	28600	1.95	SHK 87 D90S6
5.5	1310	164.34	28600	2.1	SHKF 87 D90S6
6.1	1170	147.32	28700	2.3	SHKA 87 D90S6
7.1	1010	126.91	28800	2.7	SHKAF 87 D90S6
7.0	1020	197.37	28800	2.6	SHK 87 D80N4
7.9	900	174.19	28800	3.0	SHKF 87 D80N4
8.4	850	164.34	28900	3.2	SHKA 87 D80N4
9.4	765	147.32	28900	3.5	SHKAF 87 D80N4
6.7	1080	135.28	18000	1.45	SHK 77 D90S6
7.0	1020	128.52	18200	1.50	SHKF 77 D90S6
7.9	900	113.56	18700	1.70	SHKA 77 D90S6
9.3	770	97.05	19100	2.0	SHKAF 77 D90S6
10	710	88.97	19200	2.2	
9.0	800	154.02	19000	1.95	SHK 77 D80N4
10	700	135.28	19300	2.2	SHKF 77 D80N4
11	665	128.52	19300	2.3	SHKA 77 D80N4
12	590	113.56	19500	2.6	SHKAF 77 D80N4
14	505	97.05	19700	3.1	
11	640	123.54	11700	1.30	SHK 67 D80N4
13	560	108.03	12100	1.45	SHKF 67 D80N4
15	465	90.04	12600	1.75	SHKA 67 D80N4
					SHKAF 67 D80N4
18	395	76.37	12800	2.1	SHK 67 D80N4
20	360	68.95	13000	2.3	SHKF 67 D80N4
23	315	60.66	13000	2.6	SHKA 67 D80N4
24	295	57.28	13000	2.8	SHKAF 67 D80N4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1)] [N]	Service factor f_B	Model
0.75kW					
11	645	123.85	7130	0.95	
13	560	108.29	7940	1.05	
13	535	102.88	8160	1.10	
15	470	90.26	8570	1.30	SHK 57 D80N4
18	395	76.56	8890	1.50	SHKF 57 D80N4
20	360	69.12	9060	1.65	SHKA 57 D80N4
23	315	60.81	9230	1.90	SHKAF 57 D80N4
24	300	57.42	9290	2.0	
28	255	48.89	9450	2.4	
31	230	44.43	9530	2.6	
18	390	75.20	6060	1.00	SHK 47 D80N4
20	365	69.84	6410	1.10	SHKF 47 D80N4
22	330	63.30	6790	1.20	SHKA 47 D80N4
					SHKAF 47 D80N4
24	295	56.83	7110	1.35	
28	255	48.95	7430	1.55	SHK 47 D80N4
30	240	46.03	7540	1.65	SHKF 47 D80N4
35	205	39.61	7740	1.95	SHKA 47 D80N4
39	184	35.39	7760	2.2	SHKAF 47 D80N4
44	162	31.30	7550	2.5	
31	230	44.46	4170	0.85	
36	197	37.97	4150	1.00	
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	SHK 37 D80N4
68	105	20.19	3860	1.75	SHKF 37 D80N4
80	89	17.15	3750	2.0	SHKA 37 D80N4
90	80	15.31	3670	2.2	SHKAF 37 D80N4
105	68	13.08	3550	2.4	
114	63	12.14	3500	2.5	
132	54	10.49	3380	2.9	
155	46	8.91	3250	3.5	
173	41	7.96	3160	3.8	
203	35	6.80	3030	4.2	
217	33	6.37	2980	4.4	
257	28	5.36	2840	5.0	
1.1kW					
0.15	60700	9363	171000	0.80	
0.17	52400	8126	185900	0.95	
0.19	48300	7343	190000	1.05	
0.21	44300	6747	190000	1.15	SHK 187 R97 D90S4
0.23	39200	5991	190000	1.30	SHKH 187 R97 D90S4
0.26	34900	5358	190000	1.45	
0.29	31200	4817	190000	1.60	
0.32	28300	4370	190000	1.75	
0.26	35000	5355	150000	0.90	
0.29	31200	4788	150000	1.05	
0.34	26800	4079	150000	1.20	SHK 167 R97 D90S4
0.41	22200	3376	150000	1.45	SHKH 167 R97 D90S4
0.51	18000	2755	150000	1.80	
0.64	14600	2182	150000	2.2	
0.82	11300	1704	150000	2.8	SHK 167 R97 D90S4
0.99	9330	1408	150000	3.4	SHKH 167 R97 D90S4
1.1	8560	1296	150000	3.7	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1)] [N]	Service factor f_B	Model
1.1kW					
0.40	22900	3516	109300	0.80	SHK 157 R97 D90S4
0.46	20100	3051	111100	0.90	SHKF 157 R97 D90S4
0.54	16900	2610	112700	1.05	SHKA 157 R97 D90S4
0.60	15100	2322	113500	1.20	SHKAF 157 R97 D90S4
0.84	11000	1659	115000	1.65	
1.0	8970	1365	115600	2.0	SHK 157 R97 D90S4
1.1	8030	1229	115800	2.2	SHKF 157 R97 D90S4
1.3	7150	1093	116000	2.5	SHKA 157 R97 D90S4
1.5	6160	942	116100	2.9	SHKAF 157 R97 D90S4
1.6	5550	854	116200	3.2	
0.73	13100	1926	79100	1.00	
0.80	11900	1757	79800	1.10	
0.91	10400	1541	80500	1.25	
1.0	9100	1342	81100	1.45	SHK 127 R77 D90S4
1.2	7960	1177	81500	1.65	SHKF 127 R77 D90S4
1.4	6950	1025	81800	1.85	SHKA 127 R77 D90S4
1.6	6080	899	82000	2.1	SHKAF 127 R77 D90S4
1.8	5270	790	82200	2.5	
2.0	4740	704	82400	2.7	
2.3	4090	610	82500	3.2	
2.5	3690	549	82500	3.5	
2.9	3180	477	82600	4.1	
1.2	7920	1166	65000	1.00	
1.4	6920	1030	65000	1.15	
1.5	6050	904	65000	1.30	
1.8	5380	793	65000	1.50	SHK 107 R77 D90S4
2.0	4700	696	65000	1.70	SHKF 107 R77 D90S4
2.3	4120	615	65000	1.95	SHKA 107 R77 D90S4
2.7	3500	522	65000	2.3	SHKAF 107 R77 D90S4
3.0	3080	461	65000	2.6	
3.4	2720	408	65000	2.9	
3.8	2450	364	65000	3.3	
4.4	2140	318	65000	3.7	
1.9	5030	743	39900	0.85	
2.2	4420	652	40000	0.95	SHK 97 R57 D90S4
2.4	3910	573	40000	1.10	SHKF 97 R57 D90S4
2.8	3400	504	40000	1.25	SHKA 97 R57 D90S4
3.2	2940	437	40000	1.45	SHKAF 97 R57 D90S4
3.7	2590	382	40000	1.65	
4.1	2300	342	40000	1.85	
3.0	3220	474	26600	0.85	
3.3	2890	426	27000	0.95	
3.8	2520	373	27500	1.05	SHK 87 R57 D90S4
4.2	2230	330	27800	1.20	SHKF 87 R57 D90S4
4.8	1980	294	28100	1.35	SHKA 87 R57 D90S4
5.6	1700	250	28300	1.60	SHKAF 87 R57 D90S4
5.9	1600	236	28400	1.70	
7.0	1360	201	28600	2.0	
3.9	2720	176.05	40000	1.60	SHK 97 D100L8
4.4	2370	153.21	40000	1.80	SHKF 97 D100L8
4.8	2170	140.28	40000	2.0	SHKA 97 D100L8
5.5	1910	123.93	40000	2.2	SHKAF 97 D100L8
5.2	2010	176.05	40000	2.1	SHK 97 D90L6
6.0	1750	153.21	40000	2.5	SHKF 97 D90L6
6.6	1600	140.28	40000	2.7	SHKA 97 D90L6
7.4	1420	123.93	40000	3.0	SHKAF 97 D90L6
					SHK 97 D90S4
7.9	1320	176.05	40000	3.3	SHKF 97 D90S4
9.1	1150	153.21	40000	3.7	SHKA 97 D90S4
10	1050	140.28	40000	4.1	SHKAF 97 D90S4
5.3	1990	174.19	28100	1.35	SHK 87 D90L6
5.6	1880	164.34	28200	1.45	SHKF 87 D90L6
6.2	1680	147.32	28300	1.60	SHKA 87 D90L6
7.2	1450	126.91	28500	1.85	SHKAF 87 D90L6

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1)] [N]	Service factor f_B	Model
1.1kW					
8.0	1310	174.19	28600	2.1	SHK 87 D90S4
8.5	1230	164.34	28700	2.2	SHKF 87 D90S4
9.5	1110	147.32	28700	2.4	SHKA 87 D90S4
11	950	126.91	28800	2.8	SHKAF 87 D90S4
12	870	115.82	28800	3.1	
6.8	1540	135.28	15400	1.00	SHK 77 D90L6
7.2	1470	128.52	15900	1.05	SHKF 77 D90L6
8.1	1300	113.56	17000	1.20	SHKA 77 D90L6
9.5	1110	97.05	17900	1.40	SHKAF 77 D90L6
					SHK 77 D90S4
10	1020	135.28	18300	1.55	SHKF 77 D90S4
11	960	128.52	18400	1.60	SHKA 77 D90S4
12	850	113.56	18800	1.80	SHKAF 77 D90S4
14	730	97.05	19200	2.1	SHK 77 D90S4
16	670	88.97	19300	2.3	SHKF 77 D90S4
18	585	78.07	19500	2.7	SHKA 77 D90S4
19	555	73.99	19600	2.8	SHKAF 77 D90S4
13	810	108.03	10400	1.00	
14	770	102.62	10700	1.05	SHK 67 D90S4
16	675	90.04	11400	1.20	SHKF 67 D90S4
18	575	76.37	12000	1.45	SHKA 67 D90S4
20	515	68.95	12300	1.60	SHKAF 67 D90S4
23	455	60.66	12600	1.80	
24	430	57.28	12700	1.90	SHK 67 D90S4
29	365	48.77	12900	2.2	SHKF 67 D90S4
32	335	44.32	13000	2.5	SHKA 67 D90S4
36	290	38.39	13000	2.8	SHKAF 67 D90S4
16	675	90.26	2410	0.90	
18	575	76.56	7840	1.05	
20	520	69.12	8280	1.15	
23	455	60.81	8630	1.30	SHK 57 D90S4
24	430	57.42	8750	1.40	SHKF 57 D90S4
29	365	48.89	9020	1.65	SHKA 57 D90S4
32	335	44.43	9160	1.80	SHKAF 57 D90S4
36	290	38.49	9330	2.1	
39	270	35.70	9400	2.2	
46	225	30.28	9540	2.6	
51	205	27.34	9510	2.9	
58	181	24.05	9220	3.3	
62	170	22.71	9090	3.5	
72	145	19.34	8720	4.0	
80	132	17.57	8510	4.2	SHK 57 D90S4
92	114	15.22	8180	4.7	SHKF 57 D90S4
106	99	13.25	7880	5.1	SHKA 57 D90S4
117	90	11.92	7570	4.6	SHKAF 57 D90S4
124	85	11.26	7450	4.9	
146	72	9.59	7120	5.6	
161	65	8.71	6930	6.0	
186	57	7.55	6650	6.4	
213	49	6.57	6380	7.0	
					SHK 47 D90S4
25	425	56.83	3310	0.95	SHKF 47 D90S4
29	365	48.95	6360	1.10	SHKA 47 D90S4
30	345	46.03	6610	1.15	SHKAF 47 D90S4
35	295	39.61	7090	1.35	
40	265	35.39	7090	1.50	SHK 47 D90S4
45	235	31.30	6960	1.70	SHKF 47 D90S4
48	220	29.32	6890	1.80	SHKA 47 D90S4
54	194	25.91	6730	2.1	SHKAF 47 D90S4
64	164	21.81	6510	2.4	
72	147	19.58	6360	2.7	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1)] [N]	Service factor f_B	Model
1.1kW					
47	225	29.96	3420	0.90	
56	188	24.99	3440	1.05	
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	SHK 37 D90S4
107	98	13.08	3260	1.70	SHKF 37 D90S4
115	91	12.14	3220	1.75	SHKA 37 D90S4
133	79	10.49	3140	2.0	SHKAF 37 D90S4
157	67	8.91	3040	2.4	
176	60	7.96	2970	2.6	
206	51	6.80	2870	2.9	
220	48	6.37	2830	3.0	
261	40	5.36	2720	3.5	
1.5kW					
0.21	60700	6747	171100	0.80	
0.24	53700	5991	183600	0.95	
0.26	47900	5358	190000	1.05	SHK 187 R97 D90L4
0.29	42900	4817	190000	1.15	SHKH 187 R97 D90L4
0.32	38900	4370	190000	1.30	
0.39	33000	3609	190000	1.50	
0.46	27800	3062	190000	1.80	SHK 187 R97 D90L4
0.56	22800	2519	190000	2.2	SHKH 187 R97 D90L4
0.62	20400	2268	190000	2.5	
0.35	36700	4079	150000	0.85	
0.42	30400	3376	150000	1.05	SHK 167 R97 D90L4
0.51	24700	2755	150000	1.30	SHKH 167 R97 D90L4
0.65	19900	2182	150000	1.60	
0.83	15500	1704	150000	2.1	SHK 167 R97 D90L4
1.0	12800	1408	150000	2.5	SHKH 167 R97 D90L4
1.1	11800	1296	150000	2.7	
0.61	20700	2322	110700	1.85	SHK 157 R97 D90L4 SHKF 157 R97 D90L4 SHKA 157 R97 D90L4 SHKAF 157 R97 D90L4
0.85	15100	1659	113500	1.20	
1.0	12300	1365	114600	1.45	
1.1	11100	1229	115000	1.65	SHK 157 R97 D90L4
1.3	9840	1093	115300	1.85	SHKF 157 R97 D90L4
1.5	8480	942	115700	2.1	SHKA 157 R97 D90L4
1.6	7650	854	115900	2.3	SHKAF 157 R97 D90L4
2.5	5050	567	116300	3.6	
2.8	4490	504	116400	4.0	
2.6	4820	536	82300	2.7	SHK 127 R87 D90L4 SHKF 127 R87 D90L4 SHKA 127 R87 D90L4 SHKAF 127 R87 D90L4
3.4	3770	418	82500	3.5	
3.8	3330	367	82600	3.9	
0.80	16200	1757	73400	0.80	
0.91	14200	1541	77500	0.90	
1.0	12400	1342	79500	1.05	
1.2	10900	1177	80300	1.20	
1.4	9470	1025	80900	1.35	SHK 127 R77 D90L4
1.6	8300	899	81400	1.55	SHKF 127 R77 D90L4
1.8	7210	790	81700	1.80	SHKA 127 R77 D90L4
2.0	6480	704	81900	2.0	SHKAF 127 R77 D90L4
2.3	5590	610	82200	2.3	
2.6	5040	549	82300	2.6	
3.0	4360	477	82400	3.0	
3.4	3840	418	82500	3.4	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
1.5kW					
1.4	9460	1030	65000	0.85	
1.6	8280	904	65000	0.95	
1.8	7330	739	65000	1.10	
2.0	6420	696	65000	1.25	SHK 107 R77 D90L4
2.3	5640	615	65000	1.40	SHKF 107 R77 D90L4
2.7	4780	522	65000	1.65	SHKA 107 R77 D90L4
3.1	4210	461	65000	1.90	SHKAF 107 R77 D90L4
3.5	3720	408	65000	2.2	
3.9	3350	364	65000	2.4	
4.4	2920	318	65000	2.7	
2.5	5320	573	39500	0.80	
2.8	4650	504	40000	0.95	
3.2	4020	437	40000	1.05	SHK 97 R57 D90L4
3.7	3540	382	40000	1.20	SHKF 97 R57 D90L4
4.1	3140	342	40000	1.35	SHKA 97 R57 D90L4
4.6	2820	305	40000	1.50	SHKAF 97 R57 D90L4
5.5	2380	258	40000	1.80	
6.1	2140	232	40000	2.0	
7.1	1840	199	40000	2.3	
4.3	3040	330	26800	0.90	
4.8	2700	294	27300	1.00	SHK 87 R57 D90L4
5.6	2310	250	27700	1.15	SHKF 87 R57 D90L4
6.0	2180	236	27900	1.25	SHKA 87 R57 D90L4
7.0	1860	201	28200	1.45	SHKAF 87 R57 D90L4
7.7	1690	183	28300	1.60	
4.9	2940	143.47	65000	2.7	SHK 107 D112M8
5.8	2490	121.46	65000	3.2	SHKF 107 D112M8
6.2	2300	112.41	65000	3.5	SHKA 107 D112M8
					SHKAF 107 D112M8
4.6	3140	153.21	40000	1.35	SHK 97 D112M8
5.0	2870	140.28	40000	1.50	SHKF 97 D112M8
5.7	2540	123.93	40000	1.70	SHKA 97 D112M8
					SHKAF 97 D112M8
5.2	2740	176.05	40000	1.55	SHK 97 D100M6
6.0	2390	153.21	40000	1.80	SHKF 97 D100M6
6.6	2180	140.28	40000	1.95	SHKA 97 D100M6
7.4	1930	123.93	40000	2.2	SHKAF 97 D100M6
8.0	1790	176.05	40000	2.4	SHK 97 D90L4
9.2	1560	153.21	40000	2.8	SHKF 97 D90L4
10	1430	140.28	40000	3.0	SHKA 97 D90L4
11	1260	123.93	40000	3.4	SHKAF 97 D90L4
6.2	2290	147.32	27800	1.20	SHK 87 D100M6
7.2	1980	126.91	28100	1.35	SHKF 87 D100M6
7.9	1800	115.82	28200	1.50	SHKA 87 D100M6
9.0	1600	102.71	28400	1.70	SHKAF 87 D100M6
8.1	1770	174.19	28300	1.55	
8.6	1670	164.34	28300	1.60	SHK 87 D90L4
9.6	1500	147.32	28500	1.80	SHKF 87 D90L4
11	1290	126.91	28600	2.1	SHKA 87 D90L4
12	1180	115.82	28700	2.3	SHKAF 87 D90L4
14	1040	102.71	28800	2.6	
16	880	86.34	28800	3.1	
8.1	1770	113.56	13600	0.90	SHK 77 D100M6
9.5	1510	97.05	15700	1.05	SHKF 77 D100M6
10	1390	88.97	16400	1.10	SHKA 77 D100M6
12	1220	78.07	17400	1.30	SHKAF 77 D100M6
10	1370	135.28	16500	1.15	SHK 77 D90L4
11	1310	128.52	16900	1.20	SHKF 77 D90L4
12	1150	113.56	17700	1.35	SHKA 77 D90L4
15	990	97.05	18400	1.55	SHKAF 77 D90L4
16	900	88.97	18700	1.70	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
1.5kW					
18	795	78.07	19000	1.95	
19	750	73.99	19100	2.1	
22	660	64.75	19400	2.4	SHK 77 D90L4
24	595	58.34	19500	2.6	SHKF 77 D90L4
28	520	51.18	19700	3.0	SHKA 77 D90L4
31	460	45.16	19800	3.4	SHKAF 77 D90L4
35	405	40.04	19800	3.8	
16	910	90.04	9370	0.90	
18	775	76.37	10700	1.05	SHK 67 D90L4
20	700	68.95	11300	1.15	SHKF 67 D90L4
23	615	60.66	11800	1.35	SHKA 67 D90L4
25	580	57.28	12000	1.40	SHKAF 67 D90L4
29	495	48.77	12400	1.65	
32	450	44.32	12600	1.80	
37	390	38.39	12800	2.0	SHK 67 D90L4
40	360	35.62	12900	2.3	SHKF 67 D90L4
47	305	30.22	13000	2.7	SHKA 67 D90L4
52	275	27.28	13000	3.0	SHKAF 67 D90L4
59	245	24.00	13000	3.3	
23	620	60.81	7480	0.95	SHK 57 D90L4
25	685	57.42	7770	1.05	SHKF 57 D90L4
29	495	48.89	8430	1.20	SHKA 57 D90L4
32	450	44.43	8650	1.35	SHKAF 57 D90L4
37	390	38.49	8920	1.55	
39	365	35.70	9040	1.65	SHK 57 D90L4
47	310	30.28	9190	1.95	SHKF 57 D90L4
52	280	27.34	9010	2.2	SHKA 57 D90L4
59	245	24.05	8780	2.5	SHKAF 57 D90L4
62	230	22.71	8670	2.6	
73	196	19.34	8360	2.9	
36	400	39.61	5890	1.00	SHK 47 D90L4
40	360	35.39	6360	1.10	SHKF 47 D90L4
45	320	31.30	6310	1.25	SHKA 47 D90L4
					SHKAF 47 D90L4
48	300	29.32	6270	1.35	
54	265	25.91	6190	1.50	
65	220	21.81	6050	1.80	SHK 47 D90L4
72	199	19.58	5950	2.0	SHKF 47 D90L4
84	171	16.86	5800	2.2	SHKA 47 D90L4
89	161	15.86	5730	2.4	SHKAF 47 D90L4
103	139	13.65	5560	2.6	
116	124	12.19	5430	2.8	
120	120	11.17	5340	2.3	
60	235	23.36	2860	0.80	
70	205	20.19	2920	0.90	
82	174	17.15	2940	1.05	
92	156	15.31	2950	1.10	SHK 37 D90L4
108	133	13.08	2930	1.25	SHKF 37 D90L4
116	123	12.14	2920	1.30	SHKA 37 D90L4
134	107	10.49	2880	1.50	SHKAF 37 D90L4
158	91	8.91	2820	1.75	
177	81	7.96	2770	1.90	
207	69	6.80	2700	2.2	
221	65	6.37	2670	2.2	
263	55	5.36	2580	2.6	
2.2kW					
0.32	57900	4370	176200	0.85	SHK 187 R97 D100M4
0.50	37000	2818	190000	1.35	SHKH 187 R97 D100M4
0.39	48800	3609	190000	1.00	
0.46	41300	3062	190000	1.20	
0.56	33800	2519	190000	1.50	SHK 187 R97 D100M4
0.62	30400	2268	190000	1.65	SHKH 187 R97 D100M4
0.69	27400	2054	190000	1.80	
0.77	24200	1821	190000	2.1	
0.88	21400	1605	190000	2.3	
0.51	36600	2755	150000	0.85	SHK 167 R97 D100M4
0.62	29800	2263	150000	1.05	SHKH 167 R97 D100M4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
2.2kW					
0.65	29500	2182	150000	1.10	
0.83	22900	1704	150000	1.40	
1.0	19000	1408	150000	1.70	SHK 167 R97 D100M4
1.1	17400	1296	150000	1.85	SHKH 167 R97 D100M4
1.3	14700	1101	150000	2.2	
1.5	12600	944	150000	2.5	
0.85	22400	1659	109700	0.80	
1.0	18300	1365	112000	1.00	SHK 157 R97 D100M4
1.1	16500	1229	112900	1.10	SHKF 157 R97 D100M4
1.3	14600	1093	113700	1.25	SHKA 157 R97 D100M4
1.5	12600	942	114500	1.45	SHKAF 157 R97 D100M4
1.6	11400	854	114900	1.60	
1.9	9990	756	115300	1.80	
2.6	7180	536	81700	1.80	SHK 127 R87 D100M4
3.0	6310	473	82000	2.1	SHKF 127 R87 D100M4
3.4	5600	418	82200	2.3	SHKA 127 R87 D100M4
3.8	4950	367	82300	2.6	SHKAF 127 R87 D100M4
4.3	4440	330	82400	2.9	
1.4	14000	1025	78000	0.95	
1.6	12200	899	79600	1.05	SHK 127 R77 D100M4
1.8	10700	790	80400	1.20	SHKF 127 R77 D100M4
2.0	9580	704	80900	1.35	SHKA 127 R77 D100M4
2.3	8280	610	81400	1.55	SHKAF 127 R77 D100M4
2.6	7460	549	81600	1.75	
3.0	6460	477	81900	2.0	
3.4	5680	418	82100	2.3	
2.3	8340	615	65000	0.95	
2.7	7070	522	65000	1.15	
3.1	6230	461	65000	1.30	SHK 107 R77 D100M4
3.5	5520	408	65000	1.45	SHKF 107 R77 D100M4
3.9	4940	364	65000	1.60	SHKA 107 R77 D100M4
4.4	4320	318	65000	1.85	SHKAF 107 R77 D100M4
4.9	3890	286	65000	2.1	
5.6	3410	251	65000	2.3	
3.7	5210	382	39700	0.80	
4.1	4640	342	40000	0.95	SHK 97 R57 D100M4
4.6	4170	305	40000	1.05	SHKF 97 R57 D100M4
5.5	3510	258	40000	1.20	SHKA 97 R57 D100M4
6.1	3160	232	40000	1.35	SHKAF 97 R57 D100M4
7.1	2710	199	40000	1.60	
4.9	4310	143.47	65000	1.85	SHK 107 D132S8
5.8	3650	121.46	65000	2.2	SHKF 107 D132S8
6.2	3370	112.41	65000	2.4	SHKA 107 D132S8
6.9	3020	100.75	65000	2.7	SHKAF 107 D132S8
6.1	3420	153.21	40000	1.25	SHK 97 D112M6
6.7	3140	140.28	40000	1.35	SHKF 97 D112M6
7.6	2770	123.93	40000	1.55	SHKA 97 D112M6
8.9	2350	105.13	40000	1.85	SHKAF 97 D112M6
8.0	2620	176.05	40000	1.65	SHK 97 D100M4
9.2	2280	153.21	40000	1.90	SHKF 97 D100M4
10	2090	140.28	40000	2.1	SHKA 97 D100M4
11	1850	123.93	40000	2.3	SHKAF 97 D100M4
13	1570	105.13	40000	2.8	SHK 97 D100M4
15	1440	96.80	40000	3.0	SHKF 97 D100M4
					SHKA 97 D100M4
					SHKAF 97 D100M4
9.6	2200	147.32	27900	1.25	SHK 87 D100M4
11	1890	126.91	28200	1.45	SHKF 87 D100M4
12	1730	115.82	28300	1.55	SHKA 87 D100M4
					SHKAF 87 D100M4
14	1530	102.71	28500	1.75	SHK 87 D100M4
16	1290	86.34	28600	2.1	SHKF 87 D100M4
18	1180	79.34	28700	2.3	SHKA 87 D100M4
20	1050	70.46	28800	2.6	SHKAF 87 D100M4
22	940	63.00	28800	2.9	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
2.2kW					
12	1690	113.56	14300	0.90	
15	1450	97.05	16100	1.05	SHK 77 D100M4
16	1330	88.97	16800	1.15	SHKF 77 D100M4
18	1160	78.07	17600	1.35	SHKA 77 D100M4
19	1100	73.99	17900	1.40	SHKAF 77 D100M4
22	960	64.75	18400	1.60	
24	870	58.34	18800	1.80	
28	765	51.18	19100	2.0	
31	675	45.16	19300	2.3	SHK 77 D100M4
35	595	40.04	19500	2.6	SHKF 77 D100M4
40	525	35.20	19700	3.0	SHKA 77 D100M4
46	460	30.89	19800	3.4	SHKAF 77 D100M4
48	435	29.27	19800	3.6	
55	380	25.62	19900	4.1	
23	900	60.66	9490	0.90	
25	850	57.28	10000	0.95	SHK 67 D100M4
29	725	48.77	11100	1.15	SHKF 67 D100M4
32	660	44.32	11500	1.25	SHKA 67 D100M4
37	570	38.39	12100	1.40	SHKAF 67 D100M4
40	530	35.62	12300	1.55	
47	450	30.22	12600	1.80	
52	405	27.28	12800	2.0	
59	360	24.00	13000	2.2	
62	340	22.66	13000	2.3	
73	285	19.30	13000	2.6	
80	260	17.54	13000	2.8	SHK 67 D100M4
93	225	15.19	13000	3.1	SHKF 67 D100M4
107	197	13.22	13000	3.4	SHKA 67 D100M4
113	186	12.48	13000	2.8	SHKAF 67 D100M4
133	158	10.63	13000	3.2	
146	144	9.66	13000	3.3	
169	125	8.37	13000	3.5	
194	109	7.28	12700	3.9	
32	660	44.43	5100	0.90	SHK 57 D100M4
37	575	38.49	7850	1.05	SHKF 57 D100M4
39	530	35.70	8080	1.15	SHKA 57 D100M4
47	450	30.28	8250	1.35	SHKAF 57 D100M4
52	405	27.34	8160	1.45	
59	360	24.05	8030	1.65	
62	340	22.71	7970	1.75	SHK 57 D100M4
73	290	19.34	7760	2.0	SHKF 57 D100M4
80	260	17.57	7630	2.1	SHKA 57 D100M4
93	225	15.22	7430	2.4	SHKAF 57 D100M4
106	197	13.25	7220	2.6	
118	178	11.92	6890	2.3	
125	168	11.26	6810	2.5	
54	385	25.91	5260	1.05	SHK 47 D100M4
65	325	21.81	5260	1.25	SHKF 47 D100M4
72	290	19.58	5240	1.35	SHKA 47 D100M4
					SHKAF 47 D100M4
84	250	16.86	5190	1.50	
89	235	15.86	5160	1.60	SHK 47 D100M4
103	205	123.65	5070	1.75	SHKF 47 D100M4
116	182	12.19	4990	1.95	SHKA 47 D100M4
120	175	11.77	4890	1.60	SHKAF 47 D100M4
133	157	10.56	4 810	1.80	
155	136	9.10	4690	2.1	
108	195	13.08	2370	0.85	
134	156	10.49	2430	1.00	SHK 37 D100M4
158	133	8.91	2440	1.20	SHKF 37 D100M4
177	119	7.96	2430	1.30	SHKA 37 D100M4
207	101	6.80	2410	1.50	SHKAF 37 D100M4
221	95	6.37	2400	1.55	
263	80	5.36	2350	1.75	
3.0kW					
0.50	51300	2818	187700	0.95	SHK 187 D100M4
					SHKH 187 D100M4

3.0kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
0.46	57100	3062	177600	0.90	
0.56	46800	2519	190000	1.05	
0.62	42100	2268	190000	1.20	
0.68	38000	2054	190000	1.30	SHK 187 R97 D100L4
0.77	33600	1821	190000	1.50	SHKH 187 R97 D100L4
0.87	29700	1605	190000	1.70	
1.0	25600	1395	190000	1.95	
1.2	22100	1196	190000	2.3	
0.82	31700	1704	150000	1.00	
0.99	26200	1408	150000	1.20	
1.1	24100	1296	150000	1.35	SHK 167 R97 D100L4
1.3	20300	1101	150000	1.55	SHKH 167 R97 D100L4
1.5	17500	944	150000	1.85	
1.7	15500	843	150000	2.1	
1.9	14000	757	150000	2.3	
1.1	22800	1229	109400	0.80	
1.3	20300	1093	111000	0.90	SHK 157 R97 D100L4
1.5	17500	942	112400	1.05	SHKF 157 R97 D100L4
1.6	15800	854	113200	1.15	SHKA 157 R97 D100L4
1.9	13900	756	114000	1.30	SHKAF 157 R97 D100L4
2.5	10500	567	115200	1.70	
2.8	9310	504	115500	1.95	
2.6	9940	536	80700	1.30	
3.0	8750	473	81200	1.50	SHK 127 R87 D100L4
3.3	7760	418	81500	1.70	SHKF 127 R87 D100L4
3.8	6840	367	81800	1.90	SHKA 127 R87 D100L4
4.2	6140	330	82000	2.1	SHKAF 127 R87 D100L4
4.9	5300	287	82200	2.5	
1.8	14800	790	76500	0.90	
2.0	13200	704	79100	1.00	SHK 127 R77 D100L4
2.3	11400	610	80000	1.15	SHKF 127 R77 D100L4
2.5	10300	549	80600	1.25	SHKA 127 R77 D100L4
2.9	8920	477	81100	1.45	SHKAF 127 R77 D100L4
3.3	7840	418	81500	1.65	
3.0	8610	461	65000	0.95	
3.4	7620	408	65000	1.05	
3.8	6820	364	65000	1.15	
4.4	5960	318	65000	1.35	
4.9	5370	286	65000	1.50	SHK 107 R77 D100L4
5.6	4700	251	65000	1.70	SHKF 107 R77 D100L4
6.3	4150	222	65000	1.95	SHKA 107 R77 D100L4
7.1	3670	196	65000	2.2	SHKAF 107 R77 D100L4
8.1	3250	174	65000	2.2	
9.1	2880	154	65000	2.5	
10	2610	140	65000	2.8	
5.4	4840	258	40000	0.90	SHK 97 R57 D100L4
6.0	4360	232	40000	1.00	SHKF 97 R57 D100L4
7.0	3740	199	40000	1.15	SHKA 97 R57 D100L4
					SHKAF 97 R57 D100L4
5.0	5710	143.47	65000	1.40	
5.9	4830	121.46	65000	1.65	SHK 107 D132M8
6.4	4470	112.41	65000	1.80	SHKF 107 D132M8
7.2	4010	100.75	65000	2.0	SHKA 107 D132M8
7.9	3620	90.96	65000	2.2	SHKAF 107 D132M8
6.6	4370	143.47	65000	1.85	SHK 107 D132S6
7.7	3700	121.46	65000	2.2	SHKF 107 D132S6
8.4	3430	112.41	65000	2.3	SHKA 107 D132S6
9.3	3070	100.75	65000	2.6	SHKAF 107 D132S6
					SHK 107 D100L4
9.8	2940	143.47	65000	2.7	SHKF 107 D100L4
12	2490	121.46	65000	3.2	SHKA 107 D100L4
					SHKAF 107 D100L4
7.6	3780	123.93	40000	1.15	SHK 97 D132S6
8.9	3200	105.13	40000	1.35	SHKF 97 D132S6
9.7	2950	96.80	40000	1.45	SHKA 97 D132S6
11	2640	86.52	40000	1.65	SHKAF 97 D132S6

3.0kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
7.9	3600	176.05	40000	1.20	SHK 97 D100L4
9.1	3140	153.21	40000	1.35	SHKF 97 D100L4
10	2870	140.28	40000	1.50	SHKA 97 D100L4
11	2540	123.93	40000	1.70	SHKAF 97 D100L4
13	2150	105.13	40000	2.0	
14	1980	96.80	40000	2.2	SHK 97 D100L4
16	1770	86.52	40000	2.4	SHKF 97 D100L4
18	1590	77.89	40000	2.7	SHKA 97 D100L4
20	1440	70.54	40000	3.0	SHKAF 97 D100L4
22	1280	62.55	40000	3.4	
25	1160	56.55	40000	3.7	
9.5	3010	147.32	26900	0.90	SHK 87 D100L4
11	2600	126.91	27400	1.05	SHKF 87 D100L4
12	2370	115.82	27700	1.15	SHKA 87 D100L4
14	2100	102.71	28000	1.30	SHKAF 87 D100L4
16	1770	86.34	28300	1.55	
18	1620	79.34	28400	1.65	
20	1440	70.46	28500	1.85	SHK 87 D100L4
22	1290	63.00	28600	2.1	SHKF 87 D100L4
25	1160	56.64	28700	2.3	SHKA 87 D100L4
28	1010	49.16	28800	2.7	SHKAF 87 D100L4
32	900	44.02	28800	2.9	
38	745	36.52	28400	3.3	
16	1820	88.97	13100	0.85	
18	1600	78.07	15000	0.95	SHK 77 D100L4
19	1510	73.99	15600	1.00	SHKF 77 D100L4
22	1330	64.75	16800	1.15	SHKA 77 D100L4
24	1190	58.34	17500	1.30	SHKAF 77 D100L4
27	1050	51.18	18100	1.50	
31	920	45.16	18600	1.70	SHK 77 D100L4
35	820	40.04	18900	1.90	SHKF 77 D100L4
40	720	35.20	19200	2.2	SHKA 77 D100L4
45	630	30.89	19400	2.5	SHKAF 77 D100L4
32	910	44.32	9450	0.90	
36	785	38.39	10600	1.00	SHK 67 D100L4
39	730	35.62	11100	1.15	SHKF 67 D100L4
46	620	30.22	11800	1.35	SHKA 67 D100L4
51	560	27.28	12100	1.45	SHKAF 67 D100L4
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	2.1	SHK 67 D100L4
92	310	15.19	13000	2.2	SHKF 67 D100L4
106	270	13.22	13000	2.5	SHKA 67 D100L4
112	255	12.48	13000	2.1	SHKAF 67 D100L4
132	220	10.63	13000	2.3	
145	198	9.66	13000	2.4	
46	620	30.28	7180	0.95	SHK 57 D100L4
51	560	27.34	7190	1.05	SHKF 57 D100L4
58	490	24.05	7180	1.20	SHKA 57 D100L4
					SHKAF 57 D100L4
62	465	22.71	7160	1.30	
72	395	19.34	7080	1.45	
80	360	17.57	7020	1.55	
92	310	15.22	6890	1.70	SHK 57 D100L4
106	270	13.25	6750	1.90	SHKF 57 D100L4
117	245	19.92	6420	1.70	SHKA 57 D100L4
124	230	11.26	6370	1.80	SHKAF 57 D100L4
146	196	9.59	6200	2.1	
161	178	8.71	6090	2.2	
186	154	7.55	5920	2.4	
213	134	6.57	5750	2.6	
72	400	19.58	4430	1.00	SHK 47 D100L4
83	345	16.86	4490	1.10	SHKF 47 D100L4
88	325	15.86	4500	1.15	SHKA 47 D100L4
					SHKAF 47 D100L4

3.0kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
103	280	13.65	4510	1.30	
115	250	12.19	4490	1.40	
119	240	11.77	4370	1.15	SHK 47 D100L4
133	215	10.56	4350	1.30	SHKF 47 D100L4
154	186	9.10	4290	1.50	SHKA 47 D100L4
164	175	8.56	4270	1.55	SHKAF 47 D100L4
190	151	7.36	4190	1.65	
213	135	6.58	4120	1.80	
241	119	5.81	4030	1.95	
157	182	8.91	2000	0.90	SHK 37 D100L4
176	163	7.96	2040	0.95	SHKF 37 D100L4
206	139	6.80	2080	1.10	SHKA 37 D100L4
220	130	6.37	2080	1.10	SHKAF 37 D100L4
261	110	5.36	2090	1.30	

4.0kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
1.7	20300	835	190000	2.5	SHK 187 R107 D112M4
2.7	12600	520	190000	4.0	SHKH 187 R107 D112M4
0.56	61900	2519	168800	0.80	
0.63	55600	2268	180200	0.90	
0.69	50300	2054	189400	1.00	
0.78	44500	1821	190000	1.10	SHK 187 R97 D112M4
0.88	39300	1605	190000	1.25	SHKH 187 R97 D112M4
1.0	34000	1395	190000	1.45	
1.2	29200	1196	190000	1.70	
1.4	25600	1046	190000	1.95	
1.5	23100	945	190000	2.2	
1.0	34600	1408	150000	0.90	
1.1	31900	1296	150000	1.00	
1.3	26900	1101	150000	1.20	
1.5	23100	944	150000	1.40	SHK 167 R97 D112M4
1.7	20500	843	150000	1.55	SHKH 167 R97 D112M4
1.9	18500	757	150000	1.75	
2.2	15400	632	150000	2.1	
1.7	20900	854	110600	0.85	SHK 157 R97 D112M4
1.9	18400	756	112000	1.00	SHKF 157 R97 D112M4
2.5	13800	567	114000	1.30	SHKA 157 R97 D112M4
2.8	12300	504	114600	1.45	SHKAF 157 R97 D112M4
3.3	10600	434	115100	1.70	
2.7	13100	536	79100	1.00	
3.0	11600	473	79900	1.10	SHK 127 R87 D112M4
3.4	10300	418	80600	1.25	SHKF 127 R87 D112M4
3.9	9040	367	81100	1.45	SHKA 127 R87 D112M4
4.3	8120	330	81400	1.60	SHKAF 127 R87 D112M4
5.0	7010	287	81800	1.85	
5.6	6200	253	82000	2.1	
2.3	15100	610	75800	0.85	SHK 127 R77 D112M4
2.6	13600	549	78800	0.95	SHKF 127 R77 D112M4
3.0	11800	477	79800	1.10	SHKA 127 R77 D112M4
3.4	10300	418	80500	1.25	SHKAF 127 R77 D112M4
3.9	8990	364	650000	0.90	
4.5	7860	318	650000	1.00	
5.0	7080	286	650000	1.15	SHK 107 R77 D112M4
5.7	6200	251	650000	1.30	SHKF 107 R77 D112M4
6.4	5470	222	650000	1.45	SHKA 107 R77 D112M4
7.2	4840	196	650000	1.65	SHKAF 107 R77 D112M4
8.2	4290	174	650000	1.70	
9.2	3800	154	650000	1.90	
10	3440	140	650000	2.1	
7.1	4930	199	40000	0.85	SHK 97 R57 D112M4 SHKF 97 R57 D112M4 SHKA 97 R57 D112M4 SHKAF 97 R57 D112M4
5.3	7220	132.14	81700	1.80	SHK 127 D132ML8
5.9	6500	122.48	81900	2.0	SHKF 127 D132ML8
6.5	5850	110.18	82100	2.2	SHKA 127 D132ML8
					SHKAF 127 D132ML8

4.0kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
6.6	5810	146.07	82100	2.2	SHK 127 D132M6
7.1	5420	136.14	82200	2.4	SHKF 127 D132M6
7.8	4870	122.48	82300	2.7	SHKA 127 D132M6
8.7	4380	110.18	82400	3.0	SHKAF 127 D132M6
6.4	5960	112.41	65000	1.35	SHK 107 D132ML8
7.2	5340	100.75	65000	1.50	SHKF 107 D132ML8
7.9	4830	90.96	65000	1.65	SHKA 107 D132ML8
8.7	4380	82.61	65000	1.85	SHKAF 107 D132ML8
6.7	5710	143.47	65000	1.40	SHK 107 D132M6
7.9	4830	121.46	65000	1.65	SHKF 107 D132M6
8.5	4470	112.41	65000	1.80	SHKA 107 D132M6
9.5	4010	100.75	65000	2.0	SHKAF 107 D132M6
11	3620	90.96	65000	2.2	
9.9	3860	143.47	65000	2.1	
12	3270	121.46	65000	2.5	SHK 107 D112M4
13	3020	112.41	65000	2.7	SHKF 107 D112M4
14	2710	100.75	65000	3.0	SHKA 107 D112M4
16	2450	90.96	65000	3.3	SHKAF 107 D112M4
17	2220	82.61	65000	3.6	
19	1970	73.30	65000	4.1	
9.3	4120	153.21	40000	1.05	SHK 97 D112M4
10	3770	140.28	40000	1.15	SHKF 97 D112M4
11	3330	123.93	40000	1.30	SHKA 97 D112M4
					SHKAF 97 D112M4
14	2830	105.13	40000	1.50	SHK 97 D112M4
15	2600	96.80	40000	1.65	SHKF 97 D112M4
16	2330	86.52	40000	1.85	SHKA 97 D112M4
18	2100	77.89	40000	2.0	SHKAF 97 D112M4
20	1900	70.54	40000	2.3	
12	3120	115.82	26700	0.85	SHK 87 D112M4
14	2760	102.71	27200	1.00	SHKF 87 D112M4
16	2320	86.34	27700	1.15	SHKA 87 D112M4
18	2130	79.34	27900	1.25	SHKAF 87 D112M4
20	1900	70.46	28200	1.40	
23	1690	63.00	28300	1.60	SHK 87 D112M4
25	1520	56.64	28500	1.75	SHKF 87 D112M4
29	1320	49.16	28600	2.0	SHKA 87 D112M4
32	1180	44.02	28300	2.2	SHKAF 87 D112M4
39	980	36.52	27300	2.5	
22	1740	64.75	13900	0.90	
24	1570	58.34	15200	1.00	SHK 77 D112M4
28	1380	51.18	16500	1.15	SHKF 77 D112M4
31	1210	45.16	17400	1.30	SHKA 77 D112M4
35	1080	40.04	18000	1.45	SHKAF 77 D112M4
37	1030	38.39	18200	1.45	
40	950	35.20	18500	1.65	
46	830	30.89	18900	1.85	SHK 77 D112M4
49	785	29.27	19000	1.95	SHKF 77 D112M4
55	690	25.62	19300	2.2	SHKA 77 D112M4
62	620	23.08	19500	2.5	SHKAF 77 D112M4
70	545	20.25	19600	2.8	
47	810	30.22	10400	1.00	SHK 67 D112M4
52	735	27.28	11000	1.10	SHKF 67 D112M4
59	645	24.00	11600	1.25	SHKA 67 D112M4
63	610	22.66	11800	1.30	SHKAF 67 D112M4
74	520	19.30	12300	1.45	
81	470	17.54	12500	1.55	
94	410	15.19	12800	1.70	SHK 67 D112M4
107	355	13.22	13000	1.90	SHKF 67 D112M4
114	335	12.48	13000	1.60	SHKA 67 D112M4
134	285	10.63	13000	1.75	SHKAF 67 D112M4
147	260	9.66	12900	1.85	
170	225	8.37	12500	1.95	
195	196	7.28	12100	2.1	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
4.0kW					
59	645	24.05	6120	0.95	
63	610	22.71	6160	1.00	
73	520	19.34	6220	1.10	
81	475	17.57	6230	1.15	
93	410	15.22	6210	1.30	SHK 57 D112M4
107	355	13.25	6150	1.45	SHKF 57 D112M4
119	320	11.92	5810	1.30	SHKA 57 D112M4
126	305	11.26	5790	1.35	SHKAF 57 D112M4
148	260	9.59	5700	1.55	
163	235	8.71	5640	1.65	
188	205	7.55	5530	1.80	
216	177	6.57	5400	1.95	
5.5kW					
0.79	61100	1821	170200	0.80	
0.89	53900	1605	183200	0.95	
1.0	46700	1395	190000	1.05	
1.2	40100	1196	190000	1.25	SHK 187 R97 D132S4
1.4	35100	1046	190000	1.45	SHKH 187 R97 D132S4
1.5	31700	945	190000	1.60	
1.9	24800	738	190000	2.0	
2.3	20800	621	190000	2.4	
1.3	36900	1101	150000	0.85	
1.5	31700	944	150000	1.00	
1.7	28200	843	150000	1.15	
1.9	25400	757	150000	1.25	SHK 167 R97 D132S4
2.3	21200	632	150000	1.50	SHKH 167 R97 D132S4
2.5	18700	561	150000	1.70	
3.0	16100	481	150000	2.0	
3.4	14100	423	150000	2.3	
2.2	22100	661	109900	0.80	
2.5	19000	567	111700	0.95	SHK 157 R97 D132S4
2.8	16900	504	112700	1.05	SHKF 157 R97 D132S4
3.3	14500	434	113800	1.25	SHKA 157 R97 D132S4
3.8	12700	379	114500	1.40	SHKAF 157 R97 D132S4
4.3	11100	333	115000	1.60	
3.4	14100	418	77800	0.90	
3.9	12400	367	79500	1.05	
4.3	11100	330	80200	1.15	SHK 127 R87 D132S4
5.0	9620	287	80800	1.35	SHKF 127 R87 D132S4
5.6	8510	253	81300	1.55	SHKA 127 R87 D132S4
6.7	7150	213	81700	1.80	SHKAF 127 R87 D132S4
7.1	6740	200	81900	1.80	
8.6	5580	166	82200	2.2	
9.8	4920	147	82300	2.4	
6.4	7490	222	65000	1.05	SHK 107 R77 D132S4
7.3	6640	196	65000	1.20	SHKF 107 R77 D132S4
8.2	5870	174	65000	1.25	SHKA 107 R77 D132S4
9.3	5200	154	65000	1.40	SHKAF 107 R77 D132S4
10	4720	140	65000	1.55	
4.7	11100	150.41	115000	1.60	SHK 157 D160M8
5.8	9050	122.39	115500	2.0	SHKF 157 D160M8
7.1	7410	100.22	115900	2.4	SHKA 157 D160M8
7.8	6780	91.65	116000	2.7	SHKAF 157 D160M8
5.2	10100	136.14	80700	1.30	SHK 127 D160M8
5.8	9060	122.48	81100	1.45	SHKF 127 D160M8
6.4	8150	110.18	81400	1.60	SHKA 127 D160M8
7.9	6650	89.89	81900	1.95	SHKAF 127 D160M8
7.1	7450	136.14	81600	1.75	SHK 127 D132ML6
7.8	6700	122.48	81900	1.95	SHKF 127 D132ML6
8.7	6030	110.18	82100	2.2	SHKA 127 D132ML6
11	4920	89.89	82300	2.6	SHKAF 127 D132ML6
8.5	6150	112.41	65000	1.30	SHK 107 D132ML6
9.5	5510	100.75	65000	1.45	SHKF 107 D132ML6
11	4980	90.96	65000	1.60	SHKA 107 D132ML6
12	4520	82.61	65000	1.75	SHKAF 107 D132ML6

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
5.5kW					
10	5270	143.47	65000	1.50	
12	4460	121.46	65000	1.80	SHK 107 D132S4
13	4130	112.41	65000	1.95	SHKF 107 D132S4
14	3700	100.75	65000	2.2	SHKA 107 D132S4
16	3340	90.96	65000	2.4	SHKAF 107 D132S4
17	3030	82.61	65000	2.6	
12	4550	123.93	40000	0.95	SHK 97 D132S4
14	3860	105.13	40000	1.10	SHKF 97 D132S4
15	3560	96.80	40000	1.20	SHKA 97 D132S4
17	3180	86.52	40000	1.35	SHKAF 97 D132S4
18	2860	77.89	40000	1.50	SHK 97 D132S4
20	2590	70.54	40000	1.65	SHKF 97 D132S4
23	2300	62.55	40000	1.85	SHKA 97 D132S4
25	2080	56.55	39700	2.1	SHKAF 97 D132S4
30	1760	47.93	38600	2.4	
17	3170	86.34	26600	0.85	SHK 87 D132S4
18	2910	79.34	27000	0.95	SHKF 87 D132S4
20	2590	70.46	27400	1.05	SHKA 87 D132S4
23	2310	63.00	27500	1.15	SHKAF 87 D132S4
25	2080	56.64	27300	1.30	
29	1810	49.16	26900	1.50	SHK 87 D132S4
32	1620	44.02	26500	1.60	SHKF 87 D132S4
39	1340	36.52	25800	1.85	SHKA 87 D132S4
46	1150	31.39	25200	2.3	SHKAF 87 D132S4
51	1020	27.88	24700	2.5	
32	1660	45.16	14600	0.95	SHK 77 D132S4
36	1470	40.04	15900	1.05	SHKF 77 D132S4
46	1130	30.89	17800	1.35	SHKA 77 D132S4
49	1070	29.27	18000	1.45	SHKAF 77 D132S4
56	940	25.62	18500	1.65	
62	850	23.08	18800	1.85	
71	745	20.25	19100	2.0	SHK 77 D132S4
80	655	17.87	19400	2.2	SHKF 77 D132S4
90	580	15.84	19200	2.4	SHKA 77 D132S4
106	495	13.52	18600	2.7	SHKAF 77 D132S4
116	455	12.36	17900	2.2	
132	400	10.84	17400	2.5	
60	880	24.00	9720	0.90	
63	830	22.66	10200	0.95	SHK 67 D132S4
74	710	19.30	11200	1.05	SHKF 67 D132S4
82	645	17.54	11600	1.15	SHKA 67 D132S4
94	560	15.19	12100	1.25	SHKAF 67 D132S4
108	485	13.22	12500	1.40	
115	460	12.48	12600	1.15	SHK 67 D132S4
135	390	10.63	12400	1.30	SHKF 67 D132S4
148	355	9.66	12200	1.35	SHKA 67 D132S4
171	305	8.37	11900	1.45	SHKAF 67 D132S4
196	265	7.28	11600	1.55	
81	645	17.57	5080	0.85	
94	560	15.22	5210	0.95	
108	485	13.25	5280	1.05	
120	440	11.92	4920	0.95	SHK 57 D132S4
127	415	11.26	4950	1.00	SHKF 57 D132S4
149	350	9.59	4990	1.15	SHKA 57 D132S4
164	320	8.71	4990	1.20	SHKAF 57 D132S4
190	275	7.55	4960	1.30	
218	240	6.57	4910	1.45	
7.5kW					
1.7	38200	835	190000	1.30	SHK 187R107D132M4
2.0	33300	729	190000	1.50	SHKH 187R107D132M4
2.3	28400	622	190000	1.75	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
7.5kW					
1.2	55000	1196	181400	0.90	
1.4	48000	1046	190000	1.05	
1.5	43400	945	190000	1.15	SHK 187 R97 D132M4
1.9	33900	738	190000	1.45	SHKH 187 R97 D132M4
2.3	28500	621	190000	1.75	
2.7	24100	527	190000	2.1	
1.7	38700	843	150000	0.85	
1.9	34700	757	150000	0.90	
2.3	29000	632	150000	1.10	
2.5	25700	561	150000	1.25	SHK 167 R97 D132M4
3.0	22100	481	150000	1.45	SHKH 167 R97 D132M4
3.4	19400	423	150000	1.65	
3.9	16900	369	150000	1.90	
3.3	19900	434	111200	0.90	SHK 157 R97 D132M4
3.8	17400	379	112500	1.05	SHKF 157 R97 D132M4
4.3	15300	333	113500	1.20	SHKA 157 R97 D132M4
4.9	13300	291	114200	1.35	SHKAF 157 R97 D132M4
4.3	15200	330	75500	0.85	
5.0	13200	287	79100	1.00	SHK 127 R87 D132M4
5.6	11600	253	79900	1.10	SHKF 127 R87 D132M4
6.7	9790	213	80800	1.35	SHKA 127 R87 D132M4
7.1	9220	200	81000	1.30	SHKAF 127 R87 D132M4
8.6	7640	166	81600	1.55	
9.8	6740	147	81900	1.80	
4.4	16400	164.50	150000	1.95	SHK 167 D160L8
5.3	13400	134.99	150000	2.4	SHKH 167 D160L8
5.8	12300	164.50	150000	2.6	SHK 167 D160M6
7.1	10100	134.99	150000	3.2	SHKH 167 D160M6
6.4	11200	150.41	114900	1.60	SHK 157 D160M6
7.8	9130	122.39	115500	1.95	SHKF 157 D160M6
9.6	7480	100.22	115900	2.4	SHKA 157 D160M6
10	6840	91.65	116000	2.6	SHKAF 157 D160M6
12	5950	79.75	116200	3.0	
7.1	10200	136.14	80600	1.30	SHK 127 D160M6
7.8	9140	122.48	81000	1.40	SHKF 127 D160M6
8.7	8220	110.18	81400	1.60	SHKA 127 D160M6
11	6710	89.89	81900	1.95	SHKAF 127 D160M6
9.8	7320	146.07	81700	1.80	
11	6820	136.14	81800	1.90	SHK 127 D132M4
12	6130	122.48	82000	2.1	SHKF 127 D132M4
13	5520	110.18	82200	2.4	SHKA 127 D132M4
16	4500	89.89	82400	2.9	SHKAF 127 D132M4
17	4110	81.98	82500	3.2	
20	3550	70.95	82600	3.7	
10	7190	143.47	65000	1.10	SHK 107 D132M4
12	6080	121.46	65000	1.30	SHKF 107 D132M4
13	5630	112.41	65000	1.40	SHKA 107 D132M4
					SHKAF 107 D132M4
14	5050	100.75	65000	1.60	
16	4560	90.96	64200	1.75	
17	4140	82.61	63200	1.95	SHK 107 D132M4
20	3670	73.30	61900	2.2	SHKF 107 D132M4
22	3330	66.52	60900	2.4	SHKA 107 D132M4
25	2860	57.17	59100	2.8	SHKAF 107 D132M4
29	2500	49.90	57500	3.1	
34	2120	42.33	55500	3.5	
39	1850	37.00	53800	3.9	
15	4850	96.80	38300	0.90	SHK 97 D132M4
17	4330	86.52	38300	1.00	SHKF 97 D132M4
18	3900	77.89	38100	1.10	SHKA 97 D132M4
20	3530	70.54	37900	1.20	SHKAF 97 D132M4
23	3130	62.55	37500	1.35	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
7.5kW					
25	2830	56.55	37100	1.50	SHK 97 D132M4
30	2400	47.93	36400	1.80	SHKF 97 D132M4
34	2100	41.87	35600	2.0	SHKA 97 D132M4
37	1920	38.30	35100	2.2	SHKAF 97 D132M4
42	1710	34.23	34400	2.5	
23	3160	63.00	24100	0.85	SHK 87 D132M4
25	2840	56.64	24200	0.95	SHKF 87 D132M4
29	2460	49.16	24200	1.10	SHKA 87 D132M4
32	2200	44.02	24200	1.20	SHKAF 87 D132M4
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	2.0	SHK 87 D132M4
64	1120	22.41	22500	2.0	SHKF 87 D132M4
74	970	19.45	21900	2.4	SHKA 87 D132M4
82	870	17.42	21500	2.5	SHKAF 87 D132M4
89	800	16.00	20600	2.2	
99	725	14.45	20700	2.9	
46	1550	30.89	15400	1.00	SHK 77 D132M4
49	1470	29.27	16000	1.05	SHKF 77 D132M4
56	1280	25.62	17000	1.20	SHKA 77 D132M4
62	1160	23.08	17700	1.35	SHKAF 77 D132M4
71	1010	20.25	18300	1.50	
80	890	17.87	18600	1.60	
90	795	15.84	18200	1.75	SHK 77 D132M4
106	675	13.52	17800	2.0	SHKF 77 D132M4
116	620	12.36	17000	1.60	SHKA 77 D132M4
132	545	10.84	16700	1.80	SHKAF 77 D132M4
150	480	9.56	16300	1.95	
169	425	8.48	15900	2.1	
198	365	7.24	15400	2.3	
9.2kW					
1.7	46700	835	190000	1.05	
2.0	40700	729	190000	1.25	SHK 187 R107 D132ML4
2.3	34700	622	190000	1.45	SHKH 187 R107 D132ML4
2.8	29100	520	190000	1.70	
3.2	25300	454	190000	1.95	
1.4	58600	1046	174800	0.85	
1.5	53000	945	184900	0.95	SHK 187 R97 D132ML4
2.0	41400	738	190000	1.20	SHKH 187 R97 D132ML4
2.3	34800	621	190000	1.45	
2.7	29500	527	190000	1.70	
4.5	17800	318	150000	1.80	
5.2	15500	278	150000	2.1	SHK 167 R107 D132ML4
5.9	13600	244	150000	2.3	SHKH 167 R107 D132ML4
6.8	11900	213	150000	2.7	
7.0	11500	206	150000	2.8	
2.3	35400	632	150000	0.90	
2.6	31300	561	150000	1.00	SHK 167 R97 D132ML4
3.0	27000	481	150000	1.20	SHKH 167 R97 D132ML4
3.4	23700	423	150000	1.35	
3.9	20600	369	150000	1.55	
3.7	21400	385	110300	0.85	SHK 157 R107 D132ML4
4.4	18100	325	112100	1.00	SHKF 157 R107 D132ML4
4.8	16700	299	112800	1.10	SHKA 157 R107 D132ML4
5.7	14100	253	113900	1.25	SHKAF 157 R107 D132ML4
6.2	12800	230	114400	1.40	
3.8	21200	379	110400	0.85	SHK 157 R97 D132ML4
4.3	18600	333	111900	0.95	SHKF 157 R97 D132ML4
4.9	16300	291	113000	1.10	SHKA 157 R97 D132ML4
					SHKAF 157 R97 D132ML4
5.7	14200	253	77500	0.90	SHK 127 R87 D132ML4
6.8	11900	213	79800	1.10	SHKF 127 R87 D132ML4
7.2	11200	200	80100	1.05	SHKA 127 R87 D132ML4
8.7	9320	166	81000	1.30	SHKAF 127 R87 D132ML4
9.8	8230	147	81400	1.45	

SHR SHF SHK SHS

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
9.2kW					
11	8310	136.14	81300	1.55	SHK 127 D132ML4
12	7470	122.48	81600	1.75	SHKF 127 D132ML4
13	6720	110.18	8190	1.95	SHKA 127 D132ML4
16	5480	89.89	82200	2.4	SHKAF 127 D132ML4
18	5000	81.98	82300	2.6	
13	6860	112.41	62400	1.15	SHK 107 D132ML4
14	6150	100.75	61800	1.30	SHKF 107 D132ML4
16	5550	90.96	61100	1.45	SHKA 107 D132ML4
					SHKAF 107 D132ML4
17	5040	82.61	60400	1.60	
20	4470	73.30	59400	1.80	SHK 107 D132ML4
22	4060	66.52	58600	1.95	SHKF 107 D132ML4
25	3490	57.17	57100	2.3	SHKA 107 D132ML4
29	3040	49.90	55700	2.6	SHKAF 107 D132ML4
34	2580	42.33	54000	2.8	
18	4750	77.89	35100	0.90	SHK 97 D132ML4
20	4300	70.54	35100	1.00	SHKF 97 D132ML4
23	3820	62.55	35100	1.15	SHKA 97 D132ML4
25	3450	56.55	34900	1.25	SHKAF 97 D132ML4
30	2920	47.93	34400	1.45	
34	2550	41.87	34000	1.70	SHK 97 D132ML4
38	2340	38.30	33600	1.85	SHKF 97 D132ML4
42	2090	34.23	33100	2.1	SHKA 97 D132ML4
47	1880	30.82	32500	2.3	SHKAF 97 D132ML4
52	1700	27.91	32000	2.5	
58	1510	24.75	31300	2.8	
29	3000	49.16	22000	0.90	SHK 87 D132ML4
33	2690	44.02	22200	0.95	SHKF 87 D132ML4
39	2230	36.52	22200	1.10	SHKA 87 D132ML4
46	1910	31.39	22100	1.40	SHKAF 87 D132ML4
52	1700	27.88	21900	1.55	
58	1520	24.92	21700	1.65	
64	1370	22.41	21400	1.70	
74	1190	19.45	21000	1.95	SHK 87 D132ML4
83	1060	17.42	20700	2.1	SHKF 87 D132ML4
90	980	16.00	19700	1.85	SHKA 87 D132ML4
100	880	14.45	20000	2.4	SHKAF 87 D132ML4
115	765	12.56	19500	2.6	
129	680	11.17	18600	2.2	
144	610	10.00	18200	2.5	
62	1410	23.08	16300	1.10	SHK 77 D132ML4
71	1240	20.25	17300	1.20	SHKF 77 D132ML4
81	1090	17.87	17600	1.35	SHKA 77 D132ML4
91	970	15.84	17400	1.45	SHKAF 77 D132ML4
107	820	13.52	17000	1.60	
117	755	12.36	16300	1.35	SHK 77 D132ML4
133	660	10.84	16000	1.50	SHKF 77 D132ML4
151	585	9.56	15700	1.60	SHKA 77 D132ML4
170	515	8.48	15400	1.70	SHKAF 77 D132ML4
199	440	7.24	14900	1.85	
11.0kW					
1.7	55900	835	179700	0.90	
2.0	48800	729	190000	1.05	
2.3	41600	622	190000	1.20	SHK 187 R107 D160M4
2.8	34800	520	190000	1.45	SHKH 187 R107 D160M4
3.2	30400	454	190000	1.65	
4.1	23800	355	190000	2.1	
2.0	49600	738	190000	1.00	
2.3	41700	621	190000	1.20	SHK 187 R97 D160M4
2.7	35300	527	190000	1.40	SHKH 187 R97 D160M4
4.5	21300	318	150000	1.50	
5.2	18600	278	150000	1.70	
5.9	16300	244	150000	1.95	SHK 167 R107 D160M4
6.8	14200	213	150000	2.2	SHKH 167 R107 D160M4
7.0	13700	206	150000	2.3	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
11.0kW					
2.6	37500	561	150000	0.85	
3.0	32300	481	150000	1.00	SHK 167 R97 D160M4
3.4	28300	423	150000	1.15	SHKH 167 R97 D160M4
3.9	24700	369	150000	1.30	
					SHK 157 R97 D160M4
4.3	22300	333	109700	0.80	SHKF 157 R97 D160M4
4.9	19500	291	111400	0.90	SHKA 157 R97 D160M4
					SHKAF 157 R97 D160M4
6.8	14300	213	77400	0.90	SHK 127 R87 D160M4
7.2	13500	200	78900	0.90	SHKF 127 R87 D160M4
8.7	11200	166	80100	1.10	SHKA 127 R87 D160M4
9.8	9850	147	80700	1.20	SHKAF 127 R87 D160M4
5.3	19700	134.99	150000	1.60	SHK 167 D180L8
6.6	16000	109.83	150000	2.0	SHKH 167
5.8	18000	164.50	150000	1.80	SHK 167 D160L6
7.1	14800	134.99	150000	2.2	SHKH 167
8.8	12000	164.50	150000	2.7	SHK 167 D160M4
11	9850	134.99	150000	3.2	SHKH 167
5.9	17900	122.39	112300	1.00	SHK 157 D180L8
7.2	14600	100.22	113700	1.25	SHKF 157 D180L8
7.9	13400	91.65	114200	1.35	SHKA 157 D180L8
9.0	11600	79.75	114800	1.55	SHKAF 157 D180L8
6.4	16500	150.41	112900	1.10	SHK 157 D160L6
7.8	13400	122.39	114200	1.35	SHKF 157 D160L6
9.6	11000	100.22	115000	1.65	SHKA 157 D160L6
10	10000	91.65	115300	1.80	SHKAF 157 D160L6
12	8730	79.75	115600	2.1	
9.6	11000	150.41	115000	1.65	SHK 157 D160M4
12	8930	122.39	115600	2.0	SHKF 157 D160M4
14	7310	100.22	115900	2.5	SHKA 157 D160M4
16	6690	91.65	116000	2.7	SHKAF 157 D160M4
11	9930	136.14	80700	1.30	
12	8930	122.48	81100	1.45	SHK 127 D160M4
13	8040	110.18	81400	1.60	SHKF 127 D160M4
16	6560	89.89	81900	2.0	SHKA 127 D160M4
18	5980	81.98	82100	2.2	SHKAF 127 D160M4
20	5180	70.95	82300	2.5	
13	8200	112.41	58400	1.00	SHK 107 D160M4
14	7350	100.75	58300	1.10	SHKF 107 D160M4
16	6630	90.96	58000	1.20	SHKA 107 D160M4
17	6030	82.61	57500	1.35	SHKAF 107 D160M4
20	5350	73.30	56900	1.50	
22	4850	66.52	56200	1.65	SHK 107 D160M4
25	4170	57.17	55100	1.90	SHKF 107 D160M4
29	3640	49.90	54000	2.2	SHKA 107 D160M4
34	3090	42.33	52500	2.4	SHKAF 107 D160M4
39	2700	37.00	51200	2.7	
20	5150	70.54	32200	0.85	SHK 97 D160M4
23	4560	62.55	32500	0.95	SHKF 97 D160M4
25	4130	56.55	32500	1.05	SHKA 97 D160M4
30	3500	47.93	32500	1.25	SHKAF 97 D160M4
34	3050	41.87	32200	1.40	
38	2790	38.30	32000	1.55	SHK 97 D160M4
42	2500	34.23	31600	1.70	SHKF 97 D160M4
47	2250	30.82	31300	1.90	SHKA 97 D160M4
52	2040	27.91	30800	2.1	SHKAF 97 D160M4
58	1800	24.75	30300	2.4	
64	1630	22.37	29800	2.6	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
11.0kW					
33	3210	44.02	20000	0.80	SHK 87 D160M4
39	2660	36.52	20400	0.95	SHKF 87 D160M4
46	2290	31.39	20600	1.20	SHKA 87 D160M4
52	2030	27.88	20600	1.30	SHKAF 87 D160M4
58	1820	24.92	20500	1.40	
64	1630	22.41	20300	1.40	
74	1420	19.45	20100	1.60	
83	1270	17.42	19800	1.75	SHK 87 D160M4
90	1170	16.00	18800	1.55	SHKF 87 D160M4
100	1050	14.45	19400	2.0	SHKA 87 D160M4
115	920	12.56	18900	2.2	SHKAF 87 D160M4
129	810	11.17	18000	1.85	
144	730	10.00	17700	2.1	
174	605	8.29	17100	2.3	
200	525	7.21	16700	2.5	
62	1680	23.08	14400	0.90	
71	1480	20.25	15900	1.00	
81	1300	17.87	16600	1.10	
91	1160	15.84	16500	1.20	SHK 77 D160M4
107	990	13.52	16300	1.35	SHKF 77 D160M4
117	900	12.36	15500	1.10	SHKA 77 D160M4
133	790	10.84	15300	1.25	SHKAF 77 D160M4
151	700	9.56	15100	1.35	
170	620	8.48	14800	1.45	
199	530	7.24	14500	1.55	
15.0kW					
2.3	56100	622	179400	0.90	
2.8	47000	520	190000	1.05	
3.2	41000	454	190000	1.20	SHK 187 R107 D160L4
4.1	32100	355	190000	1.55	SHKH 187 R107 D160L4
5.6	23600	261	190000	2.1	
4.6	28700	318	150000	1.10	
5.3	25000	278	150000	1.30	
6.0	22000	244	150000	1.45	SHK 167 R107 D160L4
6.8	19200	213	150000	1.65	SHKH 167 R107 D160L4
7.1	18500	206	150000	1.75	
8.1	16200	180	150000	1.95	
9.1	14400	160	150000	2.2	
6.3	20700	230	110700	0.85	
6.9	19200	213	116000	0.95	SHK 157 R107 D160L4
7.8	16800	187	112800	1.05	SHKF 157 R107 D160L4
9.3	14200	157	113900	1.25	SHKA 157 R107 D160L4
12	11000	122	115000	1.65	SHKAF 157 R107 D160L4
14	9630	107	115400	1.85	
5.4	26600	179.86	190000	1.90	SHK 187 D180L6
5.9	24400	165.21	190000	2.0	SHKH 187 D180L6
7.2	19900	134.99	150000	1.60	SHK 167 D180L6
8.8	16200	109.83	150000	1.95	SHKH 167 D180L6
8.9	16100	164.50	150000	2.0	SHK 167 D160L4
11	13200	134.99	150000	2.4	SHKH 167 D160L4
7.9	18100	122.39	112200	1.00	
9.7	14800	100.22	113700	1.20	SHK 157 D180L6
11	13500	91.65	114100	1.35	SHKF 157 D180L6
12	11800	79.75	114800	1.55	SHKA 157 D180L6
14	10400	70.38	115200	1.75	SHKAF 157 D180L6
9.7	14800	150.41	113700	1.20	
12	12000	122.39	114700	1.50	SHK 157 D160L4
15	9830	100.22	114200	1.85	SHKF 157 D160L4
16	8990	91.65	112500	2.0	SHKA 157 D160L4
18	7820	79.75	109600	2.3	SHKAF 157 D160L4

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [N]	Service factor f_B	Model
15.0kW					
11	13400	136.14	79000	0.95	SHK 127 D160L4
12	12000	122.48	79700	1.10	SHKF 127 D160L4
13	10800	110.18	80300	1.20	SHKA 127 D160L4
					SHKAF 127 D160L4
16	8820	89.89	81200	1.45	
18	8040	81.98	81400	1.60	SHK 127 D160L4
21	6960	70.95	81600	1.85	SHKF 127 D160L4
23	6140	62.60	80000	2.1	SHKA 127 D160L4
27	5300	54.07	78000	2.5	SHKAF 127 D160L4
31	4690	47.82	76200	2.8	
16	8920	90.96	50900	0.90	SHK 107 D160L4
18	8110	82.61	51100	1.00	SHKF 107 D160L4
20	7190	73.30	51200	1.10	SHKA 107 D160L4
22	6530	66.52	51000	1.25	SHKAF 107 D160L4
26	5610	57.17	50600	1.45	
29	4900	49.90	50000	1.60	SHK 107 D160L4
34	4150	42.33	49100	1.75	SHKF 107 D160L4
39	3630	37.00	48200	2.0	SHKA 107 D160L4
45	3210	32.69	47300	2.2	SHKAF 107 D160L4
47	3070	31.28	47000	2.2	
50	2840	29.00	46400	2.5	
30	4700	47.93	28100	0.90	SHK 97 D160L4
35	4110	41.87	28400	1.05	SHKF 97 D160L4
38	3760	38.30	28500	1.15	SHKA 97 D160L4
43	3360	34.23	28500	1.30	SHKAF 97 D160L4
47	3020	30.82	28400	1.40	
52	2740	27.91	28300	1.55	SHK 97 D160L4
59	2430	24.75	28000	1.75	SHKF 97 D160L4
65	2190	22.37	27700	1.95	SHKA 97 D160L4
77	1860	18.96	27200	2.3	SHKAF 97 D160L4
88	1620	16.56	26600	2.7	
47	3080	31.39	17300	0.90	
52	2730	27.88	17600	0.95	SHK 87 D160L4
59	2440	24.92	17800	1.00	SHKF 87 D160L4
65	2200	22.41	18000	1.05	SHKA 87 D160L4
75	1910	19.45	18000	1.20	SHKAF 87 D160L4
84	1710	17.42	18000	1.30	
91	1570	16.00	16800	1.15	
101	1420	14.45	17800	1.50	SHK 87 D160L4
116	1230	12.56	17600	1.60	SHKF 87 D160L4
131	1100	11.17	16600	1.35	SHKA 87 D160L4
146	980	10.00	16400	1.55	SHKAF 87 D160L4
176	810	8.29	16000	1.70	
202	705	7.21	15700	1.85	
18.5kW					
2.8	57800	520	176300	0.85	
3.2	50400	454	189200	1.00	
4.1	39500	355	190000	1.25	SHK 187 R107 D180M4
5.6	29000	261	190000	1.70	SHKH 187 R107 D180M4
6.6	24600	221	190000	2.0	
4.6	35300	318	150000	0.90	
5.3	30800	278	150000	1.05	
6.0	27100	244	150000	1.20	
6.9	23600	213	150000	1.35	
7.1	22800	206	150000	1.40	SHK 167 R107 D180M4
8.1	20000	180	150000	1.60	SHKH 167 R107 D180M4
9.2	17700	160	150000	1.80	
11	15000	135	150000	2.1	
12	13100	118	150000	2.4	
7.8	20700	187	110700	0.85	SHK 157 R107 D180M4
9.3	17400	157	112500	1.05	SHKF 157 R107 D180M4
12	13600	122	114100	1.35	SHKA 157 R107 D180M4
14	11900	107	112300	1.50	SHKAF 157 R107 D180M4
5.4	32800	179.86	190000	1.55	
5.9	30100	165.21	190000	1.65	SHK 187 D200LS6
6.7	26300	144.59	190000	1.90	SHKH 187 D200LS6
7.5	23600	129.69	190000	2.1	

18.5kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
8.1	21700	179.86	190000	2.3	SHK 187 D180M4
8.9	19900	165.21	190000	2.5	SHKH 187 D180M4
10	17400	144.59	190000	2.9	
11	15600	129.69	190000	3.2	
11	16300	134.99	150000	1.95	SHK 167 D180M4
13	13200	109.83	150000	2.4	SHKH 167 D180M4
17	10600	87.86	150000	3.0	
9.7	18300	100.22	112100	1.00	SHK 157 D200LS6
11	16700	91.65	112800	1.10	SHKF 157 D200LS6
12	14500	79.75	111500	1.25	SHKA 157 D200LS6
14	12800	70.38	109900	1.40	SHKAF 157 D200LS6
12	14800	122.39	111600	1.20	SHK 157 D180M4
15	12100	100.22	109100	1.50	SHKF 157 D180M4
16	11100	91.65	107800	1.65	SHKA 157 D180M4
18	9620	79.75	105600	1.85	SHKAF 157 D180M4
21	8490	70.38	103400	2.1	
24	7360	61.02	100700	2.5	
27	6550	54.29	98500	2.8	
31	5640	46.79	95500	3.2	
39	4580	38.02	91300	3.9	
13	13300	110.18	79000	1.00	SHK 127 D180M4
16	10800	89.89	79000	1.20	SHKF 127 D180M4
18	9890	81.98	78500	1.30	SHKA 127 D180M4
					SHKAF 127 D180M4
21	8560	70.95	77500	1.50	SHK 127 D180M4
23	7550	62.60	76400	1.70	SHKF 127 D180M4
27	6520	54.07	74800	2.0	SHKA 127 D180M4
31	5770	47.82	73400	2.2	SHKAF 127 D180M4
36	4850	40.19	71300	2.7	
40	4370	36.25	69900	3.0	
47	3780	31.37	68000	3.4	
53	3340	27.68	66200	3.9	
20	8840	73.30	46300	0.90	SHK 107 D180M4
22	8020	66.52	46600	1.00	SHKF 107 D180M4
26	6890	57.17	46800	1.15	SHKA 107 D180M4
29	6020	49.90	46700	1.30	SHKAF 107 D180M4
35	5100	42.33	46300	1.45	SHK 107 D180M4
40	4460	37.00	45700	1.60	SHKF 107 D180M4
45	3940	32.69	45100	1.85	SHKA 107 D180M4
47	3770	31.28	44900	1.80	SHKAF 107 D180M4
51	3500	29.00	44400	2.1	
56	3170	26.32	43800	2.3	
65	2730	22.62	42700	2.6	
74	2380	19.74	41700	3.0	
88	2020	16.75	40400	3.5	
35	5050	41.87	25100	0.85	SHK 97 D180M4
48	3720	30.82	26000	1.15	SHKF 97 D180M4
53	3360	27.91	26000	1.30	SHKA 97 D180M4
59	2980	24.75	26000	1.45	SHKAF 97 D180M4
65	2700	22.37	25900	1.60	SHK 97 D180M4
77	2290	18.96	25700	1.90	SHKF 97 D180M4
88	2000	16.56	25300	2.2	SHKA 97 D180M4
106	1670	13.85	24800	2.6	SHKAF 97 D180M4
122	1450	11.99	24300	2.7	
59	3000	24.92	15600	0.85	SHK 87 D180M4
65	2700	22.41	15900	0.85	SHKF 87 D180M4
75	2340	19.45	16200	1.00	SHKA 87 D180M4
84	2100	17.42	16400	1.05	SHKAF 87 D180M4
101	1740	14.45	16500	1.20	
117	1510	12.56	16400	1.30	
131	1350	11.17	15400	1.10	
147	1210	10.00	15300	1.25	
177	1000	8.29	15100	1.40	
203	870	7.21	14900	1.50	

22kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
3.2	60000	454	172300	0.85	
4.1	47000	355	190000	1.05	
5.6	34500	261	190000	1.45	SHK 187 R107 D180L4
6.6	29300	221	190000	1.70	SHKH 187 R107 D180L4
7.6	25600	193	190000	1.95	
8.9	21600	163	190000	2.3	
5.3	36700	278	150000	0.85	
6.0	32200	244	150000	1.00	
6.9	28200	213	150000	1.15	
7.1	27200	206	150000	1.20	SHK 167 R107 D180L4
8.1	23800	180	150000	1.35	SHKH 167 R107 D180L4
9.2	21100	160	150000	1.50	
11	17900	135	150000	1.80	
12	15600	118	150000	2.0	
9.3	20800	157	109800	0.85	SHK 157 R107 D180L4
12	16200	122	108600	1.10	SHKF 157 R107 D180L4
14	14100	107	107300	1.25	SHKA 157 R107 D180L4
					SHKAF 157 R107 D180L4
5.4	39000	179.86	190000	1.30	
5.9	35800	165.21	190000	1.40	
6.7	31300	144.59	190000	1.60	SHK 187 D200L6
7.5	28100	129.69	190000	1.80	
8.6	24400	112.60	190000	2.0	
8.1	25800	179.86	190000	1.95	
8.9	23700	165.21	190000	2.1	SHK 187 D180L4
10	20700	144.59	190000	2.4	
11	18600	129.69	190000	2.7	
11	19400	134.99	150000	1.65	
13	15700	109.83	150000	2.0	SHK 167 D180L4
17	12600	87.86	150000	2.5	
19	11200	78.14	150000	2.9	
9.7	21700	100.22	105900	0.85	SHK 157 D200L6
11	19900	91.65	105900	0.90	SHKF 157 D200L6
12	17300	79.75	105500	1.05	SHKA 157 D200L6
14	15200	70.38	104600	1.20	SHKAF 157 D200L6
16	13200	61.02	103300	1.35	
12	17600	122.39	105500	1.05	
15	14400	100.22	104100	1.25	
16	13100	91.65	103200	1.35	SHK 157 D180L4
18	11400	79.75	101600	1.55	SHKF 157 D180L4
21	10100	70.38	99800	1.80	SHKA 157 D180L4
24	8750	61.02	97700	2.1	SHKAF 157 D180L4
27	7790	54.29	95800	2.3	
31	6710	46.79	93200	2.7	
39	5450	38.02	89400	3.3	
16	12900	89.89	73900	1.00	SHK 127 D180L4
18	11800	81.98	73800	1.10	SHKF 127 D180L4
21	10200	70.95	73400	1.30	SHKA 127 D180L4
23	8980	62.60	72800	1.45	SHKAF 127 D180L4
27	7750	54.07	71700	1.70	
31	6860	47.82	70700	1.90	
36	5760	40.19	69000	2.3	SHK 127 D180L4
40	5200	36.25	67800	2.5	SHKF 127 D180L4
47	4500	31.37	66200	2.9	SHKA 127 D180L4
53	3970	27.68	64600	3.3	SHKAF 127 D180L4
61	3430	23.91	62800	3.8	
69	3030	21.15	61200	4.3	
26	8200	57.17	43000	1.00	SHK 107 D180L4
29	7160	49.90	43300	1.10	SHKF 107 D180L4
35	6070	42.33	43400	1.20	SHKA 107 D180L4
					SHKAF 107 D180L4

22kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
40	5310	37.00	43200	1.35	
45	4690	32.69	42900	1.55	
47	4490	31.28	42800	1.50	
51	4160	29.00	42500	1.75	
56	3770	26.32	42000	1.90	SHK 107 D180L4
65	3240	22.62	41200	2.2	SHKF 107 D180L4
74	2830	19.74	40400	2.5	SHKA 107 D180L4
88	2400	16.75	39300	2.9	SHKAF 107 D180L4
100	2100	14.64	38400	3.3	
109	1930	13.43	36800	2.2	
125	1680	11.73	35900	2.6	
147	1430	9.94	34800	2.9	
48	4420	30.82	23500	0.95	SHK 97 D180L4
53	4000	27.91	23800	1.05	SHKF 97 D180L4
59	3550	24.75	24100	1.20	SHKA 97 D180L4
65	3210	22.37	24200	1.35	SHKAF 97 D180L4
77	2720	18.96	24100	1.60	
88	2370	16.56	24000	1.80	SHK 97 D180L4
106	1990	13.85	23700	2.2	SHKF 97 D180L4
122	1720	11.99	23300	2.3	SHKA 97 D180L4
141	1490	10.41	21800	1.90	SHKAF 97 D180L4
168	1250	8.71	21300	2.1	
75	2790	19.45	14400	0.80	
84	2500	17.42	14800	0.90	
101	2070	14.45	15100	1.00	SHK 87 D180L4
117	1800	12.56	15300	1.10	SHKF 87 D180L4
131	1600	11.17	14200	0.95	SHKA 87 D180L4
147	1430	10.00	14200	1.05	SHKAF 87 D180L4
177	1190	8.29	14300	1.20	
203	1030	7.21	14200	1.25	

30kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
5.6	47000	261	190000	1.05	
6.6	39800	221	190000	1.25	SHK 187 R107 D200L4
7.6	34800	193	190000	1.45	SHKH 187 R107 D200L4
9.0	29400	163	190000	1.70	
6.9	38300	213	150000	0.85	
7.1	37000	206	150000	0.85	
8.1	32400	180	150000	1.00	SHK 167 R107 D200L4
9.2	28700	160	150000	1.10	SHKH 167 R107 D200L4
11	24400	135	150000	1.30	
12	21300	118	150000	1.50	
8.2	35100	179.86	190000	1.45	
8.9	32200	165.21	190000	1.55	
10	28200	144.59	190000	1.75	
11	25300	129.69	190000	2.0	SHK 187 D200L4
13	21900	112.60	190000	2.3	SHKH 187 D200L4
14	19900	102.16	190000	2.5	
17	17200	88.00	190000	2.9	
13	21400	109.83	150000	1.50	
17	17100	87.86	150000	1.85	
19	15200	78.14	150000	2.1	SHK 167 D200L4
22	13300	68.07	150000	2.4	SHKH 167 D200L4
24	11800	60.74	150000	2.7	
15	19500	100.22	92700	0.90	
16	17900	91.65	92800	1.00	
18	15500	79.75	92400	1.15	SHK 157 D200L4
21	13700	70.38	91800	1.30	SHKF 157 D200L4
24	11900	61.02	90700	1.50	SHKA 157 D200L4
27	10600	54.29	89500	1.70	SHKAF 157 D200L4
31	9120	46.79	87800	1.95	
39	7410	38.02	85100	2.4	
47	6100	31.30	82200	3.0	

30kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
21	13800	70.95	64200	0.95	
23	12200	62.60	64600	1.05	
27	10500	54.07	64700	1.25	SHK 127 D200L4
31	9320	47.82	64400	1.40	SHKF 127 D200L4
37	7830	40.19	63700	1.65	SHKA 127 D200L4
41	7060	36.25	63100	1.85	SHKAF 127 D200L4
47	6110	31.37	62000	2.1	
53	5390	27.68	61000	2.4	
62	4660	23.91	59600	2.8	
35	8250	42.33	36100	0.90	SHK 107 D200L4
40	7210	37.00	37600	1.00	SHKF 107 D200L4
47	6100	31.28	38000	1.10	SHKA 107 D200L4
					SHKAF 107 D200L4
51	5650	29.00	38000	1.25	
56	5130	26.32	38000	1.40	
65	4410	22.62	37700	1.65	SHK 107 D200L4
74	3850	19.74	37400	1.85	SHKF 107 D200L4
88	3260	16.75	36700	2.2	SHKA 107 D200L4
100	2850	14.64	36100	2.4	SHKAF 107 D200L4
109	2620	13.43	34400	1.65	
125	2280	11.73	33800	1.90	
148	1940	9.94	33000	2.2	
169	1690	8.69	32200	2.4	
59	4820	24.75	19600	0.90	
66	4360	22.37	20100	1.00	
78	3690	18.96	20700	1.15	SHK 97 D200L4
89	3230	16.56	21000	1.35	SHKF 97 D200L4
106	2700	13.85	21200	1.60	SHKA 97 D200L4
123	2340	11.99	21100	1.65	SHKAF 97 D200L4
141	2030	10.41	19500	1.40	
169	1700	8.71	19400	1.55	

37kW

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
5.6	58000	261	176000	0.85	
6.6	49200	221	190000	1.00	SHK 187 R107 D225S4
7.6	43000	193	190000	1.15	SHKH 187 R107 D225S4
9.0	36300	163	190000	1.40	
8.1	40000	180	150000	0.80	
9.2	35500	160	150000	0.90	SHK 167 R107 D225S4
11	30100	135	150000	1.05	SHKH 167 R107 D225S4
12	26300	118	150000	1.20	
8.2	43200	179.86	190000	1.15	
8.9	39700	165.21	190000	1.25	
10	34800	144.59	190000	1.45	SHK 187 D225S4
11	31200	129.69	190000	1.60	SHKH 187 D225S4
13	27100	112.60	190000	1.85	
14	24600	102.16	190000	2.0	
17	21200	88.00	190000	2.4	
13	26400	109.83	150000	1.20	
17	21100	87.86	150000	1.50	
19	18800	78.14	150000	1.70	SHK 167 D225S4
22	16400	68.07	150000	1.95	SHKH 167 D225S4
24	14600	60.74	150000	2.2	
28	12400	51.77	150000	2.6	
					SHK 157 D225S4
16	22000	91.65	83600	0.80	SHKF 157 D225S4
18	19200	79.75	84500	0.95	SHKA 157 D225S4
					SHKAF 157 D225S4
21	16900	70.38	84800	1.05	
24	14700	61.02	84600	1.25	SHK 157 D225S4
27	13000	54.29	84100	1.40	SHKF 157 D225S4
31	11200	46.79	83200	1.60	SHKA 157 D225S4
39	9140	38.02	81300	1.95	SHKAF 157 D225S4
47	7520	31.30	79100	2.4	
23	15000	62.60	57500	0.85	SHK 127 D225S4
27	13000	54.07	58500	1.00	SHKF 127 D225S4
31	11500	47.82	59000	1.15	SHKA 127 D225S4
37	9660	40.19	59100	1.35	SHKAF 127 D225S4

SHR SHF SHK SHS

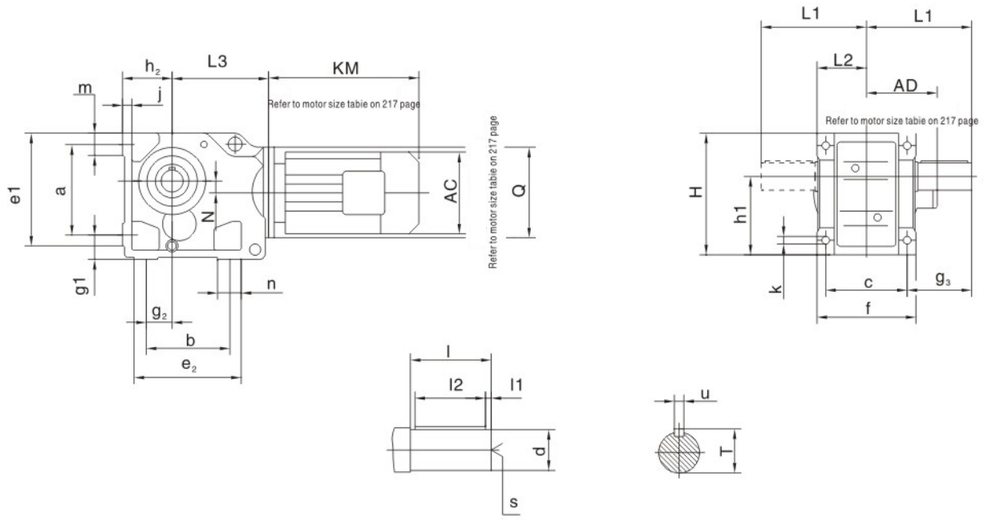
Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
37kW					
41	8710	36.25	59000	1.50	
47	7540	31.37	58500	1.70	
53	6650	27.68	57800	1.95	
62	5740	23.91	56900	2.3	SHK 127 D225S4
70	5080	21.15	56000	2.6	SHKF 127 D225S4
83	4270	17.77	54500	3.0	SHKA 127 D225S4
102	3450	14.35	52500	3.5	SHKAF 127 D225S4
115	3070	12.79	50200	2.8	
137	2580	10.74	48600	3.1	
169	2090	8.68	46600	3.5	
40	8890	37.00	29000	0.80	
47	7520	31.28	33000	0.90	
51	6970	29.00	34200	1.05	
56	6320	26.32	34500	1.15	
65	5440	22.62	34700	1.30	SHK 107 D225S4
74	4740	19.74	34700	1.50	SHKF 107 D225S4
88	4020	16.75	34500	1.75	SHKA 107 D225S4
100	3520	14.64	34200	1.95	SHKAF 107 D225S4
109	3230	13.43	32300	1.35	
125	2820	11.73	32000	1.55	
148	2390	9.94	31400	1.75	
169	2090	8.69	30900	1.95	
45kW					
6.6	59800	221	172600	0.85	SHK 187 R107 D225M4
7.6	52300	193	186100	1.95	SHKH 187 R107 D225M4
9.0	44200	163	190000	1.15	
11	36600	135	150000	0.85	SHK 167 R107 D225M4
12	32000	118	150000	1.00	SHKH 167 R107 D225M4
8.2	52600	179.86	185500	0.95	
8.9	48300	165.21	190000	1.05	
10	42300	144.59	190000	1.20	
11	37900	129.69	190000	1.30	SHK 187 D225M4
13	32900	112.60	190000	1.50	SHKH 187 D225M4
14	29900	102.16	190000	1.65	
17	25700	88.00	190000	1.95	
20	21600	73.96	187700	2.3	
13	32100	109.83	150000	1.00	
17	25700	87.86	150000	1.25	
19	22800	78.14	150000	1.40	SHK 167 D225M4
22	19900	68.07	150000	1.60	SHKH 167 D225M4
24	17800	60.74	149000	1.80	
28	15100	51.77	145600	2.1	
34	12500	42.89	140600	2.5	
21	20600	70.38	76800	0.85	
24	17800	61.02	77700	1.00	
27	15900	54.29	77900	1.15	
31	13700	46.79	77800	1.30	SHK 157 D225M4
39	11100	38.02	76900	1.60	SHKF 157 D225M4
47	9150	31.30	75500	1.95	SHKA 157 D225M4
53	8080	27.62	74300	2.2	SHKAF 157 D225M4
61	7000	23.95	72800	2.6	
69	6230	21.31	71500	2.9	
80	5370	18.37	69700	3.3	
31	14000	47.82	52800	0.95	SHK 127 D225M4
37	11700	40.19	53900	1.10	SHKF 127 D225M4
41	10600	36.25	54200	1.25	SHKA 127 D225M4
					SHKAF 127 D225M4
47	9170	31.37	54400	1.40	
53	8090	27.68	54200	1.60	
62	6990	23.91	53800	1.85	SHK 127 D225M4
70	6180	21.15	53200	2.1	SHKF 127 D225M4
83	5190	17.77	52200	2.5	SHKA 127 D225M4
102	4190	14.35	50700	2.9	SHKAF 127 D225M4
115	3740	12.79	48300	2.3	
137	3140	10.74	47000	2.5	
169	2540	8.68	45300	2.8	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
45kW					
51	8480	29.00	25600	0.85	SHK 107 D225M4
56	7690	26.32	28300	0.95	SHKF 107 D225M4
65	6610	22.62	31000	1.10	SHKA 107 D225M4
74	5770	19.74	31700	1.25	SHKAF 107 D225M4
88	4890	16.75	31900	1.45	
100	4280	14.64	31900	1.60	SHK 107 D225M4
109	3930	13.43	29900	1.10	SHKF 107 D225M4
125	3430	11.73	29900	1.25	SHKA 107 D225M4
148	2910	9.94	29600	1.45	SHKAF 107 D225M4
169	2540	8.69	29300	1.60	
55kW					
10	51500	144.59	187400	0.95	
11	46200	129.69	190000	1.10	
13	40100	112.60	188500	1.25	SHK 187 D250M4
14	36400	102.16	187100	1.35	SHKH 187 D250M4
17	31300	88.00	184200	1.60	
20	26300	73.96	180200	1.90	
23	22800	64.04	176300	2.2	
17	31300	87.86	145300	1.00	
19	27800	78.14	144600	1.15	
22	24200	68.07	143300	1.30	SHK 167 D250M4
24	21600	60.74	141700	1.50	SHKH 167 D250M4
28	18400	51.77	139100	1.75	
34	15300	42.89	135400	2.1	
40	13000	36.61	131900	2.5	
24	21700	61.02	69000	0.85	
27	19300	54.29	70200	0.95	
32	16700	46.79	71200	1.10	
39	13500	38.02	71500	1.35	SHK 157 D250M4
47	11100	31.30	71000	1.60	SHKF 157 D250M4
53	9840	27.62	70400	1.85	SHKA 157 D250M4
62	8530	23.95	69400	2.1	SHKAF 157 D250M4
69	7590	21.31	68400	2.4	
80	6540	18.37	67000	2.8	
99	5310	14.92	64800	3.4	
117	4510	12.65	62900	3.8	
37	14300	40.19	47400	0.90	SHK 127 D250M4
47	11200	31.37	49300	1.15	SHKF 127 D250M4
53	9850	27.68	49700	1.30	SHKA 127 D250M4
					SHKAF 127 D250M4
62	8510	23.91	49900	1.55	
70	7530	21.15	49800	1.75	SHK 127 D250M4
83	6330	17.77	49300	2.0	SHKF 127 D250M4
103	5110	14.35	48300	2.4	SHKA 127 D250M4
115	4550	12.79	45900	1.85	SHKAF 127 D250M4
137	3830	10.74	45000	2.1	
170	3090	8.68	43600	2.3	
75kW					
11	62800	129.69	164100	0.80	
13	54500	112.60	166100	0.90	
14	49400	102.16	166600	1.00	
17	42600	88.00	166600	1.15	SHK 187 D280S4
20	35800	73.96	165300	1.40	SHKH 187 D280S4
23	31000	64.04	163400	1.60	
28	25800	53.36	160100	1.95	
33	22000	45.50	156700	2.3	
19	37800	78.14	126100	0.85	
22	32900	68.07	127100	0.95	
24	29400	60.74	127300	1.10	
29	25100	51.77	126800	1.30	SHK 167 D280S4
35	20800	42.89	125200	1.55	SHKH 167 D280S4
40	17700	36.61	123200	1.80	
46	15600	32.25	121300	2.0	
51	13900	28.77	119300	2.3	
60	11900	24.52	116300	2.7	

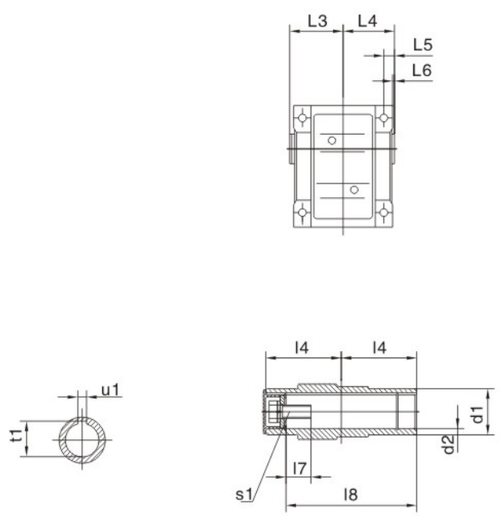
Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
75kW					
39	18400	38.02	60800	1.00	
47	15100	31.30	62200	1.20	
54	13400	27.62	62600	1.35	SHK 157 D280S4
62	11600	23.95	62600	1.55	SHKF 157 D280S4
69	10300	21.31	62400	1.75	SHKA 157 D280S4
81	8890	18.37	61800	2.0	SHKAF 157 D280S4
99	7220	14.92	60500	2.5	
117	6120	12.65	59300	2.8	
47	15200	31.37	39200	0.85	
53	13400	27.68	40800	0.95	
62	11600	23.91	42200	1.10	SHK 127 D280S4
70	10200	21.15	42900	1.25	SHKF 127 D280S4
83	8600	17.77	43500	1.50	SHKA 127 D280S4
103	6940	14.35	43700	1.75	SHKAF 127 D280S4
116	6190	12.79	41100	1.40	
138	5200	10.74	41000	1.55	
171	4200	8.68	40400	1.70	
90kW					
14	59300	102.16	151300	0.85	
17	51100	88.00	153400	1.00	
20	42900	73.96	154200	1.15	
23	37200	64.04	153800	1.35	SHK 187 D280M4
28	31000	53.36	152200	1.60	SHKH 187 D280M4
33	26400	45.50	149900	1.90	
35	24700	42.51	148700	2.0	
38	22400	38.57	146900	2.2	
22	39500	68.07	115100	0.80	
24	35300	60.74	116600	0.90	
29	30100	51.77	117600	1.05	
35	24900	42.89	117600	1.30	
40	21300	36.61	116700	1.50	SHK 167 D280M4
46	18700	32.25	115500	1.70	SHKH 167 D280M4
51	16700	28.77	114200	1.90	
60	14200	24.52	111900	2.2	
73	11800	20.32	108800	2.7	
85	10100	17.34	106000	3.2	
39	22100	38.02	52700	0.80	
47	18200	31.30	55500	1.00	
54	16000	27.62	56700	1.10	SHK 157 D280M4
62	13900	23.95	57500	1.30	SHKF 157 D280M4
69	12400	21.31	57900	1.45	SHKA 157 D280M4
81	10700	18.37	57900	1.70	SHKAF 157 D280M4
99	8670	14.92	57400	2.1	
117	7350	12.65	56600	2.3	
62	13900	23.91	36400	0.95	
70	12300	21.15	37800	1.05	SHK 127 D280M4
83	10300	17.77	39200	1.25	SHKF 127 D280M4
103	8330	14.35	40200	1.45	SHKA 127 D280M4
116	7420	12.79	37600	1.15	SHKAF 127 D280M4
138	6240	10.74	38000	1.30	
171	5040	8.68	38000	1.45	
110kW					
17	62300	88.00	136000	0.80	
20	52300	73.96	139500	0.95	
23	45300	64.04	141000	1.10	
28	37700	53.36	141500	1.30	SHK 187 D315S4
33	32200	45.50	140800	1.55	SHKH 187 D315S4
35	30100	42.51	140200	1.65	
39	27300	38.57	139100	1.85	
45	23500	33.23	137000	2.1	
53	19800	27.92	134000	2.5	
29	36600	51.77	105500	0.85	
35	30300	42.89	107500	1.05	
41	25900	36.61	108100	1.25	
46	22800	32.25	107900	1.40	SHK 167 D315S4
52	20400	28.77	107400	1.55	SHKH 167 D315S4
61	17300	24.52	106100	1.85	
73	14400	20.32	104000	2.2	
86	12300	17.34	101800	2.6	

Output speed n_a [1/min]	Output torque M_a [N · m]	Ratio i	Permitted overhung load F_{Ra} [1] [N]	Service factor f_B	Model
110kW					
62	16900	23.95	50800	1.05	SHK 157 D315S4
70	15100	21.31	51900	1.20	SHKF 157 D315S4
81	13000	18.37	52700	1.40	SHKA 157 D315S4
100	10600	14.92	53100	1.70	SHKAF 157 D315S4
117	8950	12.65	53000	1.90	
132kW					
20	62800	73.96	123300	0.80	
23	54400	64.04	127000	0.90	
28	45300	53.36	129800	1.10	
33	38600	45.50	130800	1.30	
35	36100	42.51	130900	1.40	SHK 187 D315M4
39	32700	38.57	130700	1.55	SHKH 187 D315M4
45	28200	33.23	129800	1.75	
53	23700	27.92	127900	2.1	
61	20500	24.18	125900	2. 3	
74	17100	20.15	122800	2.6	
86	14600	17.18	119700	2.8	
35	36400	42.89	96400	0.90	
41	31100	36.61	98600	1.05	
46	27400	32.25	99600	1.15	SHK 167 D315M4
52	24400	28.77	99900	1.30	SHKH 167 D315M4
61	20800	24.52	99800	1.55	
73	17200	20.32	98700	1.85	
86	14700	17.34	97300	2.2	
62	20300	23.95	43400	0.90	SHK 157 D315M4
70	18100	21.31	45300	1.00	SHKF 157 D315M4
81	15600	18.37	47000	1.15	SHKA 157 D315M4
100	12700	14.92	48500	1.40	SHKAF 157 D315M4
117	10700	12.65	49100	1.60	
160kW					
28	54900	53.36	114900	0.90	
33	46800	45.50	118100	1.05	
45	34200	33.23	120500	1.45	SHK 187 D315M4A
53	28700	27.92	120100	1.75	SHKH 187 D315M4A
61	24900	24.18	119100	1.90	
74	20700	20.15	117200	2.1	
86	17700	17.18	114900	2.3	
41	37700	36.61	86500	0.85	
61	25200	24.52	91700	1.25	SHK 167 D315M4A
73	20900	20.32	92000	1.55	SHKH 167 D315M4A
86	17800	17.34	91600	1.80	
81	18900	18.37	39800	0.95	SHK 157 D315M4A
100	15400	14.92	42600	1.15	SHKF 157 D315M4A
117	13000	12.65	44100	1.30	SHKA 157 D315M4A
					SHKAF 157 D315M4A
200kW					
33	58500	45.50	100000	0.85	
45	42700	33.23	107300	1.15	
53	35900	27.92	109000	1.40	SHK 187 D315M4B
61	31100	24.18	109500	1.55	SHKH 187 D315M4B
74	25900	20.15	109100	1.70	
86	22100	17.18	108100	1.85	
61	31500	24.52	80100	1.00	SHK 167 D315M4B
73	26100	20.32	82400	1.20	SHKH 167 D315M4B
86	22300	17.34	83400	1.45	
					SHK 157 D315M4B
100	19200	14.92	34200	0.95	SHKF 157 D315M4B
117	16300	12.65	36900	1.05	SHKA 157 D315M4B
					SHKAF 157 D315M4B

SHK37.. ~ SHK157..



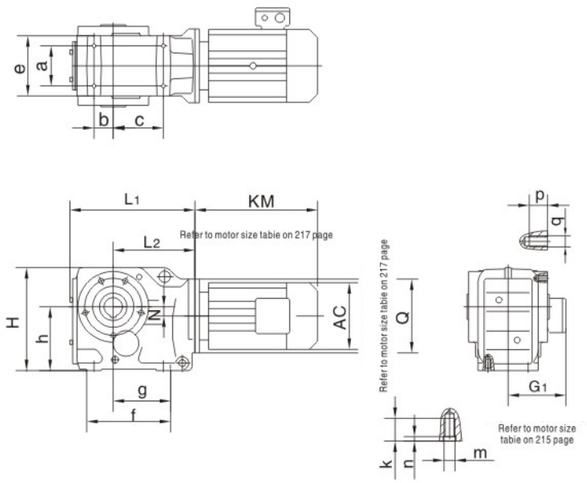
SHKA37B.. ~ SHKA157B..

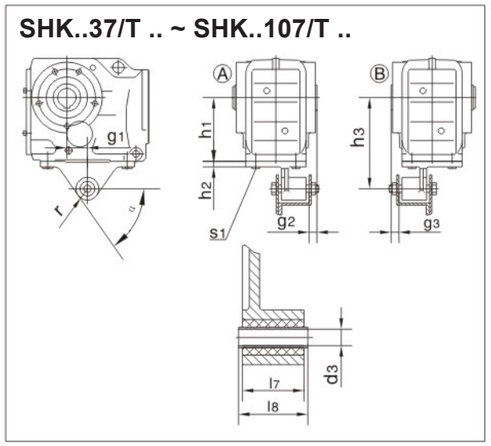


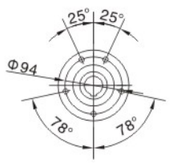
size	a b c	e_1 e_2 f	g_1 g_2 g_3	h_1 h_2	j	k	m n	Shaft dimension				
								d	l	l_1 l_2	S	t u
SHK37..	115 110 100	150 143 120	32 28 60	$100_{-0.5}$ $63_{-0.5}$	16	11	37 38	25k6	50	5 40	M10	28 8
SHK47.. SHKA47B..	130 130 120	170 162 145	37 35 75	$112_{-0.5}$ $71_{-0.5}$	18	11	37 32	30k6	60	3.5 50	M10	33 8
SHK57.. SHKA57B..	150 130 130	190 172 157	45 30 88	$132_{-0.5}$ $80_{-0.5}$	21	13.5	43 40	35k6	70	7 56	M12	38 10
SHK67.. SHKA67B..	160 120 140	203 170 170	45 30 101	$140_{-0.5}$ $90_{-0.5}$	24	13.5	43 45	40k6	80	5 70	M16	43 12
SHK77.. SHKA77B..	200 150 165	263 208 200	55 40 123.5	$180_{-0.5}$ $112_{-0.5}$	27	17.5	55 55	50k6	100	10 80	M16	53.5 14
SHK87.. SHKA87B..	233 180 180	305 260 230	70 55 150	$212_{-0.5}$ $132_{-0.5}$	32	22	67 75	60m6	120	5 110	M20	64 18
SHK97.. SHKA97B..	295 240 240	372 294 290	75 75 171	265_{-1} $160_{-0.5}$	36	26	82 60	70m6	140	7.5 125	M20	74.5 20
SHK107.. SHKA107B..	360 280 270	448 380 340	95 95 212	315_{-1} $200_{-0.5}$	40	33	98 100	90m6	170	5 160	M24	95 25
SHK127.. SHKA127B..	420 350 330	526 440 400	110 115 253	375_{-1} $225_{-0.5}$	45	39	111 100	110m6	210	15 180	M24	116 28
SHK157.. SHKA157B..	500 380 420	634 480 500	130 140 247	450_{-1} 280_{-1}	50	39	130 100	120m6	210	5 200	M24	127 32

size	hollow shaft dimention							H	L1 L2	L3	N	Q
	d2	d1	l3 l4	l5 l6	l7 l8	s1	t1 u1					
SHK37..	–	–	–	–	–	–	–	165	110 60	139	8.5	120
SHK47.. SHKA47B..	35^{H7}	50	78 75	15 3	22 132	M12x30	38.3 10	185	135 72	166	7.2	160
SHK57.. SHKA57B..	40^{H7}	55	86 83	18 3	29 142	M16x40	43.3 12	217	153 80	173	13.1	160
SHK67.. SHKA67B..	40^{H7}	55	93 90	20 3.5	29 156	M16x40	43.3 12	228	171 86.5	179	20	160
SHK77.. SHKA77B..	50^{H7}	70	108 105	22.5 4	32 183	M16x45	53.8 14	288	206 101	202	31.3	200
SHK87.. SHKA87B..	60^{H7}	85	123 120	30 4	36 210	M20x50	64.4 18	340	240 116	257	25.9	250
SHK97.. SHKA97B..	70^{H7}	95	153 150	30 4	34 270	M20x50	74.9 20	417	291 146	277	32.3	300
SHK107.. SHKA107B..	90^{H7}	118	178 175	40 2.5	40 313	M24x60	95.4 25	503	347 175	341	52	350
SHK127.. SHKA127B..	100^{H7}	135	208 205	40 2.5	38 373	M24x60	106.4 28	592	418 203	390	53	450
SHK157.. SHKA157B..	120^{H7}	155	253 250	40	36 460	M24x60	127.4 32	705	457 250	426	71.7	550

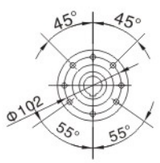
SHKA37.. ~ SHKA107..



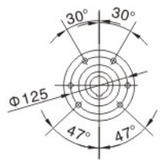




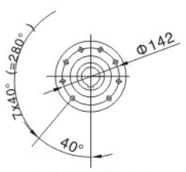
SHKA37..



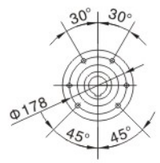
SHKA47..



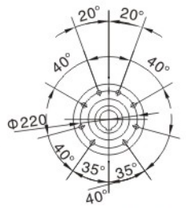
SHKA57..
SHKA67..



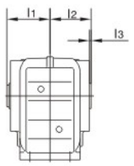
SHKA77..

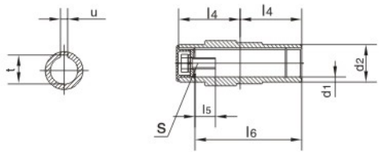


SHKA87..



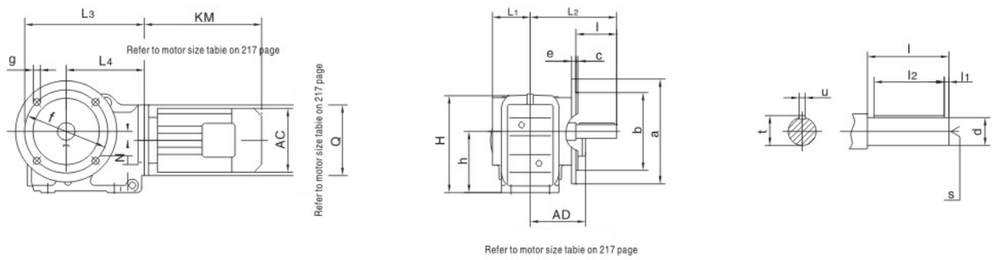
SHKA97..



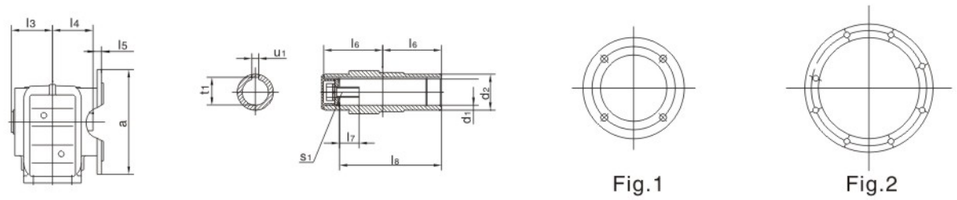


size	a b c	e f g	h	k m n	p q	Hollow shaft dimenson				Torque arm form				H L_1 L_2	N Q
						d_1 d_2	l_1 l_2 l_3	l_4 l_5 l_6	s t u	g_1 g_2 g_3	h_1 h_2 h_3	d_3 l_7 l_8	r s_1 ∝		
SHKA37.. SHK..37/T..	60 35 82	100 147 97	$100_{-0.5}$	20 M10 4	12 M8	30^{H7} 45	63 60 2.5	60 17 105	M10 33.3 8	23.5 20 20	$100_{-0.5}$ 10 $140^{+0.2}_{-0.7}$	$10.4_{\pm 0.1}$ 31 $36_{-0.3}$	22.5 M10x25 60°	164 210 139	8.5 120
SHKA47.. SHK..47/T..	70 40 100	110 170 115	$112_{-0.5}$	20 M10 4	12 M8	35^{H7} 50	78 75 3	75 22 132	M12 38.3 10	30 20 20	$112_{-0.5}$ 12 $160^{+0.2}_{-0.7}$	$10.4_{\pm 0.1}$ 31 $36_{-0.3}$	22.5 M10x30 55°	185 243 166	7.2 160
SHKA57.. SHK..57/T..	88 47 105	122 182 120	$132_{-0.5}$	25 M12 5	20 M12	40^{H7} 55	86 83 3	83 29 142	M16 43.3 12	40 18 18	$132_{-0.5}$ 13 $192^{+0.2}_{-0.7}$	$16.4_{\pm 0.08}$ 54 $60_{-0.3}$	29 M12x35 55°	215 269 173	13.1 160
SHKA67.. SHK..67/T..	88 42 110	130 182 125	$140_{-0.5}$	25 M12 5	20 M12	40^{H7} 55	94 90 3.5	90 29 156	M16 43.3 12	45 25 25	$140_{-0.5}$ 13 $200^{+0.2}_{-0.7}$	$16.4_{\pm 0.08}$ 54 $60_{-0.3}$	29 M12x35 55°	226 274 179	20 160
SHKA77.. SHK..77/T..	102 48 122	154 204 139	$180_{-0.5}$	32 M16 6	20 M12	50^{H7} 70	108 105 4	105 32 186	M16 53.8 14	52.5 25 25	$180_{-0.5}$ 14 $250^{+0.2}_{-0.7}$	$16.4_{\pm 0.08}$ 54 $60_{-0.3}$	29 M16x40 60°	286 312 202	31.3 200
SHKA87.. SHK..87/T..	118 65 160	170 280 190	$212_{-0.5}$	32 M16 6	26 M16	60^{H7} 85	123 120 4	120 36 210	M20 64.4 18	60 30 30	$212_{-0.5}$ 16 $300^{+0.2}_{-0.7}$	$25_{\pm 0.08}$ 72 $80_{-0.3}$	41 M16x45 60°	338 390 257	25.9 250
SHKA97.. SHK..97/T..	160 83 165	226 298 190	265_{-1}	36 M20 6	26 M16	70^{H7} 95	153 150 4	150 34 270	M20 74.9 20	70 40 40	265_{-1} 17 $350^{+0.2}_{-1.2}$	$25_{\pm 0.08}$ 92 $100_{-0.3}$	41 M20x50 50°	414 435 277	32.3 300
SHKA107.. SHK..107/T..	190 100 190	266 370 230	315_{-1}	44 M24 8	–	90^{H7} 118	178 175 2.5	175 40 313	M24 95.4 25	74 45 45	315_{-1} 20 $450^{+0.5}_{-1.5}$	$25_{\pm 0.08}$ 92 $100_{-0.3}$	41 M24x60 55°	500 537 341	52 350

SHKF37.. ~ SHKF157..



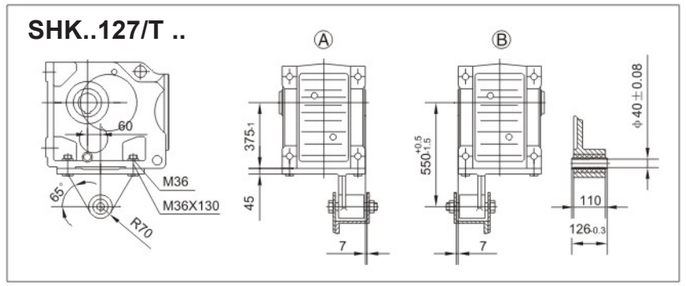
SHKAF37.. ~ SHKAF157..

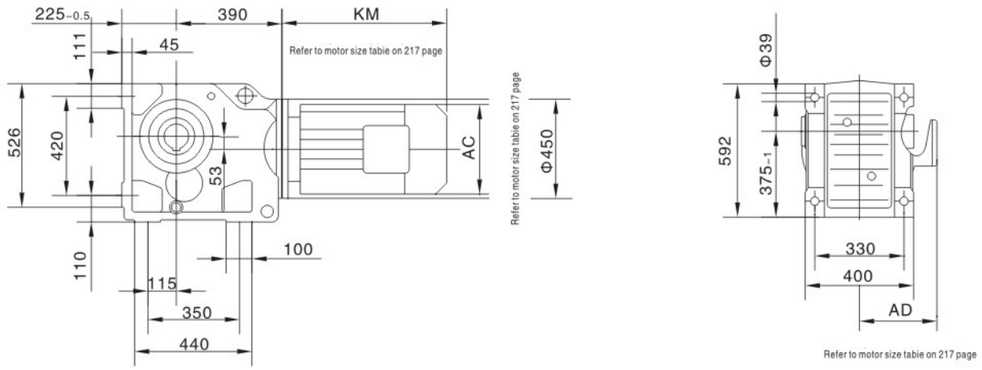


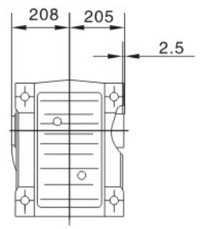
Flange form

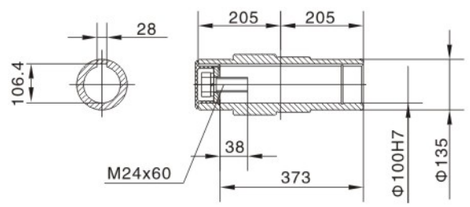
model	Flange form	a b	c e	f g h	dimension d l	 l1 l2	 s	 t u	Hollow shaft dimension d1 d2	 l3 l4 l5	 l6 l7 l8	s1	t1 u1	H	L1 L2 L3	L4 N Q
SHKF37.. SHKAF37..	Fig.1	160 110j6	3.5 10	130 9 100	25k6 50	5 40	M10	28 8	30^{H7} 45	63 60 24	60 17 105	M10×25	33.3 8	164	57.5 134 210	139 8.5 120
SHKF47.. SHKAF47..	Fig.1	200 130j6	3.5 10	165 11 112	30k6 60	3.5 50	M10	33 8	35^{H7} 50	78 75 25	75 22 132	M12×30	38.3 10	185	72 160 243	166 7.2 160
SHKF57.. SHKAF57..	Fig.1	250 180j6	4 15	215 13.5 132	35k6 70	7 56	M12	38 10	40^{H7} 55	86 83 23.5	83 29 142	M16×40	43.3 12	215	80 177 269	173 13.1 160
SHKF67.. SHKAF67..	Fig.1	250 180j6	4 15	215 13.5 140	40k6 80	5 70	M16	43 12	40^{H7} 55	94 90 23	90 29 156	M16×40	43.3 12	226	86.5 193 274	179 20 160
SHKF77.. SHKAF77..	Fig.1	300 230j6	4 16	265 13.5 180	50k6 100	80 10	M16	53.5 14	50^{H7} 70	108 105 37	105 32 183	M16×45	53.8 14	286	101 242 312	202 31.3 200
SHKF87.. SHKAF87..	Fig.1	350 250h6	5 18	300 17.5 212	60m6 120	5 110	M20	64 18	60^{H7} 85	123 120 30	120 36 210	M20×50	64.4 18	338	138 270 390	257 25.9 250
SHKF97.. SHKAF97..	Fig.2	450 350h6	5 22	400 17.5 265	70m6 140	7.5 125	M20	74.5 20	70^{H7} 95	153 150 41.5	150 34 270	M20×50	74.9 20	414	171 332 435	277 32.3 300
SHKF107.. SHKAF107..	Fig.2	450 350h6	5 25	400 17.5 315	90m6 170	5 160	M24	95 25	90^{H7} 118	178 175 41	175 40 313	M24×60	95.4 25	500	175 386 537	341 52 350
SHKF127.. SHKAF127..	Fig.2	550 450h6	5 22	500 17.5 375−1	110m6 210	15 180	M24	116 28	100^{H7} 135	208 205 51	205 38 373	M24×60	106.4 28	592	203 466 615	390 53 450
SHKF157.. SHKAF157..	Fig.2	660 550h6	6 28	600 22 450−1	120m6 210	5 200	M24	127 32	120^{H7} 155	253 250 60	250 36 460	M24×60	127.4 32	705	253 520 706	705 71.7 550

SHKA127..

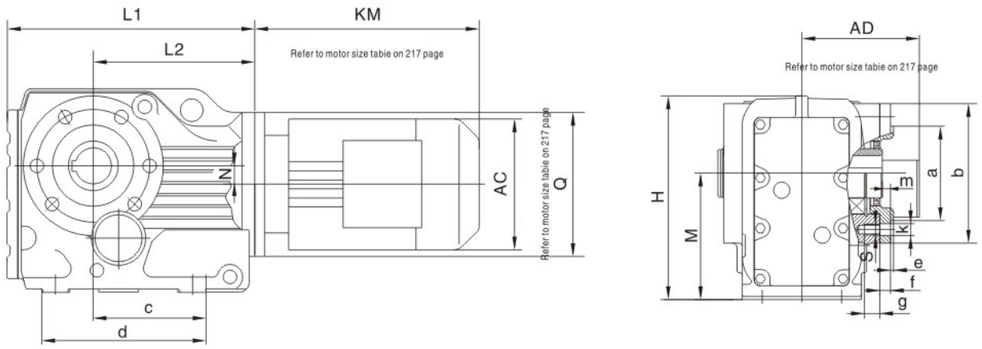


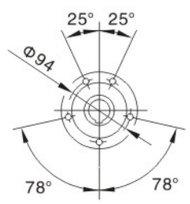




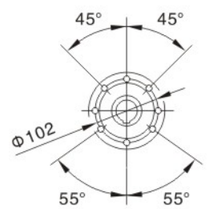


SHKAZ37.. ~ SHKAZ107..

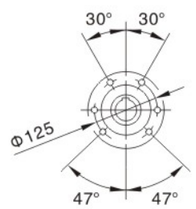




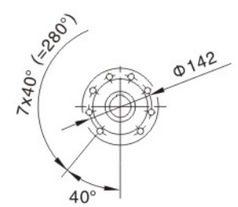
SHKAZ37..



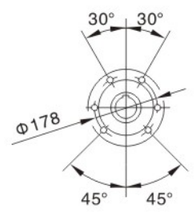
SHKAZ47..



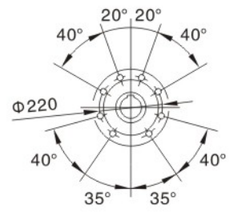
SHKAZ67..



SHKAZ77..



SHKAZ87..

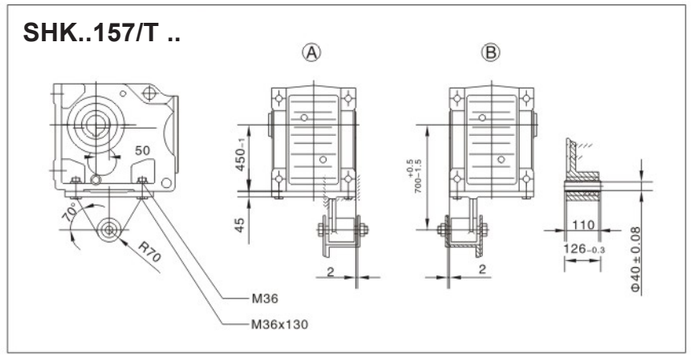


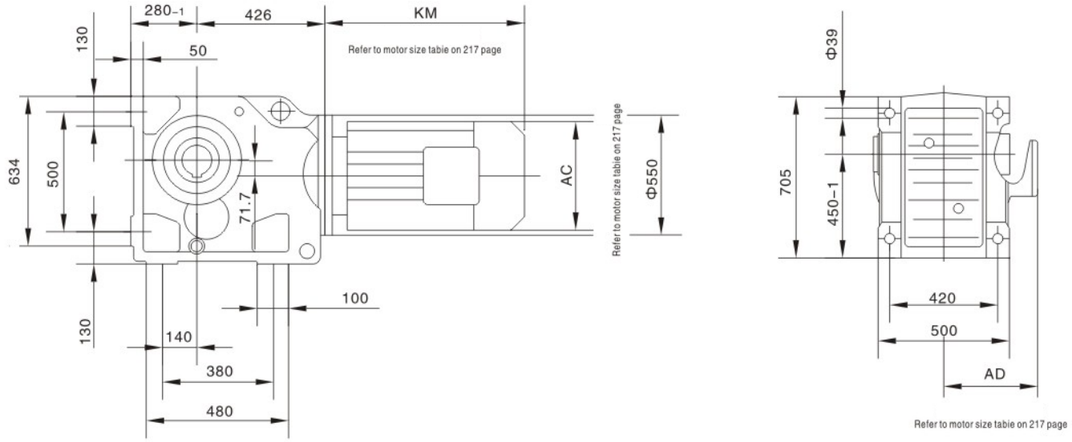
SHKAZ97..

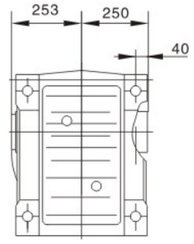
SHKAZ107..

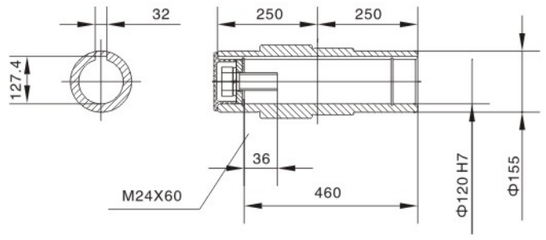
Model	a	b	c	d	e	f	g	H	k	L1	L2	m	M	N	Q	S
SHKAZ37..	110	80j6	97	147	3	11.5	12	164	9	210	139	9	100	8.5	120	M8
SHKAZ47..	120	80j6	115	170	3	11	12	185	9	243	166	8.5	112	7.2	160	M8
SHKAZ57..	155	105j6	120	182	3.5	12	20	215	13.5	269	173	9	132	13.1	160	M12
SHKAZ67..	155	105j6	125	182	3.5	12	20	226	13.5	274	179	8.5	140	20	160	M12
SHKAZ77..	170	125j6	139	204	3.5	14	20	286	13.5	312	202	10	180	31.3	200	M12
SHKAZ87..	215	155j6	190	280	4	15	26	338	17.5	390	257	11	212	25.9	250	M16
SHKAZ97..	260	180j6	190	298	4	18	26	414	17.5	435	277	14	265	32.3	300	M16
SHKAZ107..	304	210j6	23	370	4	22	30	500	22	537	341	8	315	52	350	M20

SHKA157..

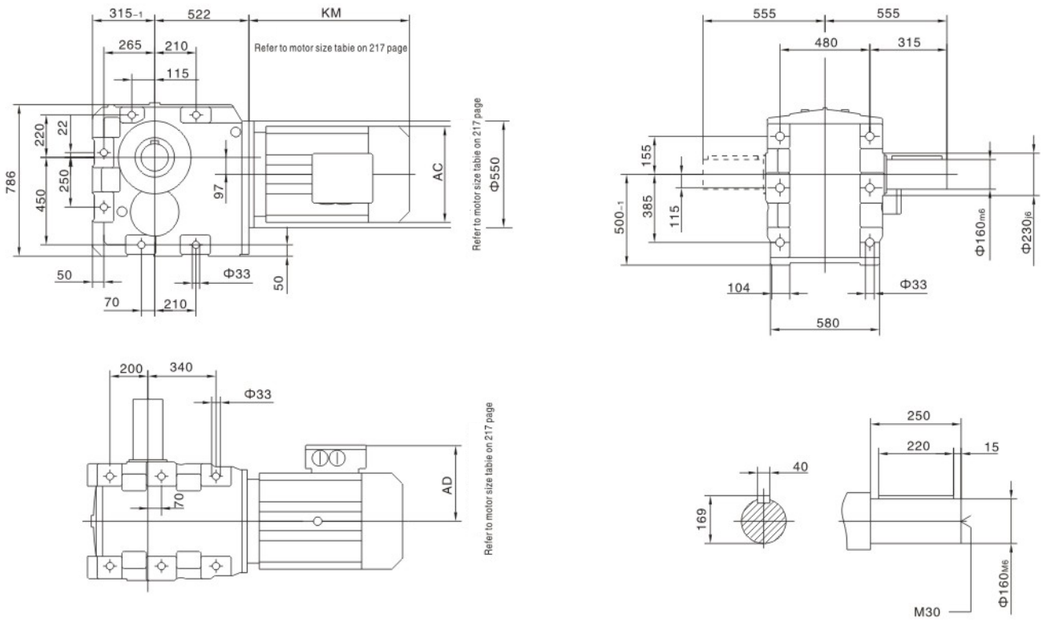




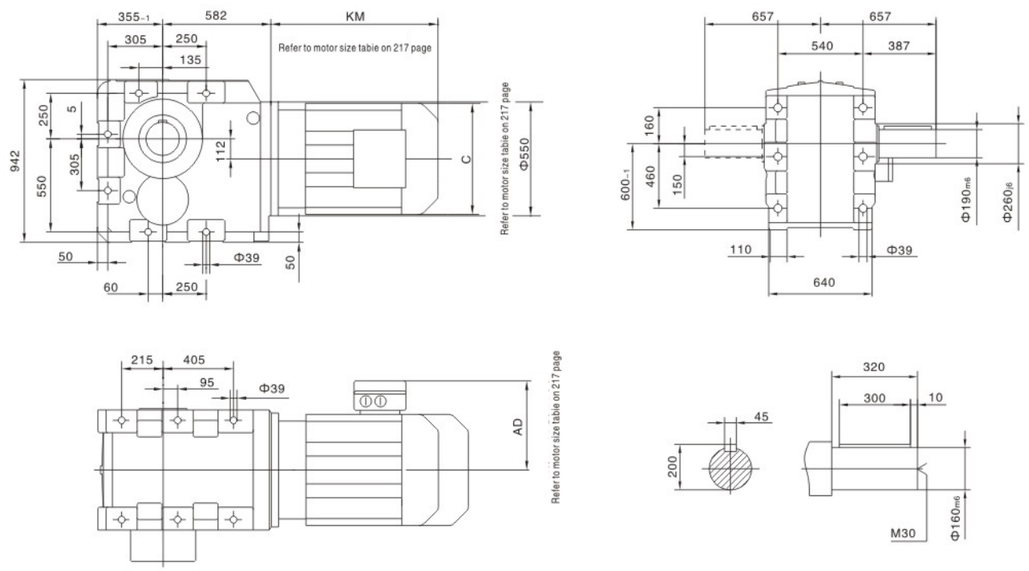




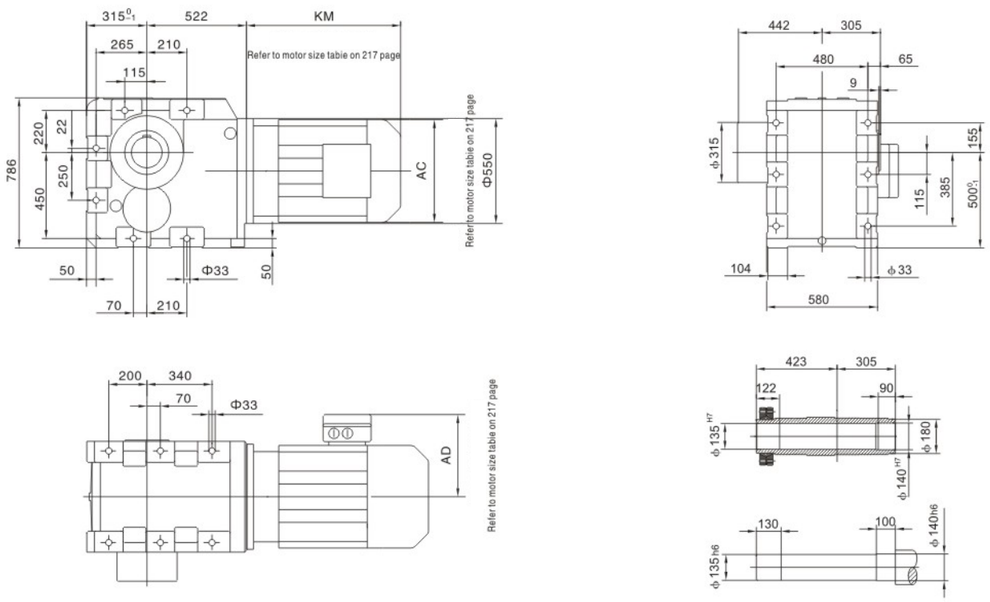
SHK167..



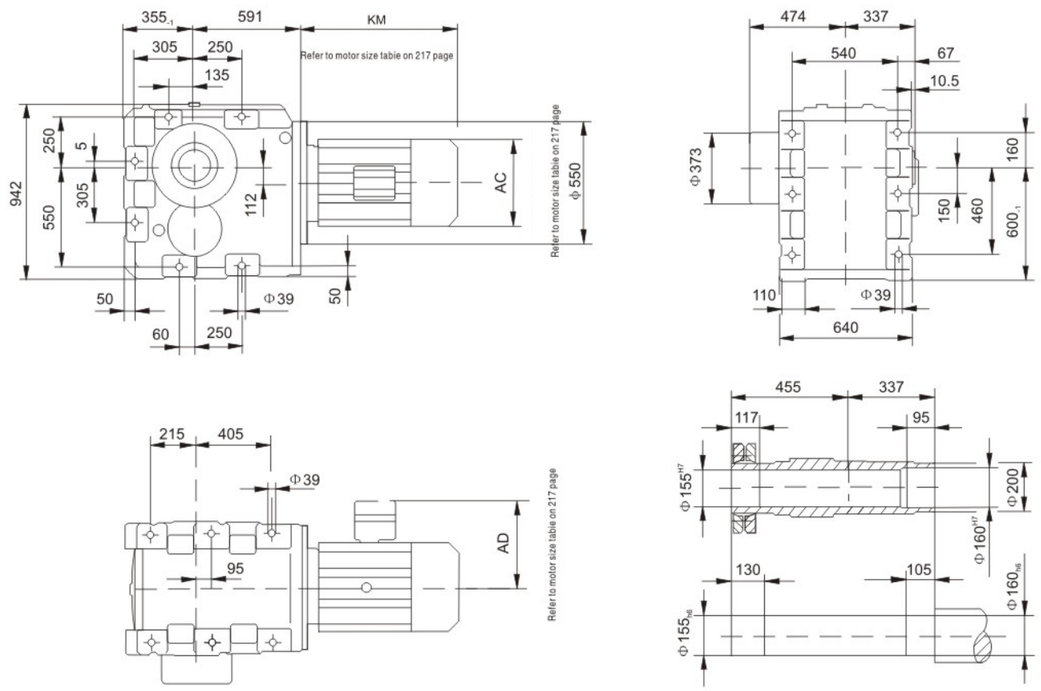
SHK187..



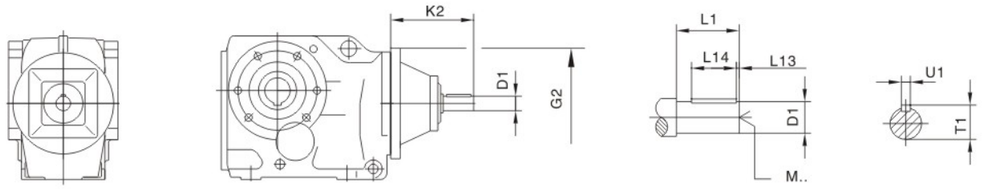
SHKH167..



SHKH187..

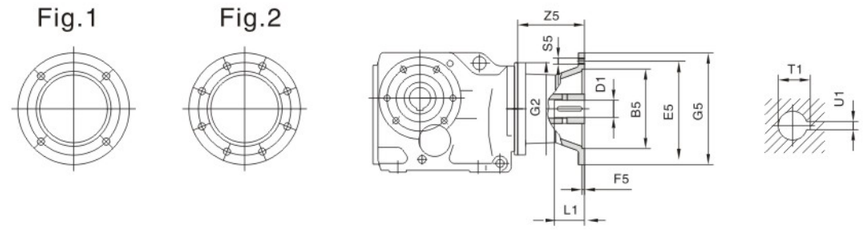


SHK..AD..



Gear unit type	Motor adcopator	G2	K2	D1	L1	L13	L14	T1	U1	M
SHK..37	AD1	120	102	16	40	4	32	18	5	M5
	AD2		130	19	40	4	32	21.5	6	M6
SHK..47 SHK..57 SHK..67	AD2	160	123	19	40	4	32	21.5	6	M6
	AD3		159	24	50	5	40	27	8	M8
SHK..77	AD2	200	116	19	40	4	32	21.5	6	M6
	AD3		151	24	50	5	40	27	8	M8
	AD4		224	38	80	5	70	41	10	M12
SHK..87	AD2	250	111	19	40	4	32	21.5	6	M6
	AD3		156	28	60	5	50	31	8	M10
	AD4		219	38	80	5	70	41	10	M12
	AD5		292	42	110	10	70	45	12	M16
SHK..97	AD3	300	151	28	60	5	50	31	8	M10
	AD4		214	38	80	5	70	41	10	M12
	AD5		287	42	110	10	70	45	12	M16
	AD6		327	48	110	10	80	51.5	14	M16
SHK..107	AD3	350	145	28	60	5	50	31	8	M10
	AD4		208	38	80	5	70	41	10	M12
	AD5		281	42	110	10	70	45	12	M16
	AD6		321	48	110	10	80	51.5	14	M16
SHK..127	AD4	450	193	38	80	5	70	41	10	M12
	AD5		266	42	110	10	70	45	12	M16
	AD6		306	48	110	10	80	51.5	14	M16
	AD7		300	55	110	10	90	59	16	M20
	AD8		383	70	140	15	110	74.5	20	M20
SHK..157 SHK..167 SHK..187	AD5	550	258	42	110	10	70	45	12	M16
	AD6		298	48	110	10	80	51.5	14	M16
	AD7		292	55	110	10	90	59	16	M20
	AD8		374	70	140	15	110	74.5	20	M20

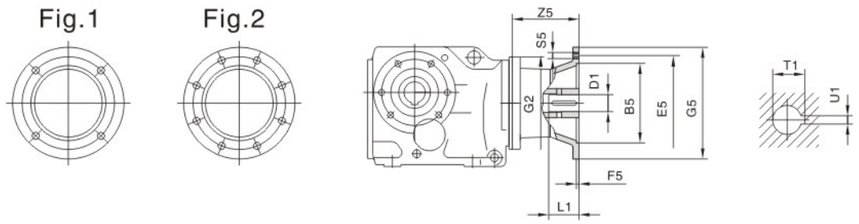
SHK..AM..



Gear unit type	Motor adcopator	Fig	B5	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
SHK..37	AM63	1	95G7	115	3.5	120	140	M8	72	11	23	12.8	4
	AM71[1)]		110G7	130			160			14	30	16.3	5
	AM80[1)]		130G7	165	4.5		200	M10	106	19	40	21.8	6
	AM90[1)]									24	50	27.3	8
SHK..47 SHK..57 SHK..67	AM63	1	95G7	115	3.5	160	140	M8	66	11	23	12.8	4
	AM71		110G7	130			160			14	30	16.3	5
	AM80		130G7	165	4.5		200	M10	99	19	40	21.8	6
	AM90									24	50	27.3	8
	AM100[1)]		180G7	215	5		250	M12	134	28	60	31.3	8
	AM112[1)]												
	AM132[1)]		230G7	265			300		189	38	80	41.3	10
SHK..77	AM63	1	95G7	115	3.5	200	140	M8	60	11	23	12.8	4
	AM71		110G7	130			160			14	30	16.3	5
	AM80		130G7	165	4.5		200	M10	92	19	40	21.8	6
	AM90									24	50	27.3	8
	AM100[1)]		180G7	215	5		250	M12	126	28	60	31.3	8
	AM112[1)]												
	AM132S[1)] AM132M[1)]		230G7	265	5		300		179	38	80	41.3	10
	AM132ML[1)]												
SHK..87	AM80	1	130G7	165	4.5	250	200	M10	87	19	40	21.8	12
	AM90									24	50	27.3	14
	AM100		180G7	215	5		250	M12	121	28	60	31.3	8
	AM112												
	AM132S AM132M		230G7	265			300		174	38	80	41.3	10
	AM132ML												
	AM160[1)]		250G7	300	6		350	M16	232	42	110	45.3	6
	AM180[1)]									48		51.8	8
SHK..97	AM100	1	180G7	215	5	300	250	M12	116	28	60	31.3	8
	AM112												
	AM132S AM132M		230G7	265			300		169	38	80	41.3	10
	AM132ML												
	AM160		250G7	300	6		350	M16	227	42	110	45.3	12
	AM180									48		51.8	14
	AM200[1)]		300G7	350	7		400		268	55		59.3	16
	AM225[1)]	2	350G7	400			450		283	60	140	64.4	18

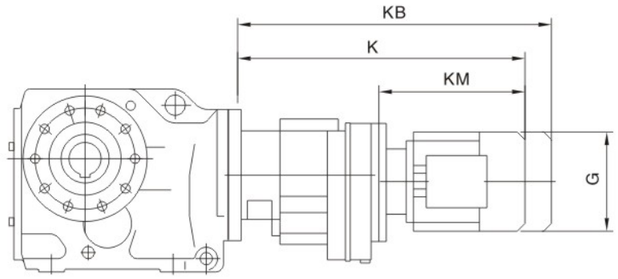
Dimension G5/2 May protrude past foot mounting surface if mounted on SHK foot – mounted gear unit, please check.

SHK..AM..



Gear unit type	Motor adcopator	Fig	B5	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
SHK..107	AM100	1	180	215	5	350	250	M12	110	28	60	31.3	8
	AM112												
	AM132S		230	265			300		163	38	80	41.3	10
	AM132M												
	AM132ML												
	AM160		250	300	6		350	M16	221	42	110	45.3	12
	AM180									48		51.8	14
	AM200		300	350	7		400		262	55		59.3	16
	AM225	2	350	400			450		277	60	140	64.4	18
SHK..127	AM132S	1	230	265	5	450	300	M12	148	38	80	41.3	10
	AM132M												
	AM132ML												
	AM160		250	300	6		350	M16	206	42	110	45.3	12
	AM180									48		51.8	14
	AM200		300	350	7		400		247	55		59.3	16
	AM225	2	350	400			450		262	60	140	64.4	18
	AM250		450	500			550		336	65		69.4	
	AM280									75		79.9	20
SHK..157 SHK..167 SHK..187	AM160	1	250	300	6	550	350	M16	198	42	110	45.3	12
	AM180									48		51.8	14
	AM200		300	350	7		400		239	55		59.3	16
	AM225	2	350	400			450		254	60	140	64.4	18
	AM250		450	500			550		328	65		69.4	
	AM280									75		79.9	20

SHK..R..



Gear unit type	Motor type	G	K	KB	KM
SHK..37R17	D63..	155	368	425	193
	D71D	155	369	433	194
	D80..	155	419	483	244
SHK..47R17 SHK..67R37	D63..	155	400	457	235
	D71D	155	401	465	236
	D80..	155	451	515	286
SHK..57R37	D63..	155	410	457	235
	D71D	155	401	456	236
	D80..	155	451	515	286
	D90..	210	451	536	286
SHK..77R37	D63..	155	392	449	235
	D71D	155	393	457	236
	D80..	155	443	507	286
	D90..	210	443	528	286
SHK..87R57	D63..	155	445	502	229
	D71D	155	445	509	229
	D80..	210	495	559	279
	D90..	210	495	580	279
	D100M	210	545	630	329
	D100L	210	565	650	349
SHK..97R57	D63..	155	440	497	229
	D71D	155	440	504	229
	D80..	155	490	554	279
	D90..	210	490	575	279
	D100M	210	540	625	329
	D100L	210	560	645	349
	D112M	240	575	655	364
SHK..107R77	D63..	155	470	527	223
	D71D	155	470	534	223
	D80..	155	520	584	273
	D90..	210	518	603	271
	D100M	210	568	653	321
	D100L	210	588	673	341
	D112M	240	602	682	355
	D132S	240	647	727	400
	D132M	285	699	811	452
	D132ML	285	719	831	472
	D160M	330	749	861	512

Notes: The dimension of motor in the above table is only for reference.
If you have special require, please consult us.

Gear unit type	Motor type	G	K	KB	KM
SHK..127R77	D63..	155	455	512	223
	D71D	155	455	519	223
	D80..	155	505	569	273
	D90..	210	503	588	271
	D100M	210	553	638	321
	D100L	210	573	658	341
	D112M	240	587	667	355
	D132S	240	632	712	400
	D132M	285	684	796	452
	D132ML	285	704	816	472
	D160M	330	734	846	502
SHK..127R87	D90..	210	547	632	267
	D100M	210	597	682	317
	D100L	210	617	702	337
	D112M	240	630	710	350
	D132S	240	675	755	395
	D132M	285	727	839	447
	D132ML	285	747	859	467
	D160M	330	777	889	497
	D160L	330	824	980	544
	D180..	380	896	1052	616
SHK..157R97 SHK..167R97 SHKH..167BR97 SHK..187R97 SHKH..187BR97	D80..	155	586	650	261
	D90..	210	586	671	261
	D100M	210	636	721	311
	D100L	210	656	741	331
	D112M	240	670	750	345
	D132S	240	715	795	390
	D132M	285	767	879	442
	D132ML	285	787	899	462
	D160M	330	817	929	492
	D160L	330	864	1020	539
	D180..	380	936	1092	61
	D200..	420	1024	1180	699
SHK..157R107 SHK..167R97 SHKH..167BR97 SHK..187R97 SHKH..187BR97	D100M	210	687	772	305
	D100L	210	707	792	325
	D112M	240	721	801	339
	D132S	240	766	846	384
	D132M	285	818	930	436
	D132ML	285	838	950	456
	D160M	330	868	980	486
	D160L	330	915	1071	533
	D180..	380	987	1143	605
	D200..	420	1075	1231	693
	D225..	470	1107	1263	725

9.
Important notes of design and mounting

9.1 Installation/removal of gear units with hollow shafts and keys

Installation

Always use the supplied NOCO Fluid paste during the assembly procedure. It avoids contact corrosion and easy for disassembly.

The key dimension X is defined by the customer, however X must be >DK.

Customer shaft

Recommends two methods for mounting gear unit with hollow shafts and keys onto the input shaft of the driven machine(=customer shaft):

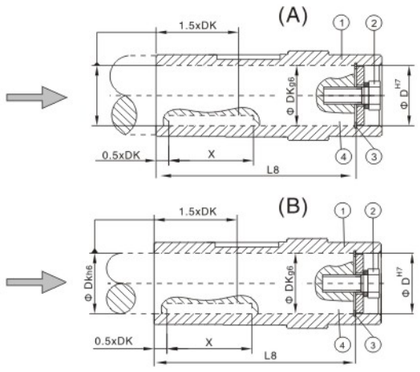
1.
Install with supplied fastening elements
2.
Install using the optional installation /removal kit

9.1.1 Supplied fastening elements

The following fastening elements are supplied as standard:

Rataining screw with washer①

Circlip ②



Installation length of customer shaft with contact shoulde(A)must be L8−1mm

Installtion length of customer shaft with contact shoulde(B)must equal to L8

The retaining screw② must be tightened to the tightening torque MS listed in the following table

① Hollow shaft
② Retaining screw with washer
③ Circlip
④ Customer shaft

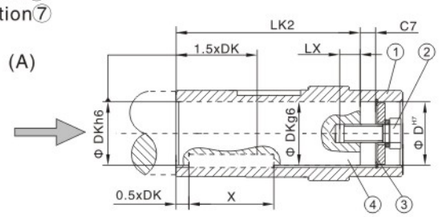
Fig: Customer shaft with contact shoulder(A)and with contact shoulder(B)

Gear unit type	D^{H7}[mm]	DK[mm]	L8[mm]	MS[Nm]
SHSA..37	20	20	84,106,104	8
SHSA..47	25	25	105	20
SHFA..37,SHKA..37,SHSA..47,SHSA..57	30	30	105 132	20
SHFA..47,SHKA..47,SHSA..57	35	35	132	20
SHFA..57,SHKA.57 SHFA..67, SHKA.67 SHSA..67	40	40	142 156 144	40
SHSA..67	45	45	144	40
SHFA..77,SHKA..77,SHSA..77	50	50	183	40
SHFA..87,SHFA..87, SHSA..77, SHSA..87,	60	60	210 180,220	80
SHFA..97,SHFA..97, SHSA..87, SHSA..97,	70	70	270 220,260	80
SHFA..107,SHKA..107,SHSA..97	90	90	313,313,255	200
SHFA..127,SHKA..127,	100	100	373	200
SHFA..157,SHKA..157,	120	120	460	200

9.1.2 Installation / removal kit

You can use the optional installation/removal kit for installation. The kit can be ordered for the specific gear unit types by quoting the part numbers in the table below.
The accesseriyes of the tools includorg:
–Distance piece for installation without contact shoulder⑤
–Retaining screw for installation②
–Removal washer for installation⑦
–Fixed nut for removal⑧

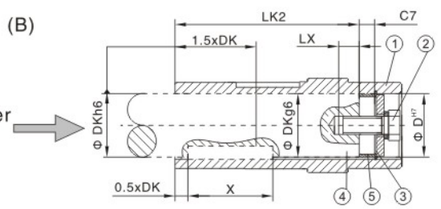
(A)



The installation length of the customer shaft must be LK2.
The distance piece must not be used if the customer shaft does have a contact shouder(A).

①
②
③
④
⑤

(B)



The installation length of the customer shaft must be LK2.
The distance piece must not be used if the customer shaft does have a contact shouder(B).

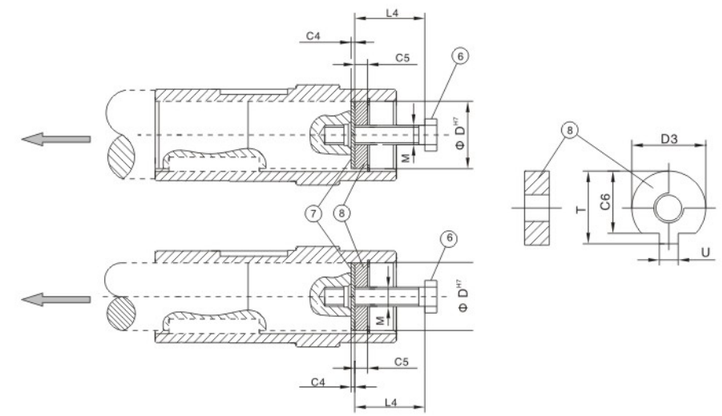
①Hollow shaft
②Retaining screw with washer
③Chirclip
④Customer shaft
⑤Distance piece

Fig: Customer shaft with contact shoulder (A) and without contact shoulder (B)

Gear unit type	D^{H7}[mm]	DK[mm]	LK2[mm]	LX^{+2}[Nm]	C7[Nm]	MS[Nm]
SHSA..37	20	20	92	16	12	8
SHSA..47	25	25	89	22	16	20
SHFA..37,SHKA..37,SHSA..47 SHSA..57	30	30	89 89,116	22	16	20
SHFA..47,SHKA..47,SHSA..57	35	35	114	28	18	20
SHFA..57,SHKA..57 SHFA..67, SHKA..57 SHSA..67	40	40	124 138,138,126	36	18	40
SHSA..67	45	45	126	36	18	40
SHFA..77,SHKA..77,SHSA..77	50	50	165	36	18	40
SHFA..87,SHKA..87, SHSA..77, SHSA..87,	60	60	188 158,198	42	22	80
SHFA..97,SHKA..97, SHSA..87, SHSA..97,	70	70	248 198, 238	42	22	80
SHFA..107,SHKA..107,SHSA..97	90	90	287 229	50	26	200
SHFA..127,SHKA..127,	100	100	347	50	26	200
SHFA..157,SHKA..157,	120	120	434	50	26	200

Removal

Applies prior installation with the installation /removal kit only.
Proceed as follows for removal:
1.Remone the retaining screw⑥
2.Remove the Circlip ③ and if used, the distance piece ⑤
3.Insed the removal washer ⑦ and the fixed nut ⑧ between the customer shaft ④ and circlip ③ according to Fig.
4.Re–insert the cirlip ③.
5.Re–insert the retaining screw ⑥.You can now push the gear unit off the shaft.



⑥ Retaining screw
⑦ Removal washer
⑧ Fixed nut for removal

Fig.Removal

Model	D^{H7} [mm]	M	C4 [mm]	C5 [mm]	C6 [mm]	$U^{-0.5}$ [mm]	$T3^{-0.5}$ [mm]	$D^{-0.5L4}$ [mm]	Installation/ removal kit part number
SHSA..37	20	M6	5	6	15.5	5.5	22.5	19.7	25
SHSA..47	25	M10	5	10	20	7.5	28	24.7	35
SHFA..37,SHKA..37,SHSA..57	30	M10	5	10	25	7.5	33	29.7	35
SHFA..47,SHSA..57	35	M12	5	12	29	9.5	38	34.7	45
SHFA..57,SHKA..57,SHFA..67,SHKA..67,SHSA..67	40	M16	5	12	34	11.5	41.9	39.7	50
SHSA..67	45	M16	5	12	38.5	13.5	48.5	44.7	50
SHFA..77,SHKA..77,SHSA..77	50	M16	5	12	43.5	13.5	53.5	49.7	50
SHFA..87,SHKA..87,SHSA..77, SHSA..87	60	M20	5	16	56	17.5	64	59.7	60
SHFA..97,SHKA..97,SHSA..97	70	M20	5	16	65.5	19.5	74.5	69.7	60
SHFA..107,SHKA..107,SHSA..97	90	M24	5	20	80	24.5	95	89.7	70
SHFA..127,SHKA..127,	100	M24	5	20	89	27.5	106	99.7	70
SHFA..157,SHKA..157,	120	M24	5	20	107	31	127	119.7	70

9.2 Shouldered hollow shaft with shrink disk (option)

Gear unit with a hollow shaft and shrink disk (parallel shaft helical gear units H/FHF/SH/SHF47–97) can be supplied with an optional larger hole diameter D'
The standard is D'=D.

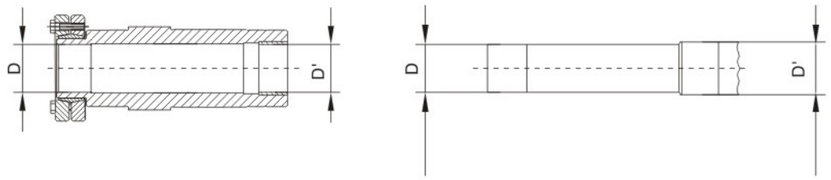
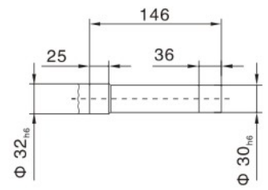


Fig: Optional hole diameter D'

Gear unit size	D/D' Hole diameter
SHFH/FHF/FHZ37,SHKH/KHF/KHZ37,SHSH/SHF/SHZ47	30/32
SHFH/FHF/FHZ47,SHKH/KHF/KHZ47,SHSH/SHF/SHZ57	35/36
SHFH/FHF/FHZ57,SHKH/KHF/KHZ57	40/42
SHFH/FHF/FHZ67,SHKH/KHF/KHZ67,SHSH/SHF/SHZ67	40/42
SHFH/FHF/FHZ77,SHKH/KHF/KHZ77,SHSH/SHF/SHZ77	50/52
SHFH/FHF/FHZ87,SHKH/KHF/KHZ87,SHSH/SHF/SHZ87	65/66
SHFH/FHF/FHZ97,SHKH/KHF/KHZ97,SHSH/SHF/SHZ97	75/76
SHFH/FHF/FHZ107,SHKH/KHF/KHZ107	95/96
SHFH/FHF/FHZ127,SHKH/KHF/KHZ127	105/106
SHFH/FHF/FHZ157,SHKH/KHF/KHZ157	125/126

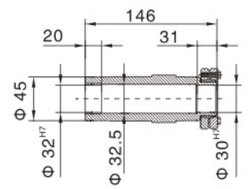
Diameter D/D' must be specified when ordering gear units with a shouldered hollow shaft (optional bole diameter D').

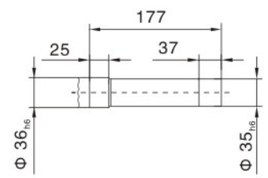
Parallel shaft helical gear unit with shouldered hollow shaft



SHFH/FHF/FHZ37

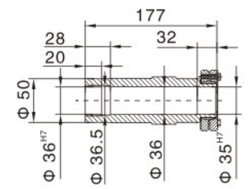
Φ 30H7/Φ 32H7

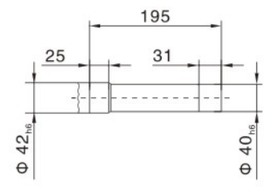




SHFH/FHF/FHZ47

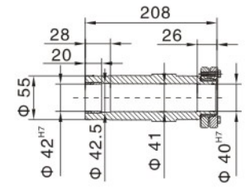
Φ 35H7/Φ 36H7

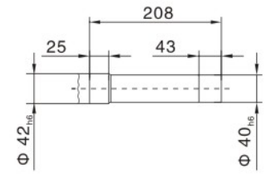




SHFH/FHF/FHZ57

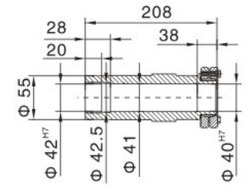
Φ 40H7/Φ 42H7

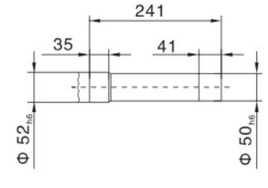




SHFH/FHF/FHZ67

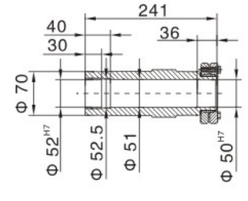
Φ 40H7/Φ 42H7



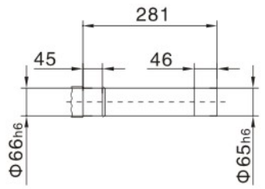


SHFH/FHF/FHZ77

Φ 50H7/Φ52H7

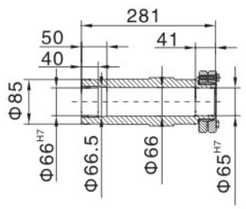


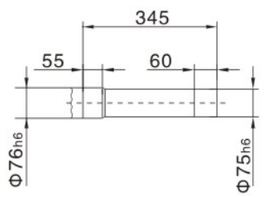
Parallel shaft helical gear unit with shouldered hollow shaft



SHFH/FHF/FHZ87

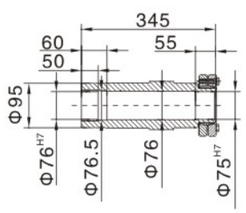
Φ65H7/Φ66H7

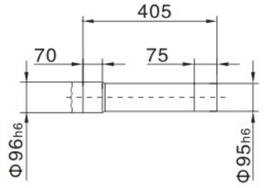




SHFH/FHF/FHZ97

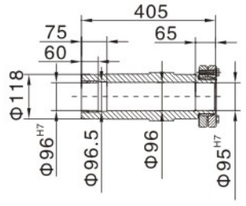
Φ75H7/Φ76H7

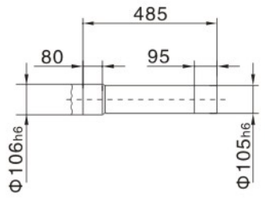




SHFH/FHF/FHZ107

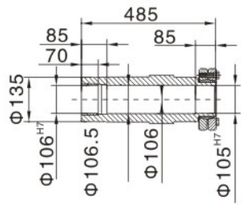
Φ95H7/Φ96H7





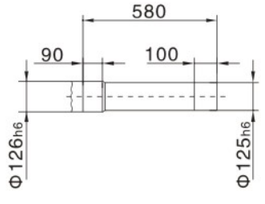
SHFH/FHF/FHZ127

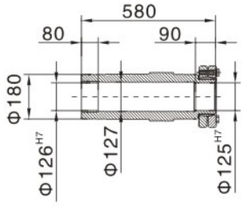
Φ105H7/Φ106H7



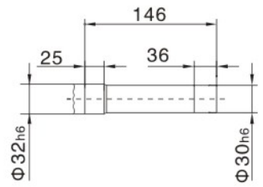
SHFH/FHF/FHZ157

Φ125H7/Φ126H7



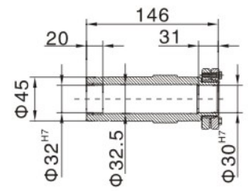


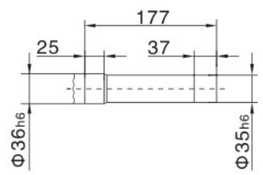
Helical–bevel gear unit with shouldered hollow shaft



SHKH/KHF/KHZ37

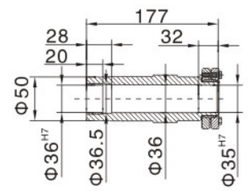
Φ30H7/Φ32H7

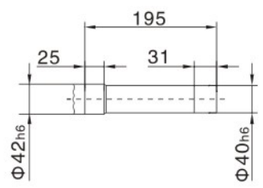




SHKH/KHF/KHZ47

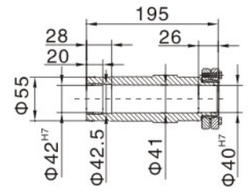
Φ35H7/Φ36H7

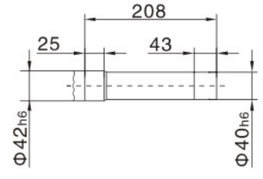




SHKH/KHF/KHZ57

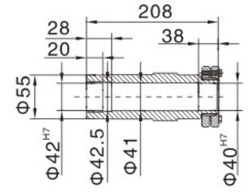
Φ40H7/Φ42H7

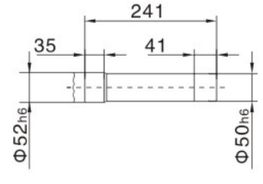




SHKH/KHF/KHZ67

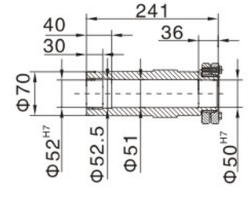
Φ40H7/Φ42H7



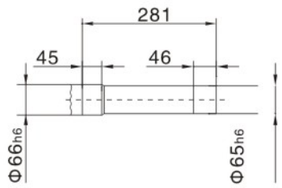


SHKH/KHF/KHZ77

Φ50H7/Φ52H7

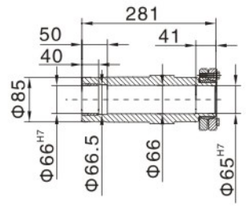


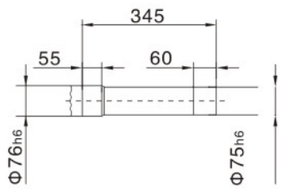
Helical–bevel gear unit with shouldered hollow shaft



SHKH/KHF/KHZ87

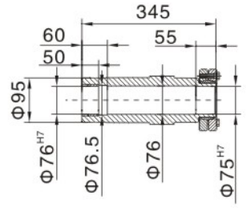
Φ65H7/Φ66H7

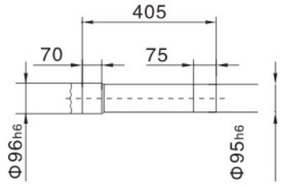




SHKH/KHF/KHZ97

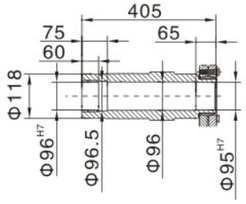
Φ75H7/Φ76H7

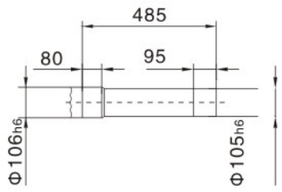




SHKH/KHF/KHZ107

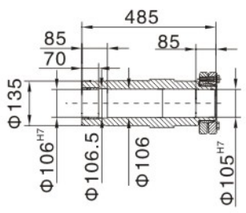
Φ95H7/Φ96H7

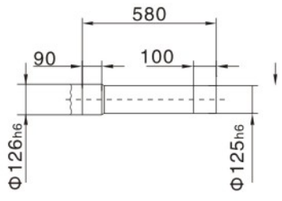




SHKH/KHF/KHZ127

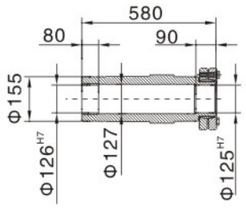
Φ105H7/Φ106H7



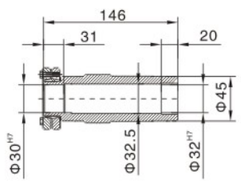


SHKH/KHF/KHZ157

Φ125H7/Φ126H7

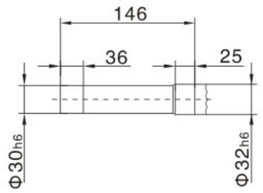


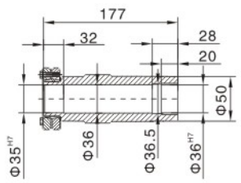
Helical–worm gear unit with shouldered hollow shaft



SHSH/SHF/SHZ47

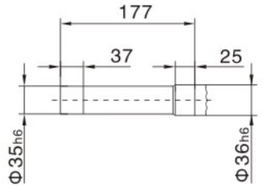
Φ30H7/Φ32H7

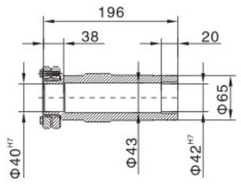




SHSH/SHF/SHZ57

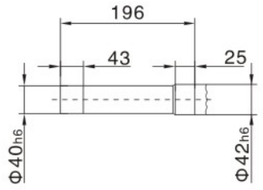
Φ35H7/Φ36H7

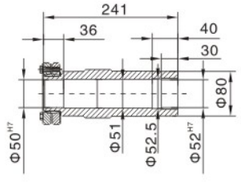




SHSH/SHF/SHZ67

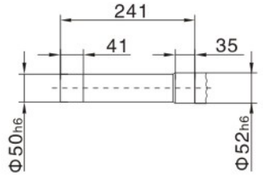
Φ40H7/Φ42H7





SHSH/SHF/SHZ77

Φ50H7/Φ52H7



Helical–worm gear unit with shouldered hollow shaft

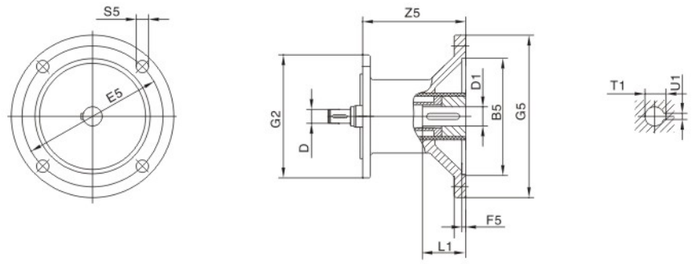
SHSH/SHF/SHZ87

$\Phi 65^{H7} / \Phi 66^{H7}$

SHSH/SHF/SHZ97

$\Phi 75^{H7} / \Phi 76^{H7}$

9.3 Coupling for mounting of IEC motors



Gear unit type	Coupling type	B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
SHR..27,SHR..37 SHF..37,SHF..47 SHK..37 SHS..37,SHS..47 SHS..57	AM63	95	10	115	3.5	120	140	M8	72	11	23	12.8	4
	AM71[1)]	110		130			160			14	30	16.3	5
	AM80[1)]	130	12	165	4.5		200	M10	106	19	40	21.8	6
	AM90[1)]		14							24	50	27.3	8
SHR..47,SHR..57 SHK..67 SHF..57,SHF..67 SHK..47,SHK..57 SHK..67 SHS..67	AM63	95	10	115	3.5	160	140	M8	66	11	23	12.8	4
	AM71	110		130			160			14	30	16.3	5
	AM80	130	12	165	4.5		200	M10	99	19	40	21.8	6
	AM90		14							24	50	27.3	8
	AM100[1)]	180	16	215	5		250	M12	134	28	60	31.3	8
	AM112[1)]		18										
SHR..77 SHF..77 SHK..77 SHS..77	AM63	95	10	115	3.5	200	140	M8	60	11	23	12.8	4
	AM71	110		130			160			14	30	16.3	5
	AM80	130	12	165	4.5		200	M10	92	19	40	21.8	6
	AM90		14							24	50	27.3	8
	AM100[1)]	180	16	215	5		250	M12	126	28	60	31.3	8
	AM112[1)]		18										
	AM132S[1)]	230	22	265			300		179	38	80	41.3	10
	AM132M[1)]												
	AM132ML[1)]		28										
SHR..87 SHF..87 SHK..87 SHS..87	AM80	130	12	165	4.5	250	200	M10	87	19	40	21.8	6
	AM90		14							24	50	27.3	8
	AM100	180	16	215	5		250	M12	121	28	60	31.3	8
	AM112		18										
	AM132S	230	22	265			300		174	38	80	41.3	10
	AM132M												
	AM132ML		28										
	AM160[1)]	250	28	300	6		350	M16	232	42	110	45.3	12
	AM180[1)]		32							48		51.8	14

Fig.1

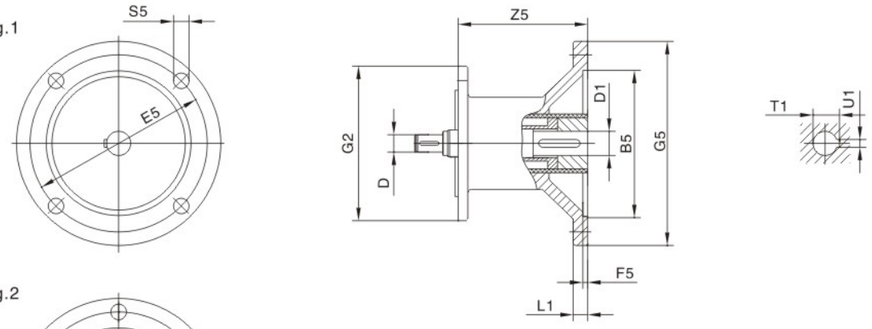
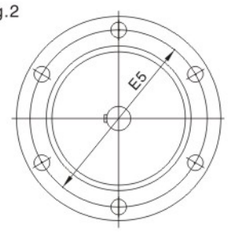


Fig.2



Gear unit type	Coupling type	Fig	B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
SHR..97 SHF..97 SHK..97 SHS..97	AM100	1	180	16	215	5	300	250	M12	116	28	60	31.3	8
	AM112			18										
	AM132S		230	22	265			300		169	38	80	41.3	10
	AM132M													
	AM132ML			28										
	AM160		250	28	300	6		350	M16	227	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		268	55		59.3	16
	AM225[1)]	2	350	38	400			450		283	60	140	64.4	18
SHR..107 SHF..107 SHK..107	AM100	1	180	16	215	5	350	250	M12	110	28	60	31.3	8
	AM112			18										
	AM132S		230	22	265			300		163	38	80	41.3	10
	AM132M													
	AM132ML			28										
	AM160		250	28	300	6		350	M16	221	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		262	55		59.3	16
	AM225	2	350	38	400			450		277	60	140	64.4	18
SHR..137	AM132S	1	230	22	265	5	400	300	M12	156	38	80	41.3	10
	AM132M													
	AM132ML			28										
	AM160		250	28	300	6		350	M16	214	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		255	55		59.3	16
	AM225	2	350	38	400			450		270	60	140	64.4	18

1)
Dimension 1/2 G5 may protrude past foot mounting surface if mounted on SHR、SHK or SHS foot-mounted gear unit, Please check.

Fig.1

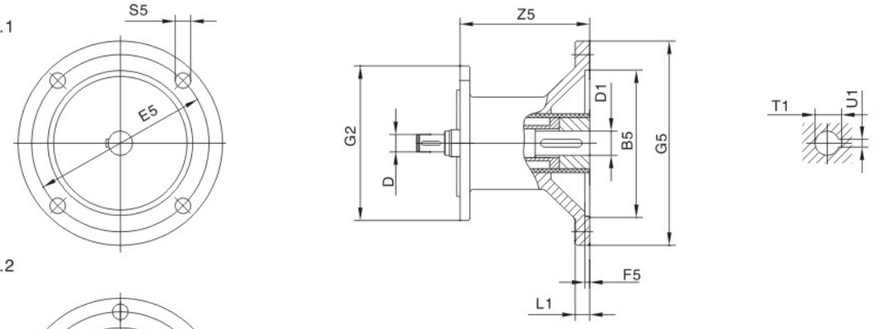
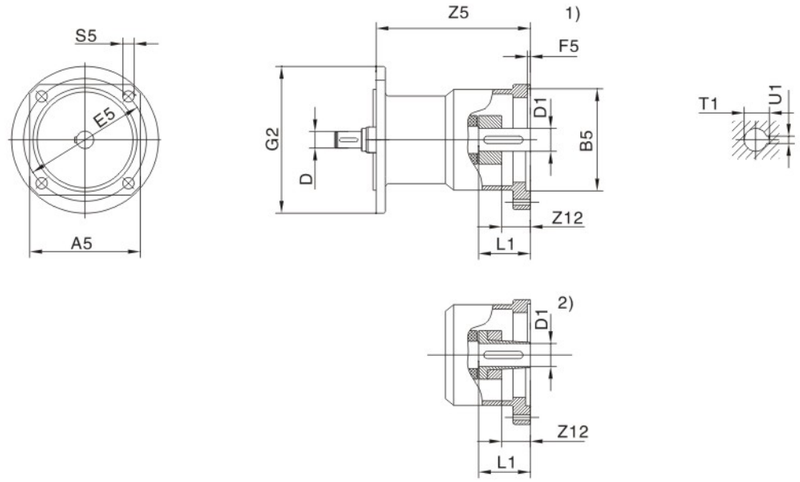


Fig.2

Gear unit type	Coupling type	Fig	B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
SHR..147 SHF..127 SHK..127	AM132S	1	230	22	265	5	450	300	M12	148	38	80	41.3	10
	AM132M													
	AM132ML			28										
	AM160		250	28	300	6		350	M16	206	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		247	55		59.3	16
	AM225	2	350	38	400			450		262	60	140	64.4	18
	AM250		450	48	500			550		336	65		69.4	
	AM280										75		79.9	20
SHR..167 SHF..157 SHK..157 SHK..167 SHK..187	AM160	1	250	28	300	6	550	350	M16	198	42	110	45.3	12
	AM180			32							48		51.8	14
	AM200		300	38	350	7		400		239	55		59.3	16
	AM225	2	350	38	400			450		254	60	140	64.4	18
	AM250		450	48	500			550		328	65		69.4	
	AM280										75		79.9	20

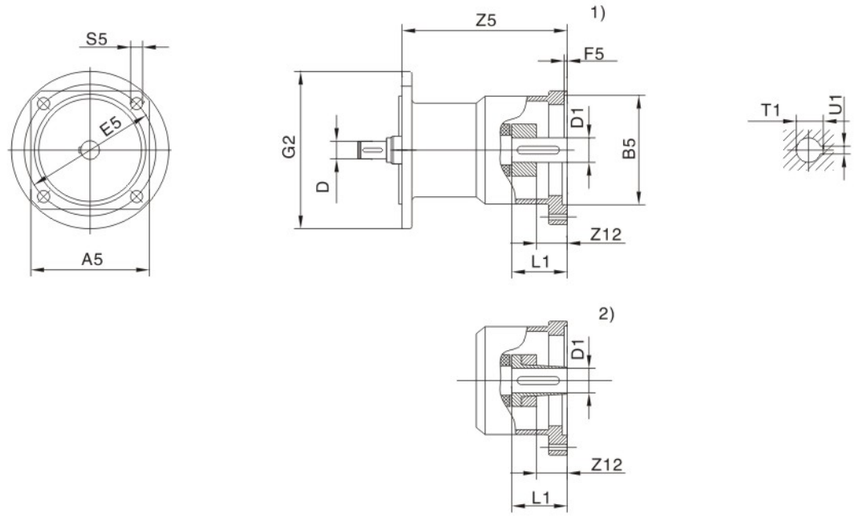
1)
Dimension 1/2 G5 may protrude past foot mounting surface if mounted on SHR、SHK or SHS foot-mounted gear unit, Please check.

9.4 Adapter for mounting of servomotors



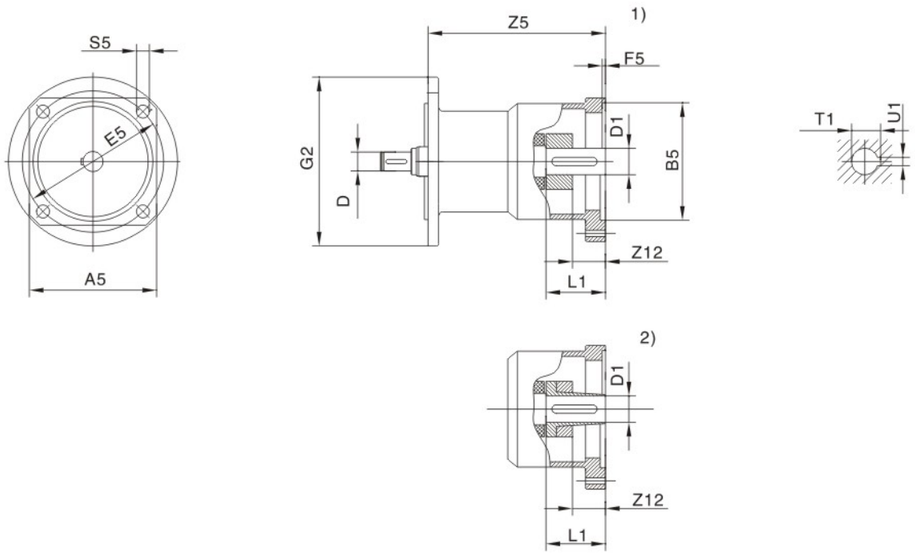
Gear unit type	Coupling type	A5	B5	D	E5	F5	G2	S5	Z5	Z12[1)]	Z12[2)]	D1	L1	T1[1)]	U1[1)]
SHR..27 SHR..37 SHF..37 SHF..47 SHK..37 SHS..37 SHS..47 SHS..57	AQ..80/1	82	60	10 12	75	3	120	M5	104.5	5.5	5.5	11	23	12.8	4
	AQ..80/2											14	30	16.3	5
	AQ..80/3		50		95			M6							
	AQ..100/1	100	80	10 12 14 16	100	4		M6	129.5	–	–	14	30	16.3	5
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	143.5	7	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115	95		130			M8	152.5	16	23	19	40	21.8	6
	AQ..115/2		110												
	AQ..115/3									21	16	24	50	27.3	8
SHR..47 SHR..57 SHR..67 SHF..57 SHF..67 SHK..47 SHK..57 SHK..67 SHS..67	AQ..80/1	82	60	10 12	75	3	160	M5	98	5.5	5.5	11	23	12.8	4
	AQ..80/2											14	30	16.3	5
	AQ..80/3		50		95			M6							
	AQ..100/1	100	80	10 12 14 16	100	4		M6	122.5	–	–	14	30	16.3	5
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	136.5	7	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115	95		130			M8	145.5	16	23	19	40	21.8	6
	AQ..115/2		110												
	AQ..115/3									21	16	24	50	27.3	8
	AQ..140/1	140	110	16	165	5		M10	175	21	16	24	50	27.3	8
	AQ..140/2		130	18											
	AQ..140/3			22					188	24	22	32	60	35.5	10

1) 1) Applies to type with key way (AQA..)
2) 2) Applies to type with clamping ring hub (AQH..)



Gear unit type	Coupling type	A5	B5	D	E5	F5	G2	S5	Z5	Z12[1)]	Z12[2)]	D1	L1	T1[1)]	U1[1)]
SHR..77 SHF..77 SHK..77 SHS..77	AQ..80/1	82	60	10 12	75	3	200	M5	92	5.5	5.5	11	23	12.8	4
	AQ..80/2				75							14	30	16.3	5
	AQ..80/3		50		95			M6							
	AQ..100/1	100	80	10 12 14 16	100	4		M6	115.5	–	–	14	30	16.3	5
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	129.5	7	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115	95		130			M8	138.5	16	23	19	40	21.8	6
	AQ..115/2		110												
	AQ..115/3									21	16	24	50	27.3	8
	AQ..140/1	140	110	16	165	5		M10	167	21	16	24	50	27.3	8
	AQ..140/2		130	18											
	AQ..140/3			22					180	24	22	32	60	35.3	10
	AQ..190/1	190	130	22 28	215			M12	225.5	26	24	32	60	35.3	10
	AQ..190/2		180												
	AQ..190/3								249.5	39	34	38	80	41.3	10
SHR..87 SHF..87 SHK..87 SHS..87	AQ..100/1	100	80	12 14 16	100	4	250	M6	110.5	–	–	14	30	16.3	5
	AQ..100/2		95		115			M8							
	AQ..100/3		80		100			M6	124.5	7	14	19	40	21.8	6
	AQ..100/4		95		115			M8							
	AQ..115/1	115	95		130			M8	133.5	16	23	19	40	21.8	6
	AQ..115/2		110												
	AQ..115/3									21	16	24	50	27.3	8
	AQ..140/1	140	110	16	165	5		M10	162	21	16	24	50	27.3	8
	AQ..140/2		130	18											
	AQ..140/3			22					175	24	22	32	60	35.3	10
	AQ..190/1	190	130	22 28	215			M12	220.5	26	24	32	60	35.3	10
	AQ..190/2		180												
	AQ..190/3								244.5	39	34	38	80	41.3	10

1) 1) Applies to type with key way (AQA..)
2) 2) Applies to type with clamping ring hub (AQH..)

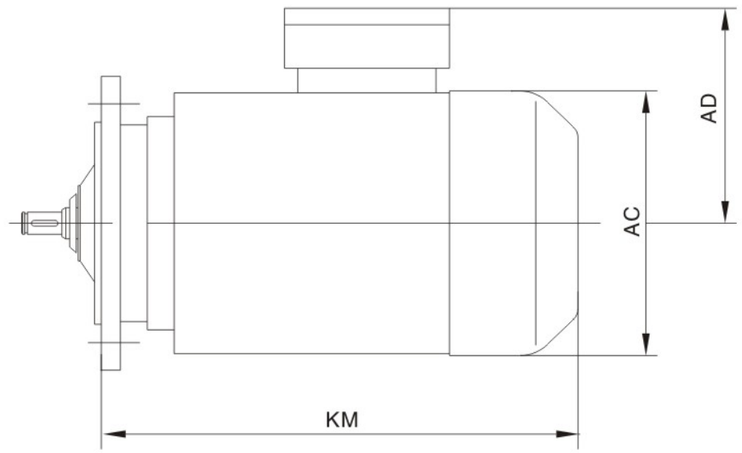


Gear unit type	Coupling type	A5	B5	D	E5	F5	G2	S5	Z5	Z12[1)]	Z12[2)]	D1	L1	T1[1)]	U1[1)]
SHR..97 SHF..97 SHK..97 SHS..97	AQ..140/1	140	110	16	165	5	300	M10	157	21	16	24	50	27.3	8
	AQ..140/2		130	18											
	AQ..140/3			22					170	24	22	32	60	35.3	10
	AQ..190/1	190	130	22	215			M12	215.5	26	24	32	60	35.3	10
	AQ..190/2		180	28											
	AQ..190/3								239.5	39	34	38	80	41.3	
SHR..107 SHF..107 SHK..107	AQ..140/1	140	110	16	165		350	M10	151	21	16	24	50	27.3	8
	AQ..140/2		130	18											
	AQ..140/3			22					164	24	22	32	60	35.3	10
	AQ..190/1	190	130	22	215			M12	209.5	26	24	32	60	35.3	10
	AQ..190/2		180	28											
	AQ..190/3								233.5	39	34	38	80	41.3	
SHR..137	AQ..190/1	190	130	22	215		400	M12	202.5	–	25	32	60	35.3	10
	AQ..190/2		180	28											
	AQ..190/3								226.5	39	34	38	80	41.3	
SHR..147 SHF..127 SHK..127	AQ..190/1		130	22			450		194.5	26	24	32	60	35.3	
	AQ..190/2		180	28											
	AQ..190/3								218.5	39	34	38	80	41.3	

1)
2)

1) Applies to type with key way (AQA..)
2) Applies to type with clamping ring hub (AQH..)

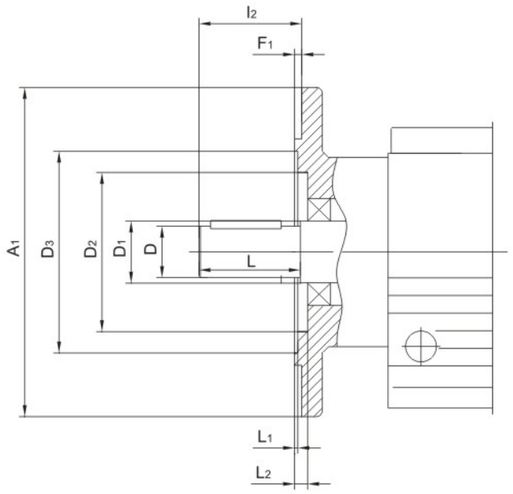
9.5 The size of motor



Model	D63M	D71M	D80M	D90S D90L	D100L	D112M	D132S D132L	D160M D160L	D180M D180L	D200L	D225S D225M	D250M	D280S D280M	D315S D315M
AC	130	145	175	195	215	240	275	330	380	420	470	510	580	612
AD	70	80	145	155	180	190	210	255	280	305	335	370	400	430
KM	250	280	320	342 367	400	408	473 513	560 615	645 685	710	724 754	810	895 945	1010 1065

Notice: The data in the above table is only for reference. If you have any special requirements, please contact us.

9.6 Flange contours of YHRF.. and YHR..F gear units



Check dimensions L1 and L2 for selection and installation of output elements

Type	A1	D	D1	D2		D3	F1	12	L	L1		L2
				SHRF	SHR..F					SHRF	SHR..F	
SHRF17,SHR17F	120	20	25	46	46	65	3	40	40	1	1	5
	140				–	78	3			1	–	5
SHRF27,SHR27F	120	25	30	54	4	66	3	50	50	1	1	6
	140				–	79	3			3	–	7
	160				–	92	3.5			3	–	7
SHRF37,SHR37F	120	25	35	60	63	70	3	50	50	5	4	7
	160				–	96	3.5			1	–	7.5
	200				–	119	3.5			1	–	7.5
SHRF47,SHR47F	140	30	35	72	64	82	3	60	60	4	1	6
	160				–	96	3.5			0.5	–	6.5
	200				–	116	3.5			0.5	–	6.5
SHRF57,SHR57F	160	35	40	76	75	96	3.5	70	70	4	2.5	5
	200				–	116	3.5			0	–	5
	250				–	160	4			0.5	–	5.5
SHRF67,SHR67F	200	35	50	90	90	118	3.5	70	70	2	4	7
	250				–	160	4			1	–	7.5
SHRF77,SHR77F	250	40	52	112	100	160	4	80	80	0.5	2.5	7
	300				–	210	4			0.5	–	7
SHRF87,SHR87F	300	50	62	123	122	210	4	100	100	0	1.5	8
	350				–	226	5			1	–	9
SHRF97	350	60	72	136		236	5	120	120	0		9
	450					320						
SHRF107	350	70	82	157		232	5	140	140	0		11
	450			186		316						
SHRF137	450	90	108	180		316	5	170	170	0		10
	550					416						
SHRF147	450	110	125	210		316	5	210	210	0		10
	550					416						
SHRF167	550	120	145	290		416	5	210	210	1		10
	660					517	6			2		11

9.7 Gear unit mounting

Always use bolts quality 8.8 for mounting gear units and geared motors.

Exception

Bolts of quality 10.9 must be used for used for fastening the flange to the customer supplied unit in order to transmit the rated torque specified in the catalog. These bolts must be used in case following flange – mounnted helical geared motors (SHRF..) and foot/flange – mounted helical geared motors (SHR..F..) :

- SHRF37, SHRF37F with flange Φ 120mm
- SHRF47, SHRF47F with flange Φ 140mm
- SHRF57, SHRF57F with flange Φ 160mm

Torque arms for SHKH167..,SHKH187..

As standard, there are no torque arms available for gear unit sizes SHKH167..and SHKH187 Please contact company if you require torque arms for these gear units. We will submit The configuration of recommendations.

9.8 Lubricants

Greneral information

Unless there is a special requirement, SHAKERIN always supplies the drives that with lubricant fill specifically for the reducer and mounting position. When ordering a drive, the decisve factor of lubricant fill qwantites is the drives mounting position. You must adapt the lubricant fill to any subsequent change made to the mounting position check P222 for the (Lubricant fill quantities)

Lubricating conglutination

Commend the lubricant oil in P221. The grade and conglutination index in the following.

DIN(ISO,SAE) Normal lubricating	Conglutination index	Ambient temperature	Gear unit type
Mineral oil CLp(cc)	ISOVG 220	−10−+40	SHR , SHF , SHK
	ISOVG 680	0−+40	SHS

The special lubricante oil. must be used in special situation. For example requesting use the oil with long life−span.If you want, we can afford the biology decompose oil for food ndustry.

DIN(ISO,SAE) Normal lubricating	Conglutination index	Ambient temperature	Gear unit type
Mineral oil CLp(CC)	ISOVG 100	−20−+25	SHR , SHF , SHK
Synthetic fluid,clp pg	ISOVG 220	−25−+80	YHR , YHF YHK
Synthetic fluid,CLP HC	ISOVG 460	−30−+80	SHS

Anti−friction bearing greases

DIN(ISO,SAE) Normal lubricating	Ambient temperature	Gear unit type
K32N/K2K mineral bearing lubricating lipin K32N/K2K	−30−+60	Normal type:motor reducer
KHC 2R−40 synthetic bearing lubricating lipin K2R−40	−40−+80	Reducers need to inject the synthetic lubricant
K3N−30 mineral bearing lubricating lipin K3N−30	−25−+80	Special type:select the motor in different situation
K2S−50 synthetic bearing lubricating lipin K2S−50	−45−−25	Special type:select the motor in different situation

Lubricant table

Gear unit type	Ambient temperature 0° +50 +100				DIN(ISO)	ISO NLGI	Mobil	Shell	KLÜBER LUBRICATION	ARAL	BP	Tribol	TEXACO	Optimol	FUCHS
SHR SHF SHK SHS	−10		+40		CLP (CC)	VG 220	Mobilgear 630	Shell Omala 220	Klüberoil GEM 1−225	Aral Degol Bg220	BP Energol GR−Xp220	Tribol 1100/220	Meropa 220	Optigear BM220	Renolin CLP 220
			+80		CLP PG	VG 220	Mobil Glygoyle 30	Shell Tivela WB	Klübersynth GH 6−220	Aral Degol Gs220	BP Energol SR−Xp220	Tribol 800/220	Synlube CLP 220	Optiflex A 220	
		*−40	+80		CLP HC	VG 220	Mobil SHC 630	Shell Omala 220 HD	Klübersynth GEM 4−220	Aral Degol PAS220		Tribol 1510/200	Pinnacle EP 220	Optigear Synthetic A 220	Renolin Unisyn CLP 220
		*−40	+40		CLP HC	VG 150	Mobil SHC 629		Klübersynth GEM 4−150						
	−20		+25		CLP (CC)	VG 150 VG 100	Mobilgear 629	Shell Omala 100	Klüberoil GEM 1−150	Aral Degol Bg100	BP Energol GR−Xp100	Tribol 1000/100	Meropa 150	Optigear BM220	Renolin CLP 150
	−30		+10		CLP (CC)	VG 68−46 VG 32	Mobil D.T.E 15M	Shell Tellus T32	Klüberoil GEM 1−68	Aral Degol Bg46		Tribol 1100/68	Anubia EP 46	Optigear 32	Renolin B 46 HVI
	*−40		+10		CLP HC	VG 32	Mobil SHC 624		Klübersynth GEM 4−32				Cetus PAO 46		
	*−40	−20			HLP (HM)	VG 22 VG 15	Mobil D.T.E 11M	Shell Tellus T15	ISOFLEX MT 30 ROT		BP Energol HLP−HM10		Aircraft Hydr.Oil 15		
	0		+40		CLP (CC)	VG 680	Mobilgear 636	Shell Omala 680	Klüberoil GEM 1−680	Aral Degol Bg680	BP Energol GR−Xp680	Tribol 1100/680	Meropa 680	Optigear BM 680	Renolin CLP 680
	−20		+60		CLP PG	VG 680 1)	Mobil Glygoyle HE 680		Klübersynth Gh 6−680		BP Enersyn SG−Xp680	Tribol 800/680	Synlube CLP 680		
	*−30		+80		CLP PHC	VG 460	Mobil SHC 634	Shell Omala 460 HD	Klübersynth GEM 4−460						
	*−40		+10		CLP (CC)	VG 150	Mobil SHC 629		Klübersynth GEM 4−150						
	−20		+10		CLP (CC)	VG 150 VG 100	Mobil D.T.E 18M	Shell Omala 100	Klüberoil GEM 1−150	Aral Degol Bg100	BP Energol GR−Xp100	Tribol 1100/100	Meropa 100	Optigear BM 100	Renolin CLP 150
	−25		+20		CLP PG	VG 220 1)	Mobil Glygoyle 30		Klübersynth GH 6−220			Tribol 800/220	Synlube CLP 220	Optiflex A 220	
	*−40		0		CLP HG	VG 32	Mobil SHC 624		Klübersynth GEM 4−32				Cetus PAO 48		
SHR SHK SHF SHS	*−30		+40		HCE	VG 460 4)		Shell Cassida Fluid GL 460	Klüberol 4UH1−460	Aral Eural Bear 460				Optieb GT 460	
	−20		+40		E	VG 460 5)			Klüberbio CA2−460					Optisynt BS 460	
SHF27 SHR17 SHR27	−25		+60		DIN 5118*	00 2)	Glygoyle Grease 00	Shell Tivela Compound A	Klübersynth GE 46−1200				Multifak 6833EP 00		
	−15		+40			000−0 2)	Mobilux EP 004	Shell Alvania GL 00		Aralub MFL 00	BP Energrease LS−EP 00		Multifak EP 000	Longtime PD 00	Renolin SF 7−041

CLPPG= CLP HC= E= HCE=

CLP= HLP= CLP:Petrolatam oil HLP:Hydraulic pressure oil KBTS/Ga/Vi

Synthetic lubricant
Mineral lubricant

1)
2)
3)
4)
*

1)With the Helical−worm geared motors use PG oil. Please contact with company
2)Small conglutination index oil, other types of reducers. Please contact with company.
3)Food or beverage industry used oil.
4)biology decompose oil.
−−High request when start−up in low temperature.

Lubricant fill quantities

The specified fill quantities are recommended values. The precise vary depending on the number of stages and gear ratio. When filling, it is essential to check the oil level plug since it indicates the precise oil capacity.

(SHR) Helical gear units(SHR..)

The following tables show referenced values for lubricant fill quantities in relation to relation to the Mounting position M1–M6

Gear unit type	Fill quantity(L)					
	M1 1)	M2 1)	M3	M4	M5	M6
SHR17/R17F	0.25	0.6	0.35	0.6	0.35	0.35
SHR27/R27F	0.25/0.4	0.7	0.4	0.7	0.4	0.4
SHR37/R37F	0.3/1	0.9	1	1.1	0.8	1
SHR47/R47F	0.7/1.5	1.6	1.5	1.7	1.5	1.5
SHR57/R57F	0.8/1.7	1.9	1.7	2.1	1.7	1.7
SHR67/R67F	1.1/2.3	2.6/3.5	2.8	3.2	1.8	2
SHR77/R77F	1.2/3	3.8/4.3	3.6	4.3	2.5	3.4
SHR87/R87F	2.3/6	6.7/8.4	7.2	7.7	6.3	6.5
SHR97	4.6/9.8	11.7/14	11.7	13.4	11.3	11.7
SHR107	6/13.7	16.3	16.9	19.2	13.2	15.9
SHR137	10/25	28	29.5	31.5	25	25
SHR147	15.4/40	46.5	48	52	39.5	41
SHR167	27/70	82	78	88	66	69

Gear unit type	Fill quantity(L)					
	M1 1)	M2 1)	M3	M4	M5	M6
SHRF17	0.25	0.6	0.35	0.6	0.35	0.35
SHRF27	0.25/0.4	0.7	0.4	0.7	0.4	0.4
SHRF37	0.4/1	0.9	1	1.1	0.8	1
SHRF47	0.7/1.5	1.6	1.5	1.7	1.5	1.5
SHRF57	0.8/1.7	1.8	1.7	2	1.7	1.7
SHRF67	1.1/2.5	2.7/3.6	2.7	3.1	1.9	2.1
SHRF77	1.2/2.6	3.8/4.1	3.3	4.1	2.4	3
SHRF87	2.4/6	6.8/7.9	7.1	7.7	6.3	6.4
SHRF97	5.1/10.2	11.9/14	11.2	14	11.2	11.8
SHRF107	6.3/14.9	15.9	17	19.2	13.1	15.9
SHRF137	9.5/25	27	29	32.5	25	25
SHRF147	16.4/42	47	48	52	42	42
SHRF167	26/70	82	78	88	65	71

1)
The output end gear unit of multi–stage gear units be filled with the larger oil volume.

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHRX57	0.6	0.8	1.3	1.3	0.9	0.9
SHRX67	0.8	0.8	1.7	1.9	1.1	1.1
SHRX77	1.1	1.5	2.6	2.7	1.6	1.6
SHRX87	1.7	2.5	4.8	4.8	2.9	2.9
SHRX97	2.1	3.4	7.4	7	4.8	4.8
SHRX107	3.9	5.6	11.6	11.9	7.7	7.7

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHRX57	0.5	0.8	1.1	1.1	0.7	0.7
SHRX67	0.7	0.8	1.5	1.7	1	1
SHRX77	0.9	1.5	2.4	2.5	1.6	1.6
SHRX87	1.6	2.5	4.9	4.7	2.9	2.9
SHRX97	2.1	3.6	7.1	7	4.8	4.8
SHRX107	3.1	5.9	11.2	10.5	7.2	7.2

Parallel shaft helical gear units.(SHF..)

SHF..,SHFA..B,SHFH..B,SHFV..B

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHF37	1	1.2	0.7	1.2	1	1.1
SHF47	1.5	1.8	1.1	1.9	1.5	1.7
SHF57	2.6	3.7	2.1	3.5	2.8	2.9
SHF67	2.7	3.8	1.9	3.8	2.9	3.2
SHF77	5	7.3	4.3	8	6	6.3
SHF87	10	13.0	7.7	13.8	10.8	11
SHF97	18.5	22.5	12.6	25.2	18.5	20
SHF107	24.5	32	19.5	37.5	27	27
SHF127	40.5	55	34	61	46.5	47
SHF157	69	104	63	105	86	78

SHFF..

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHFF37	1	1.2	0.7	1.3	1	1.1
SHFF47	1.6	1.9	1.1	1.9	1.5	1.7
SHFF57	2.8	3.8	2.1	3.7	2.9	3
SHFF67	2.7	3.8	1.9	3.8	2.9	3.2
SHFF77	5.1	7.3	4.3	8.1	6	6.3
SHFF87	10.3	13.2	7.8	14.1	11	11.2
SHFF97	19	22.5	12.6	25.5	18.9	20.5
SHFF107	25.5	32	19.5	38.5	27.5	28
SHFF127	41.5	56	34	63	46.5	49
SHFF157	72	105	64	106	87	79

SHFA..,SHFH..,SHFV..,SHFAF.., SHFHF..,SHFVF..,SHFAZ..,SHFHZ..,SHFVZ

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHF..37	1	1.2	0.7	1.2	1	1.1
SHF..47	1.5	1.8	1.1	1.9	15	1.7
SHF..57	2.7	3.8	2.1	3.6	2.9	3
SHF..67	2.7	3.8	1.9	3.8	2.9	3.2
SHF..77	5	7.3	4.3	8	6	6.3
SHF..87	10	13.0	77	13.8	10.8	11
SHF..97	18.5	22.5	12.6	25.0	18.5	20
SHF..107	24.5	32	19.5	37.5	27	27
SHF..127	39	55	34	61	45	46.5
SHF..157	68	103	62	104	85.	77

Helical–bevel Gear unit (SHK..)

SHK..,SHKA..B,SHKH..B,SHKV..B

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHK..37	0.5	1	1	1.3	1	1
SHK..47	0.8	1.3	1.5	2	1.6	1.6
SHK..57	1.2	2.3	2.5	3	2.6	2.4
SHK..67	1.1	2.4	2.6	3.4	2.6	2.6
SHK..77	2.2	4.1	4.4	5.9	4.2	4.4
SHK..87	3.7	8	8.7	10.9	7.8	8
SHK..97	7	14	15.7	20	15.7	15.5
SHK..107	10	21	25.5	33.5	24	24
SHK..127	21	41.5	44	54	40	41
SHK..157	31	62	6.5	90	58	62
SHK..167	35	100	100	125	85	85
SHK..187	60	170	170	205	130	130

SHKF..

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHKF37	0.5	1.1	1.1	1.5	1	1
SHKF47	0.8	1.3	1.7	2.2	1.6	1.6
SHKF57	1.3	2.3	2.7	3	2.9	2.7
SHKF67	1.1	2.4	2.8	3.6	2.7	2.7
SHKF77	2.1	4.1	4.4	6	4.5	4.5
SHKF87	3.7	8.2	9	11.9	8.4	8.4
SHKF97	7	14.7	17.3	21.5	15.7	16.5
SHKF107	10	22	26	35	25	25
SHKF127	21	41.5	46	55	41	41
SHKF157	31	66	69	92	62	62

SHKA..,SHKH..,SHKV..,SHKAF.., SHKHF..,SHKVF..,SHKAZ..,SHKHZ..,SHKVZ

Gear unit type	Fill quantity(L)					
	M1	M2	M3	M4	M5	M6
SHK..37	0.5	1	1	1.4	1	1
SHK..47	0.8	1.3	1.6	2.1	1.6	1.6
SHK..57	1.3	2.3	2.7	3	2.9	2.7
SHK..67	1.1	2.4	2.7	3.6	2.6	2.6
SHK..77	2.1	4.1	4.6	6	4.4	4.4
SHK..87	3.7	8.2	8.8	11.1	8	8
SHK..97	7	14.7	15.7	20	15.7	15.7
SHK..107	10	20.5	24	32	24	24
SHK..127	21	41.5	43	52	40	40
SHK..157	31	66	67	87	62	62
SHK..167	35	100	100	125	85	85
SHK..187	60	170	170	205	130	130

Helical–worm Gear units.(SHS..)

SHS..

Gear unit type	Fill quantity(L)					
	M1	M2	M3[1)]	M4	M5	M6
SHS37	0.25	0.4	0.5	0.6	0.4	0.4
SHS47	0.35	0.8	0.7	1.1	0.8	0.8
SHS57	0.5	1.2	1	1.5	1.3	1.3
SHS67	1	2.0	2.2/3.1	3.2	2.6	2.6
SHS77	1.9	4.2	3.7/5.4	6	4.4	4.4
SHS87	3.3	8.1	6.9/10.4	12	8.4	8.4
SHS97	6.8	15	13.4/18	22.5	17	17

1)
The output end unit of multi–stage gear units must be filled with the larger oil volume.

SHSF..

Gear unit type	Fill quantity(L)					
	M1	M2	M3[1)]	M4	M5	M6
SHSF37	0.25	0.4	0.5	0.6	0.4	0.4
SHSF47	0.4	0.9	0.9	1.2	1.0	1
SHSF57	0.5	1.2	1	1.6	1.4	1.4
SHSF67	1	2.2	2.3/3	3.2	2.7	2.7
SHSF77	1.9	4.1	3.9/5.8	6.5	4.9	4.9
SHSF87	3.8	8	7.1/10.1	12	9.1	9.1
SHSF97	7.4	15	13.8/18.8	23.6	18	18

1)
The output end unit of multi–stage gear units must be filled with the larger oil volume.

SHSA..,SHSH..,SHSAF..,SHSHF.., SHSAZ..,SHSHZ.

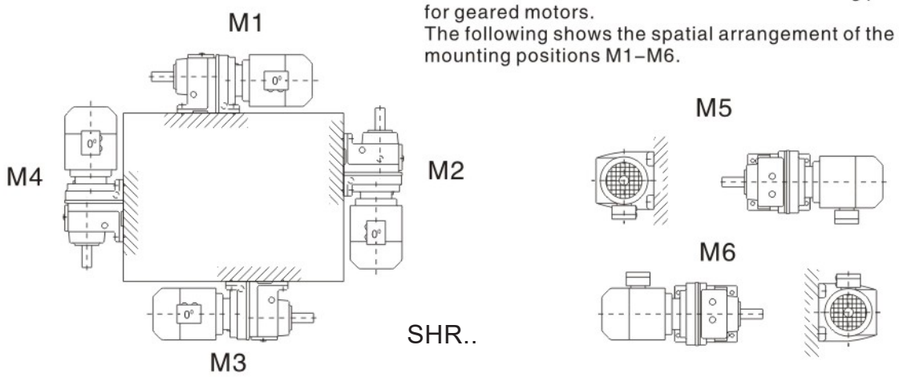
Gear unit type	Fill quantity(L)					
	M1	M2	M3[1)]	M4	M5	M6
SHS..37	0.25	0.4	0.5	0.6	0.4	0.4
SHS..47	0.4	0.8	0.7	1.1	0.8	0.8
SHS..57	0.5	1.1	1	1.6	1.2	1.2
SHS..67	1	2	1.8/2.6	2.9	2.5	2.5
SHS..77	1.8	3.9	3.6/5	5.9	4.5	4.5
SHS..87	3.8	7.4	6/8.7	11.2	8	8
SHS..97	7	14	11.4/16	21	15.7	15.7

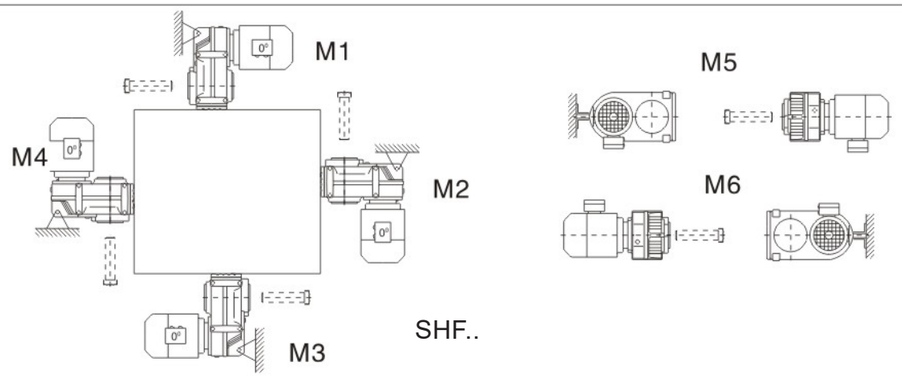
1)
The output end unit of multi–stage gear units must be filled with the larger oil volume.

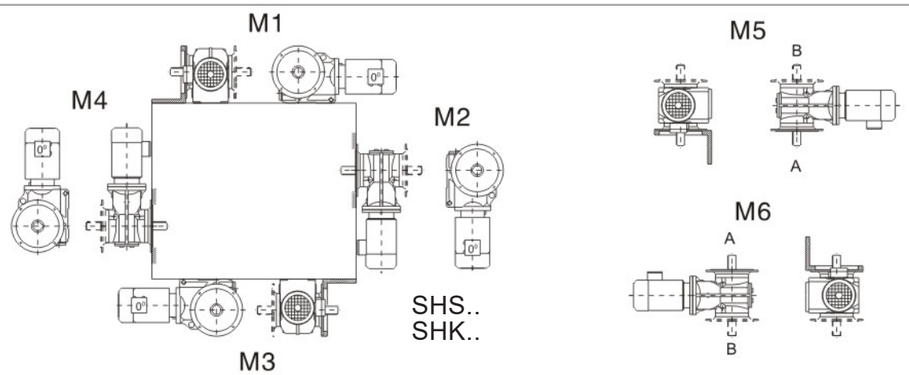
10.
Monnting Position

10.1 Mounnting position designation

YUHUANG differentiates between six mouning position M1–M6 for geared motors.
The following shows the spatial arrangement of the gear units in mounting positions M1–M6.







Important indention information

Except the mounting position,the indention informations for depicting the figure of gear

Unit exactly are necessary
Position of the motor terminal box
For the right–angle shaft reducers:output shaft connection.
For the right–angle shaft reducers:with shrink–disk:with or without feange.
For the drive with a backstop: the Direction of rotation.

Position of the motor terminal box cable entry

Possible positions of the teminal box are 0° ,90° ,180° or 270° as ciewed onto the fan guard=B–side
In addition, the position of the cable entry can be selected. The possibilities are "X" (=normal position), "1", "2", or "3"

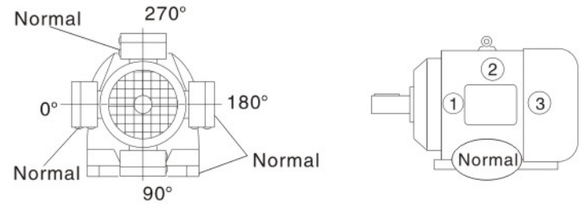


Fig:Position of the terminal box and cable entry

STOP

Unless other information is given regarding the terminal box,the 0° type with "X"cable entry will be supplied.We recommend selecting cable enty "2"with mounting position M3.
The terminal box cannot be positioned at 90° on the SHR17D71 geared motor.
Cable entry "2"is not possible with the D71..BMG motor with terminal box position 90°

Direction of totatiom of the drive with a backstop

If the drive has a RS backstop,it is necessary to stipulate the direction of drive rotation.
The following defintion applies:
Looking onto the output shaft:Clockwise(CW)=Rotating to the right
Counterclockwise(CCW)=Rotating to the left

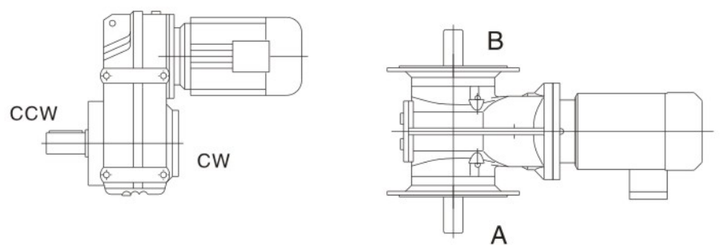


Fig: Direction of rotation of the output shaft

In right–angle gear units, it is necessary to indicate if the direction of rotation is given where be looked from the A or B end.

Position of the output shaft

In right–angle gear units，it is necenssary to indicate the position of the output shaft and output flange:A or B or A+B

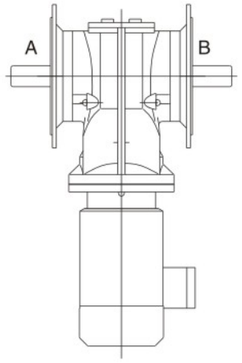


Fig:Position of the Output shaft

Position of the connection end in tight–angle gear units with shrink disk

In shaft mounted righ–angle gear units with shrink disk,it is necessary to indicate whether the A or B end is the connection end.In Fig.The A end and is the connection end.The shrink disk is located opposite the connection end.

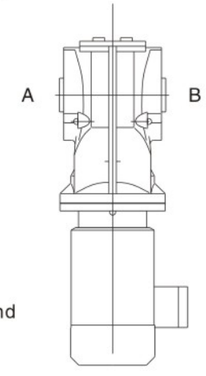


Fig:Position of the connection end

Sample orders

Connection end at bottom only is possible with YHK167/K187 helical–beveal gear units in mounting positions M5 and M6.

Type	Mounting position	Shaft with	Position of shrink disk	Flange	Position of teminal box	Position of cable enty	ration direction	Output direction
SHKF47D71D4/RS	M5	A	–	B	0°	“Normal”	CW	A
SHSF97D180M4	M2	A+B	–	A+B	180°	“2”	–	A+B
SHKH107D160L4	M1	A	B	–	270°	“3”	–	–

SHR
SHF
SHK
SHS

Symbols used

The following table shows the symbols used in the mounting position sheets and what they mean:

Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug
	In line plug

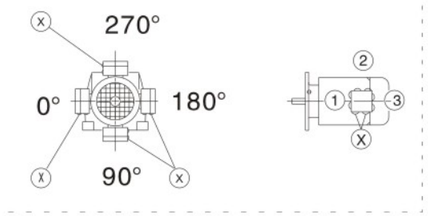
Churning losses

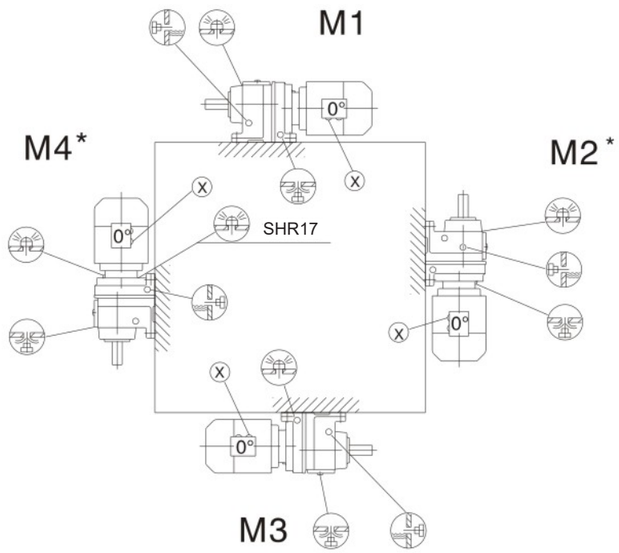
In creased churning losses may arise in some mounting positions,
Please contact company in case of the following combinations.

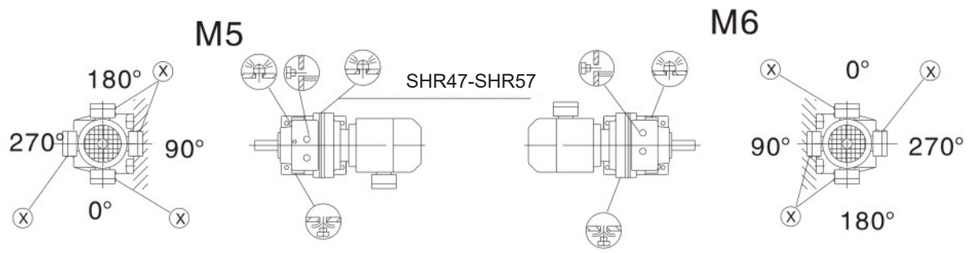
Mounting position	Gear unit type	Gear unit size	(rpm) Input speed
M2,M4	SHR	97–107	>2500
		>107	>1500
M2,M3,M4, M5,M6	SHF	97–107	>2500
		>107	>1500
	SHK	77–107	>2500
		>107	>1500
	SHS	77–97	>2500

10.2 Mounting position of Helical gear unit

SHR17-SHR167





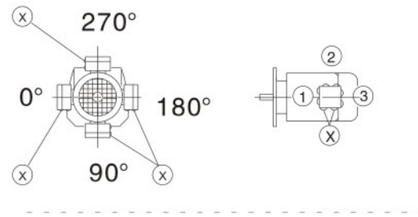


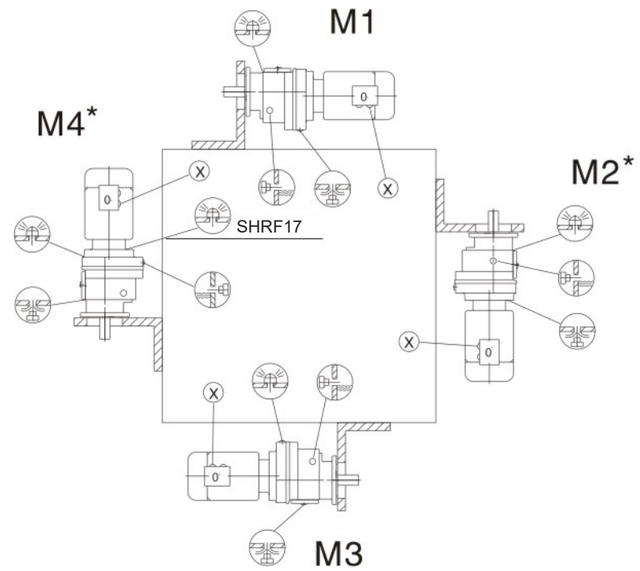
SHR17,SHR27 M1,M3,M5,M6

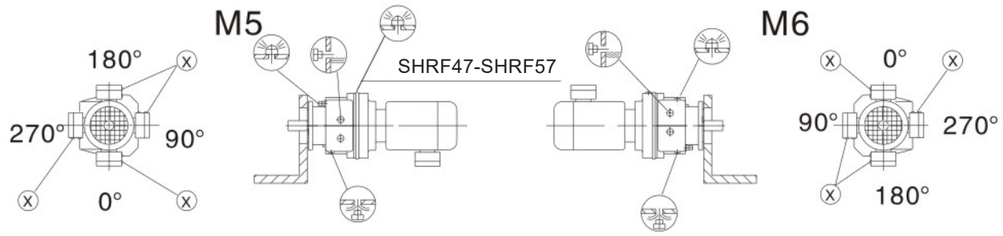
SHR47,SHR57 M5

SHR17,SHR27

SHRF17-SHRF167





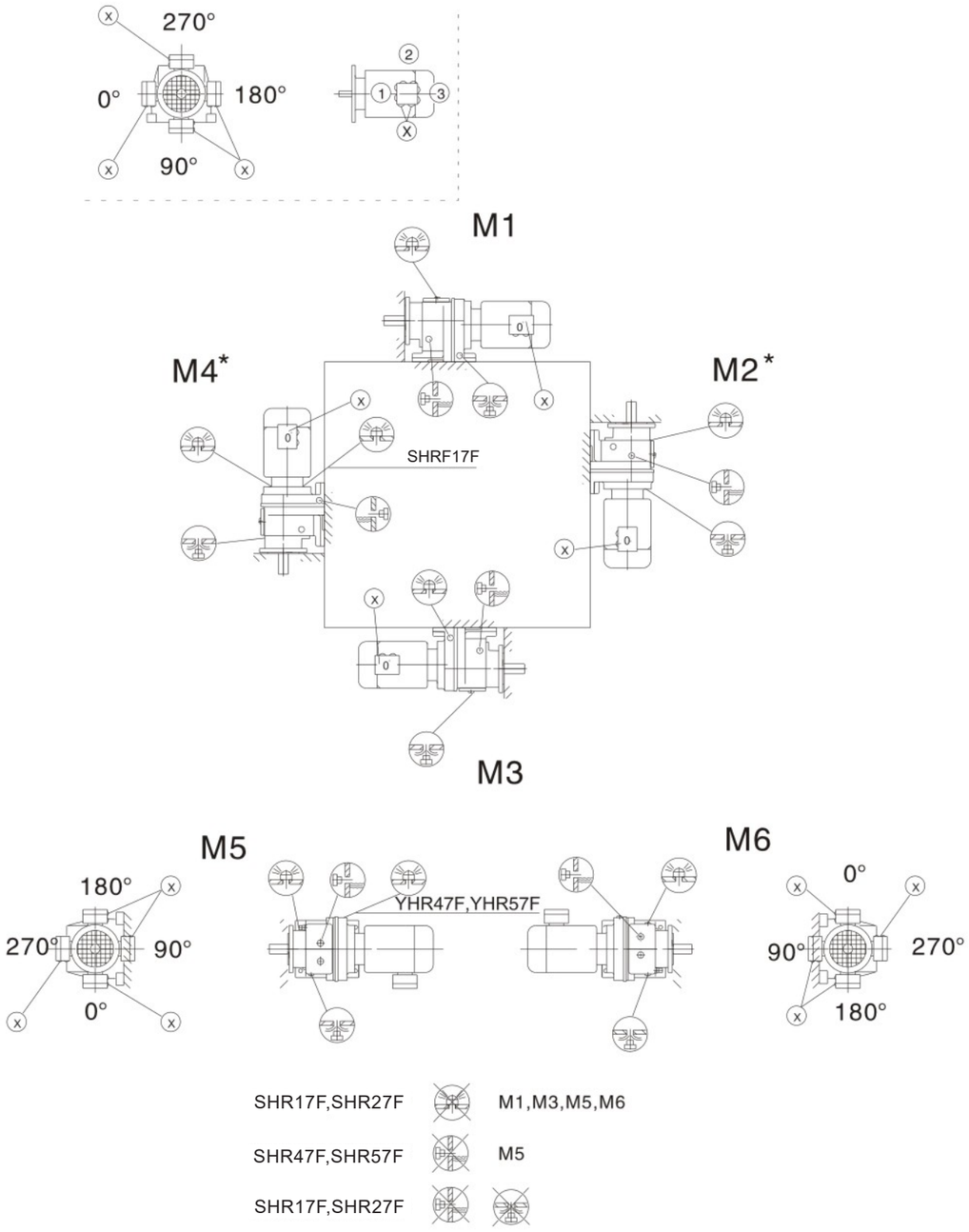


SHRF17,SHRF27 M1,M3,M5,M6

SHRF47,SHRF57 M5

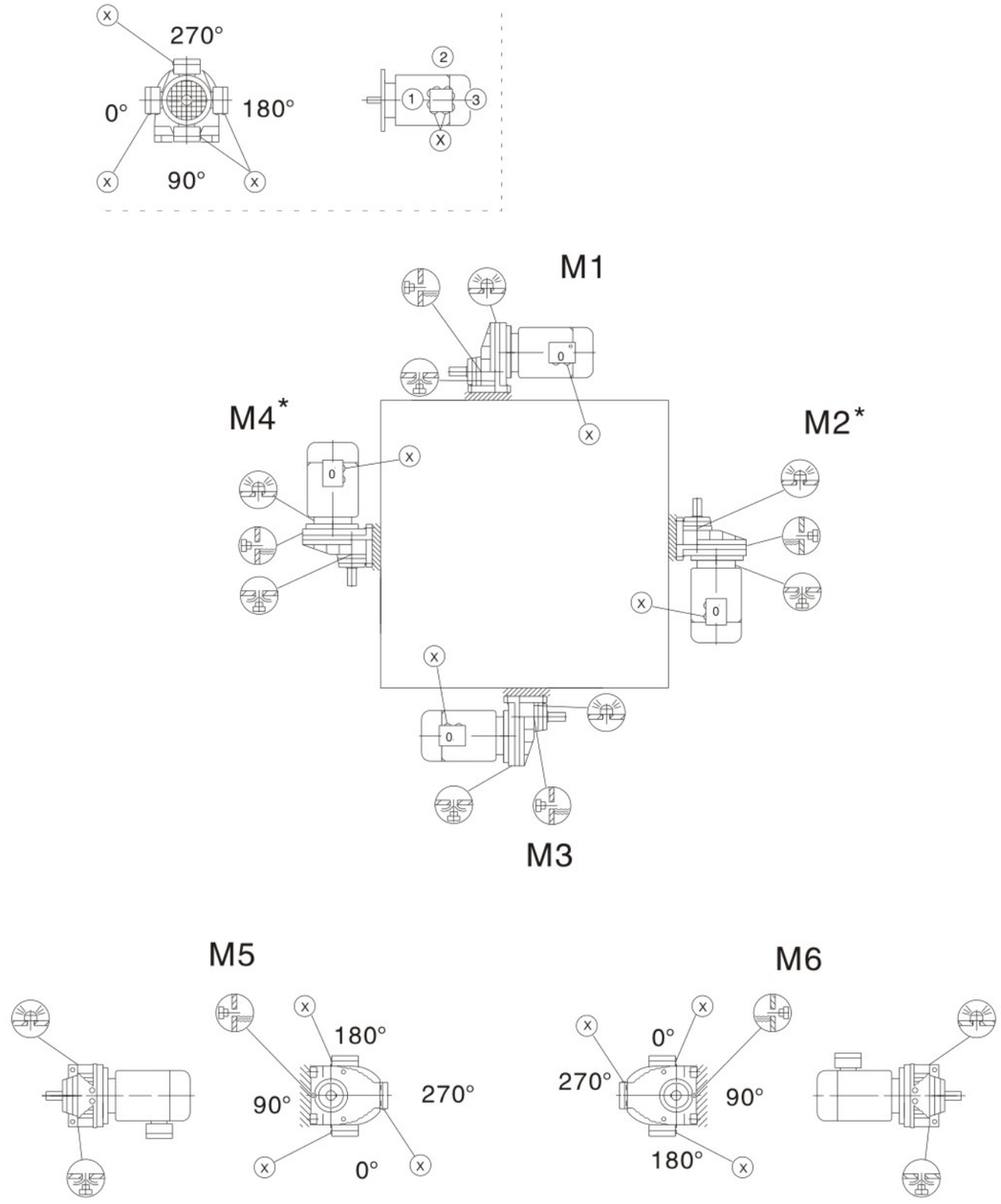
SHRF17,SHRF27

SHR17F-SHR87F

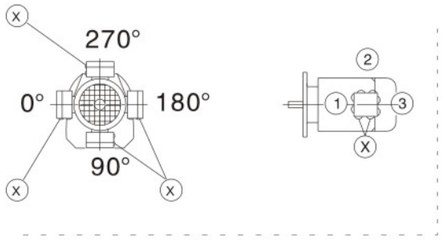


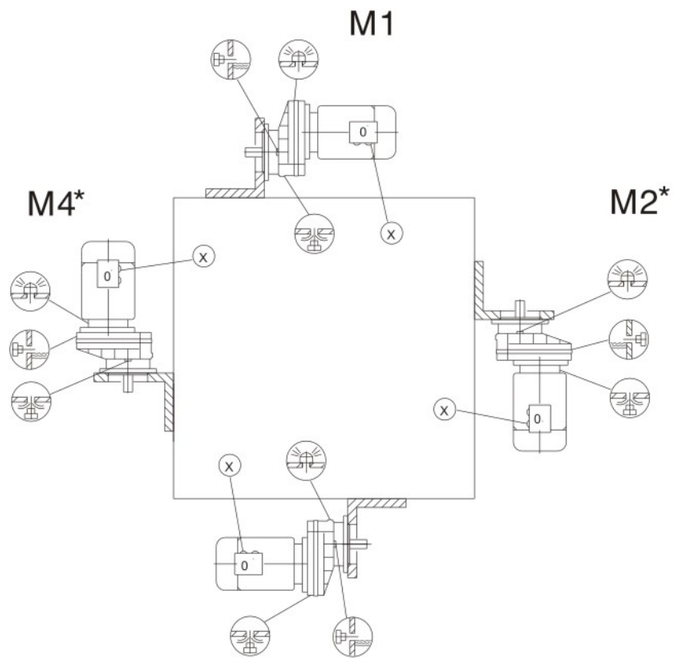
SHR
SHF
SHK
SHS

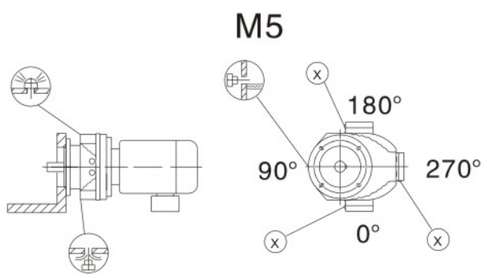
SHRX57-SHRX107

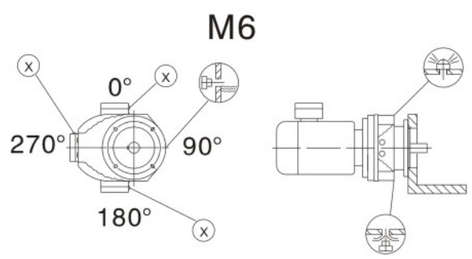


SHRXF57-SHRXF107



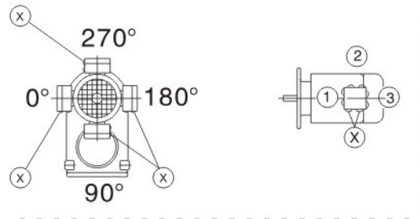


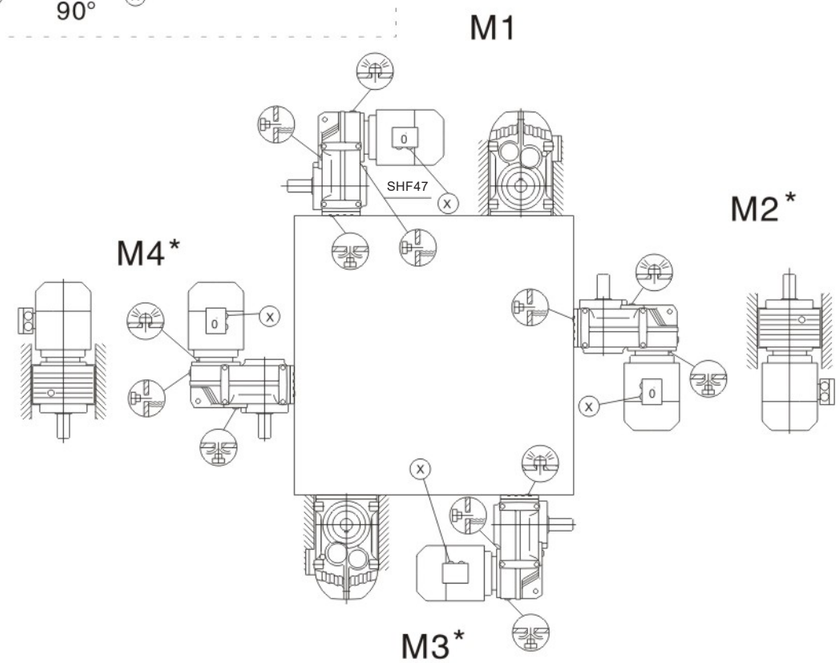


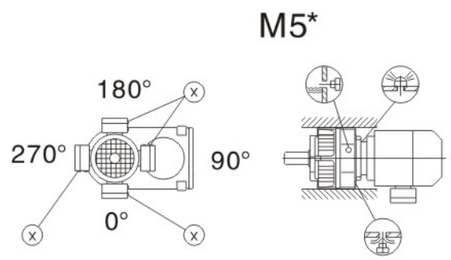


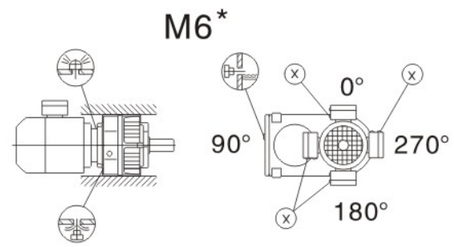
10.3 Mounting position of parallel shaft helical Gear unit

SHF/FA..B/FH27B-157B, SHFV27B-107B







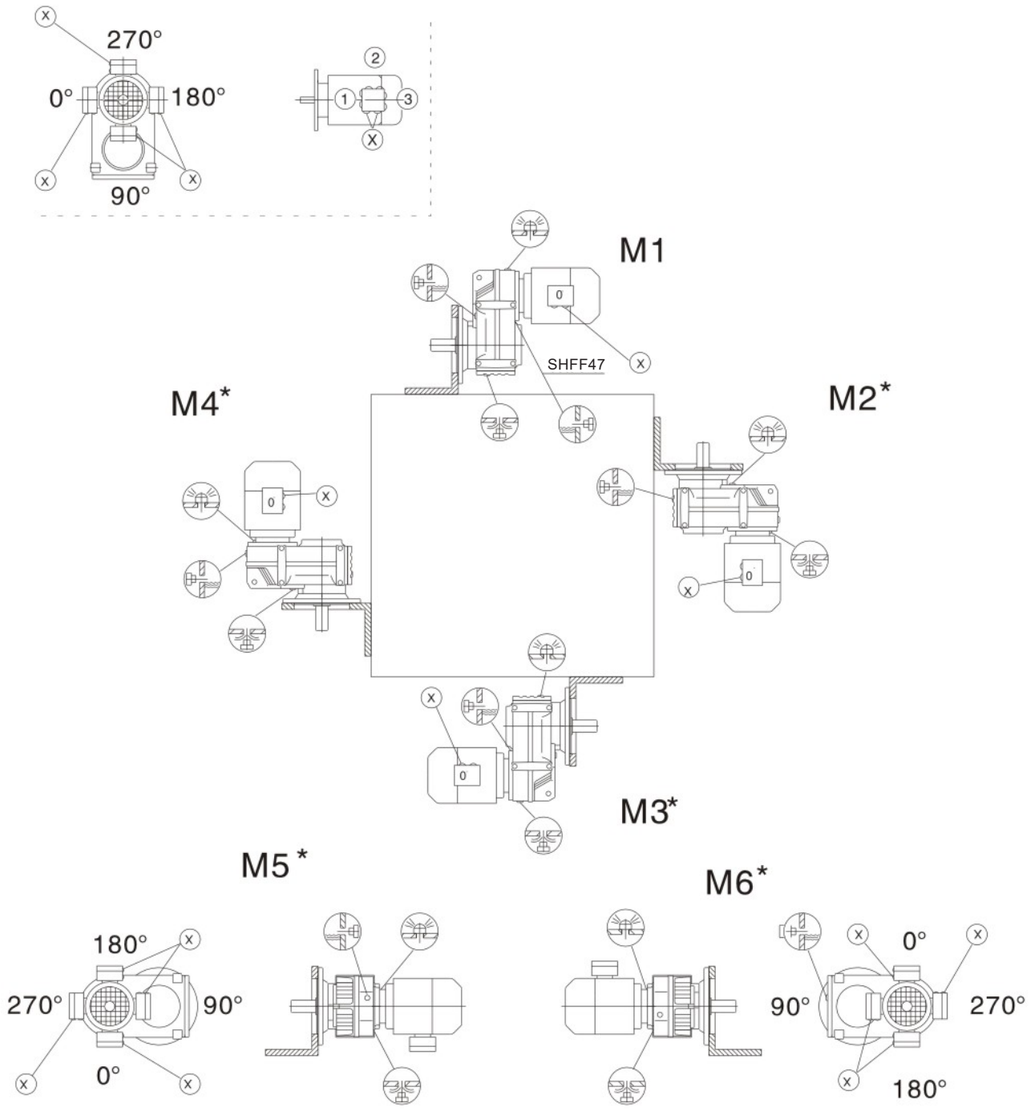


SHF..27 M1,M3,M5,M6

SHF..27 M1–M6

SHF..27 M1,M3,M5,M6

SHFF/FAF/FHF/FAZ/FHZ27-157, SHFVF/FVZ27-107

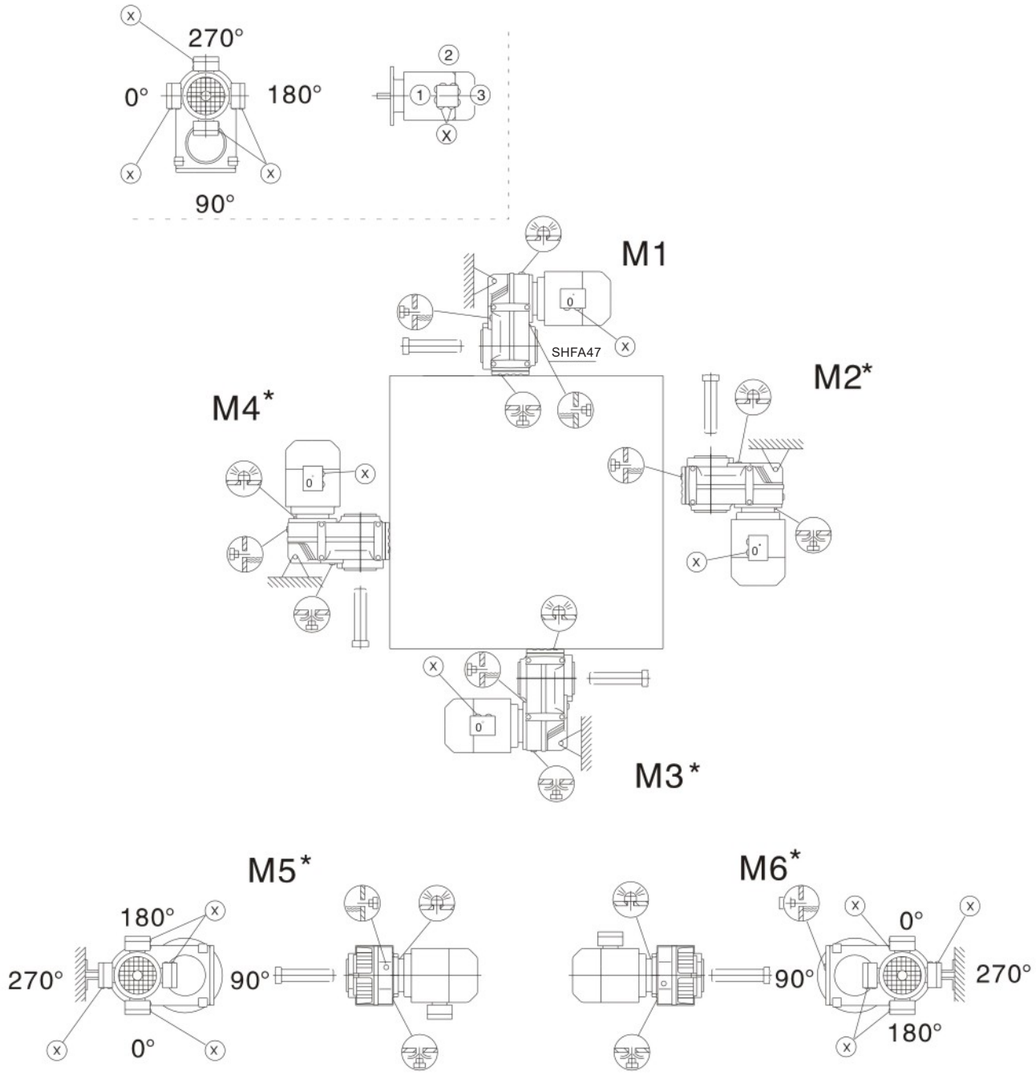


SHF..27 M1,M3,M5,M6

SHF..27 M1–M6

SHF..27 M1,M3,M5,M6

SHFA/FH27-157, SHFV27-107



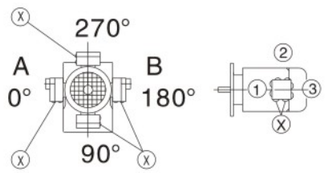
SHF..27 M1,M3,M5,M6

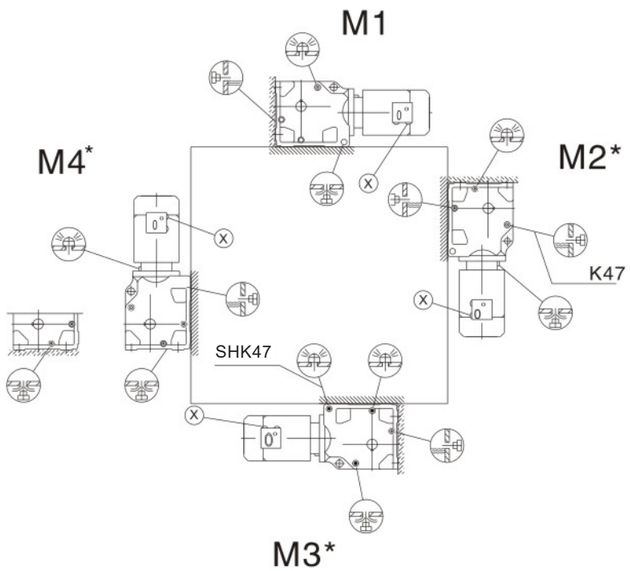
SHF..27 M1–M6

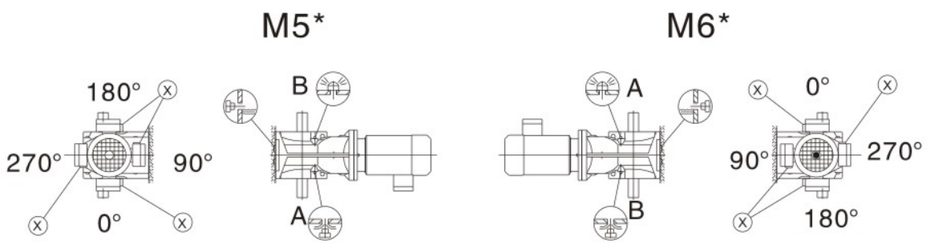
SHF..27 M1,M3,M5,M6

Mounting position of helical – bevel Gear unit

SHK/KA..B/KH37B-157B, SHKV37B-107B

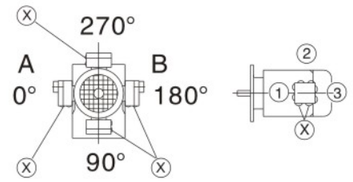


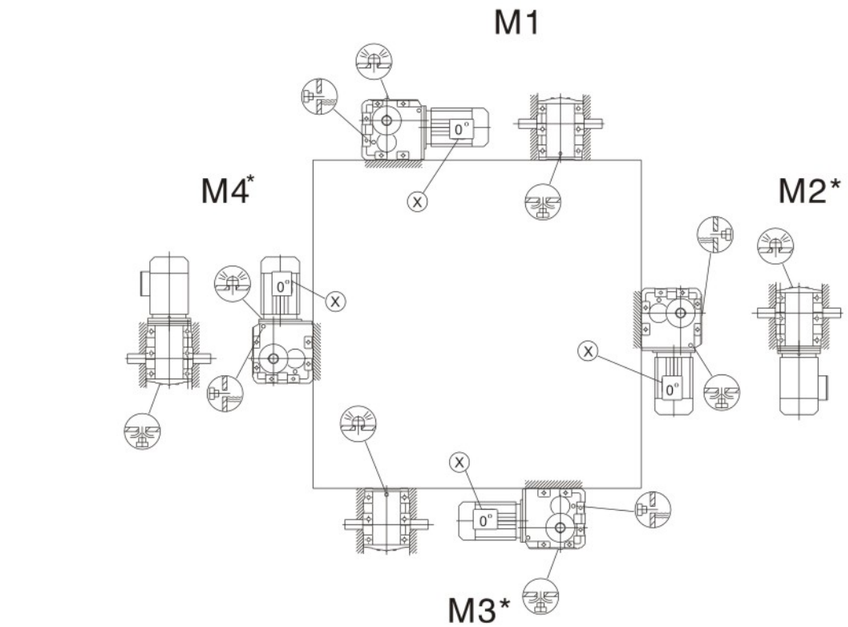


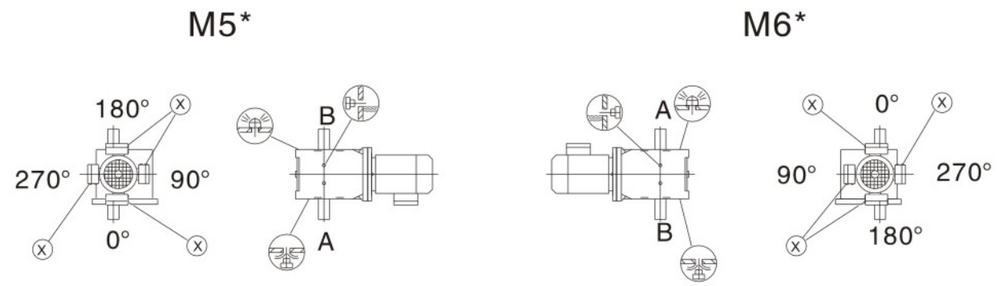


Important:Please refer to the information in the "Geared Motors"catalog.Optional Planning for Gear units Ouerhung and axial loads part"(P21)

SHK167-187, SHKH167B-187B

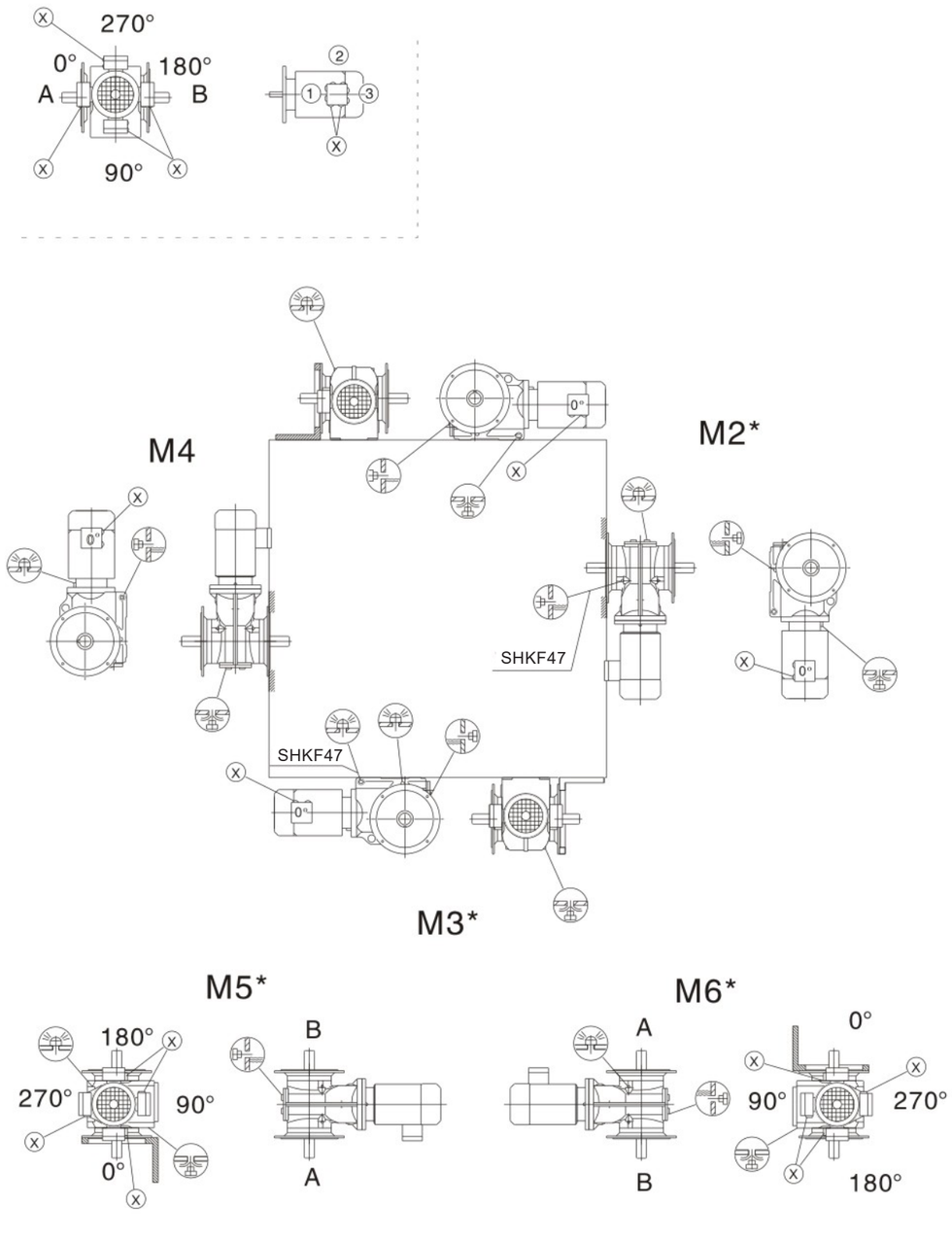




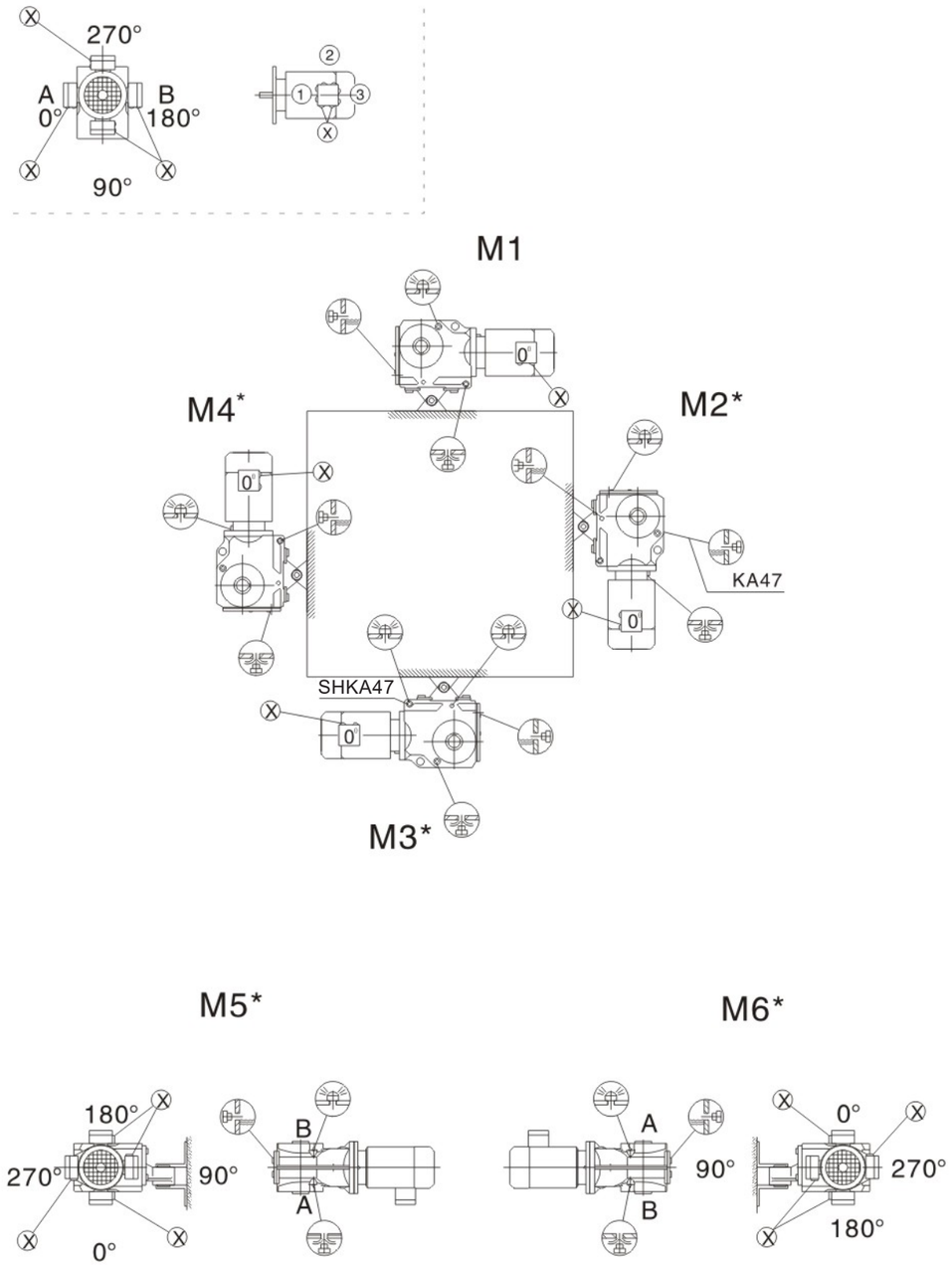


Important:Please refer to the information in the "Geared Motors"catalog.Optional Planning for Gear units Ouerhung and axial loads part"(P21)

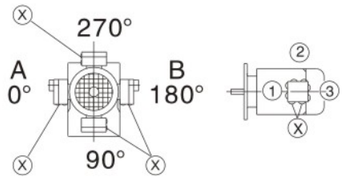
SHKF/KAF/KAZ/KHZ37-157, SHKVF/FVZ37-107

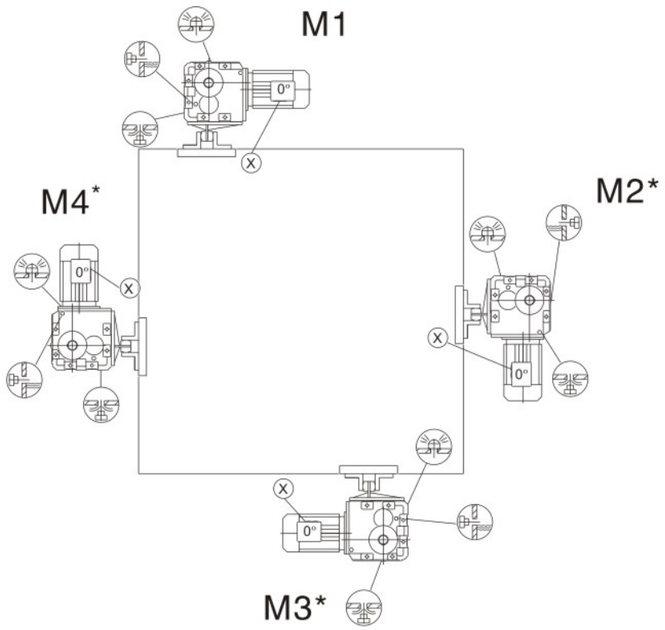


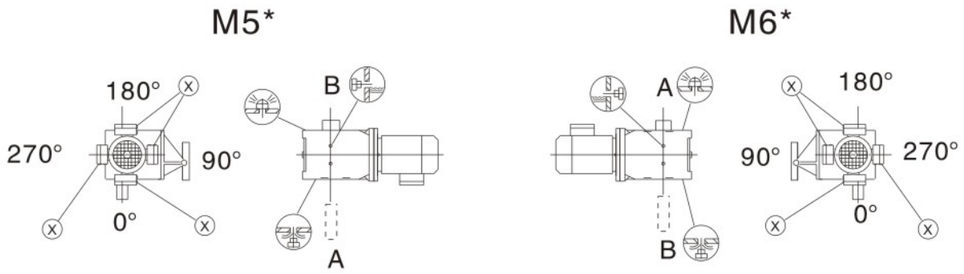
SHKA/KH37-157/T, SHKV37-107/T



SHKH167-187

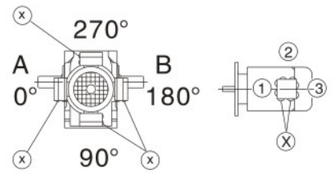


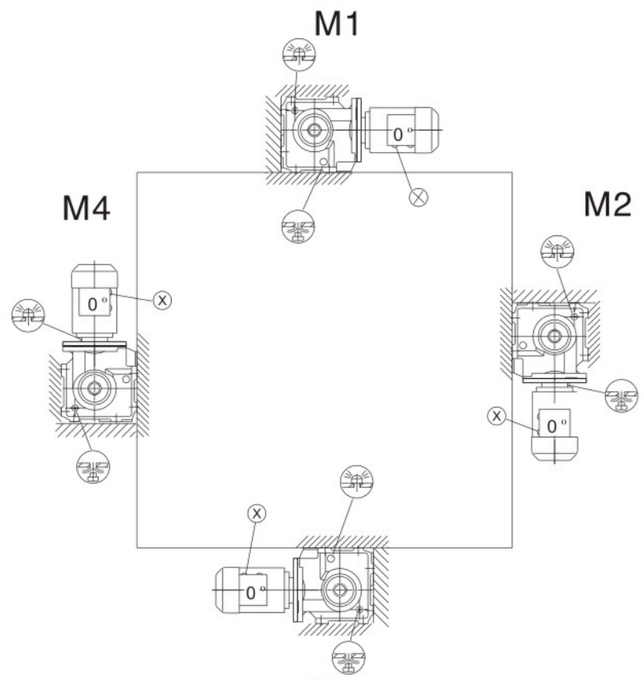


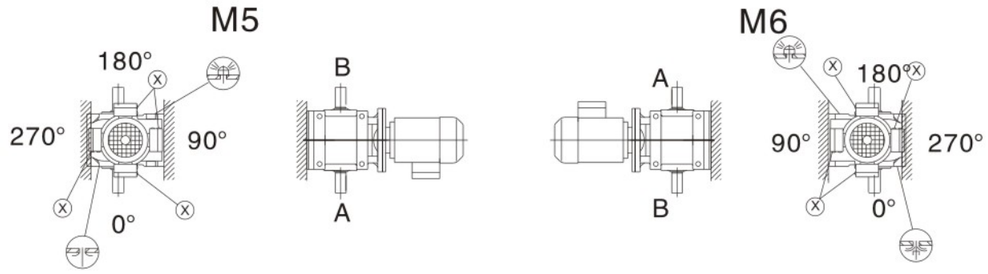


10.5 Mounting position of Helical–worm Gear motor

SHS37

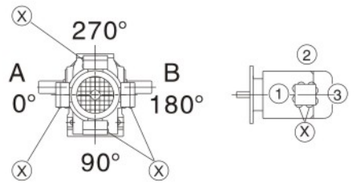


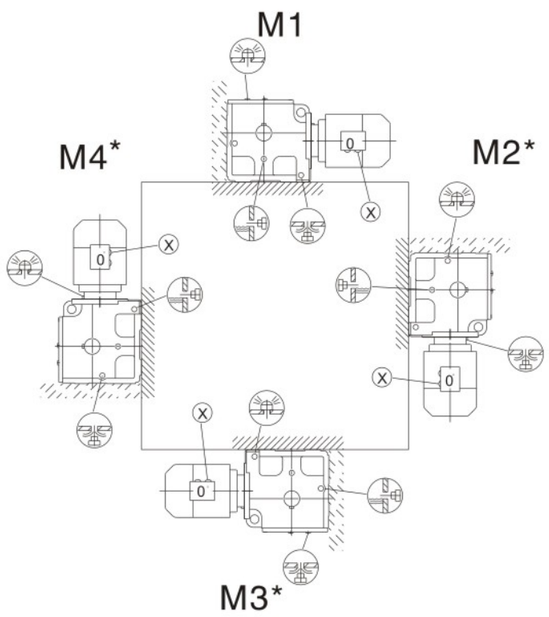


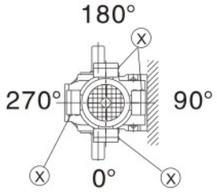


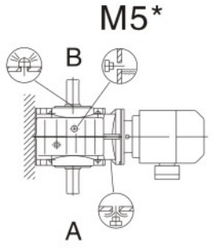
Important:Please refer to the information in the "Geared Motors"catalog.Optional Planning for Gear units Ouerhung and axial loads part"(P21)

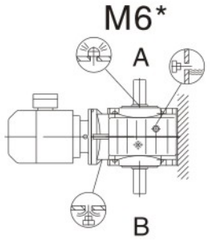
SHS47-SHS97

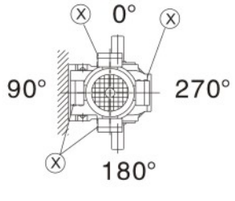






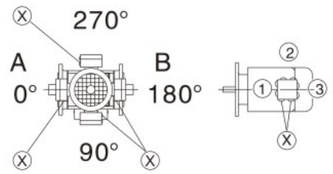


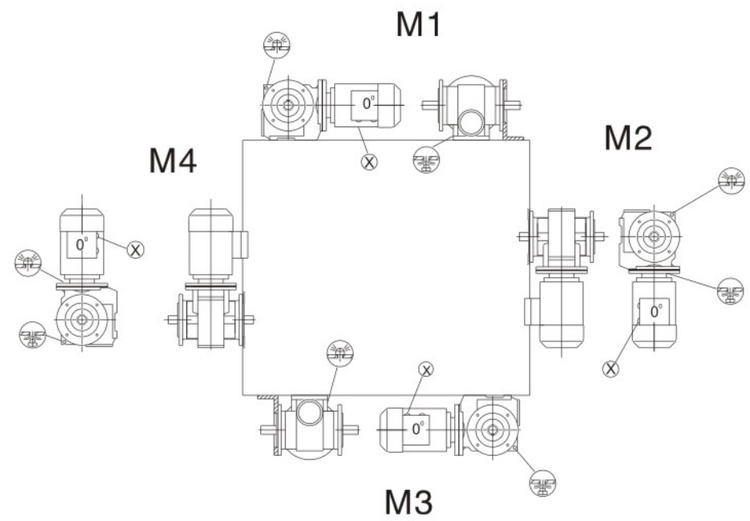


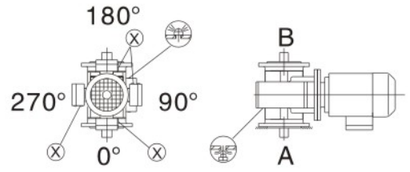


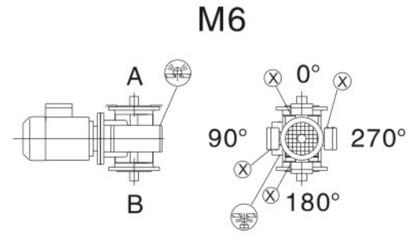
Important:Please refer to the information in the "Geared Motors"catalog.Optional Planning for Gear units Ouerhung and axial loads part"(P21)

SHSF/SAF/SHF37

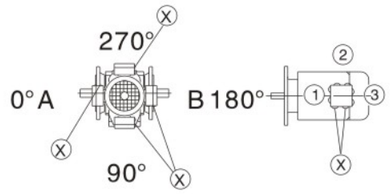


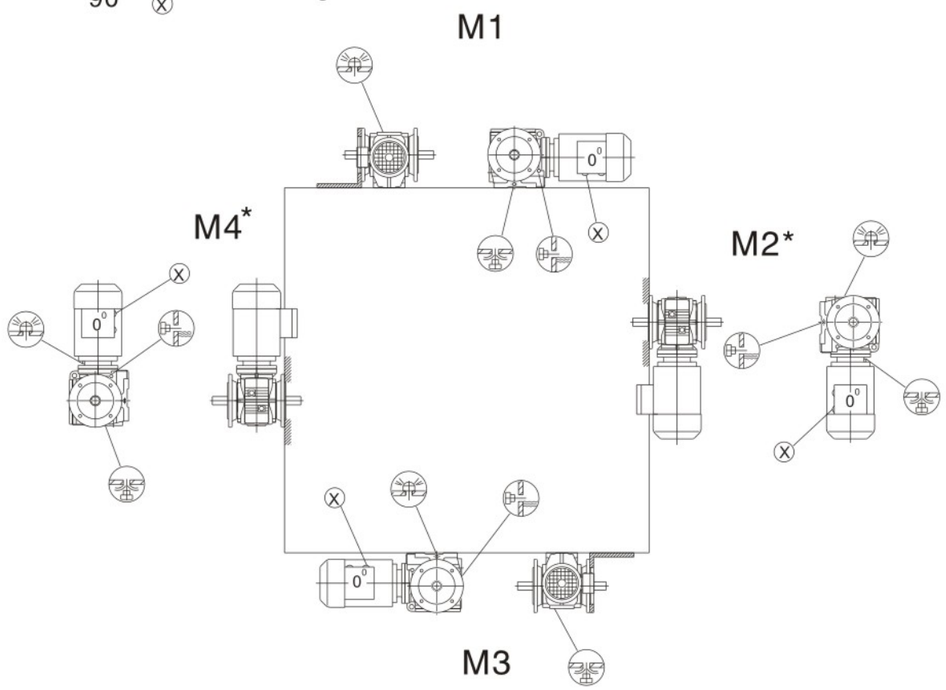


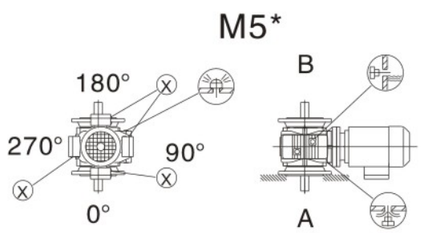


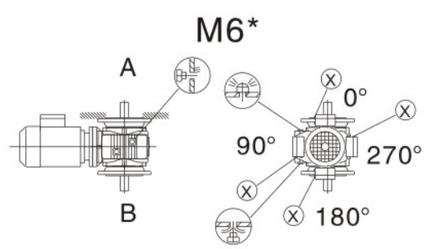


SHSF/SAF/SHF/SAZ/SHZ47..-97..

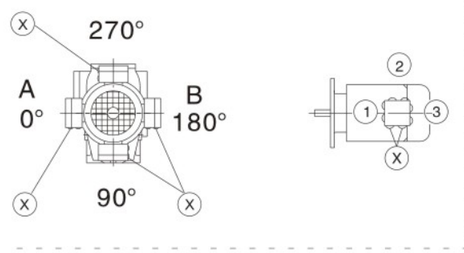


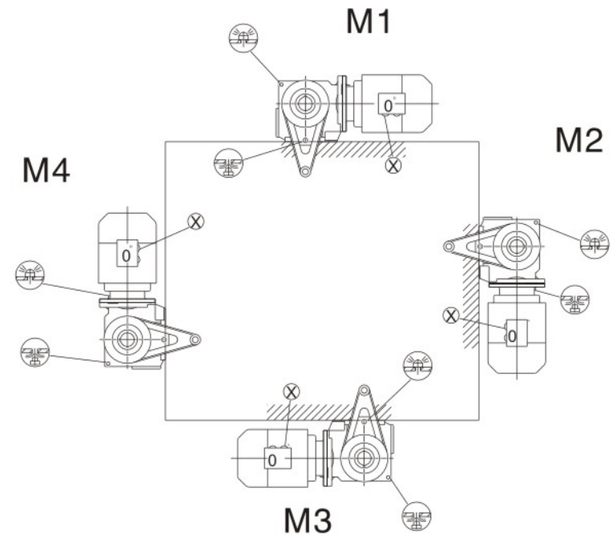


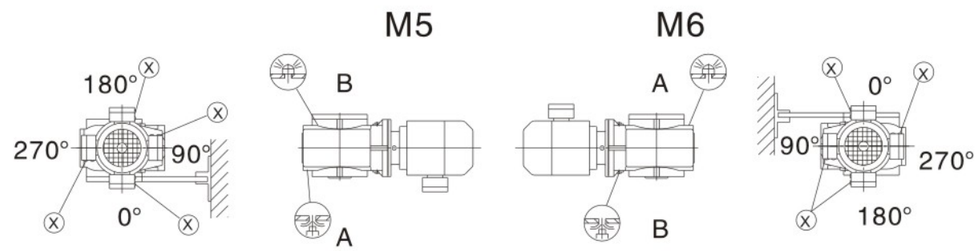




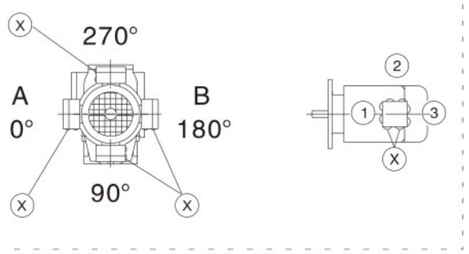
SHSA/SH37/T..

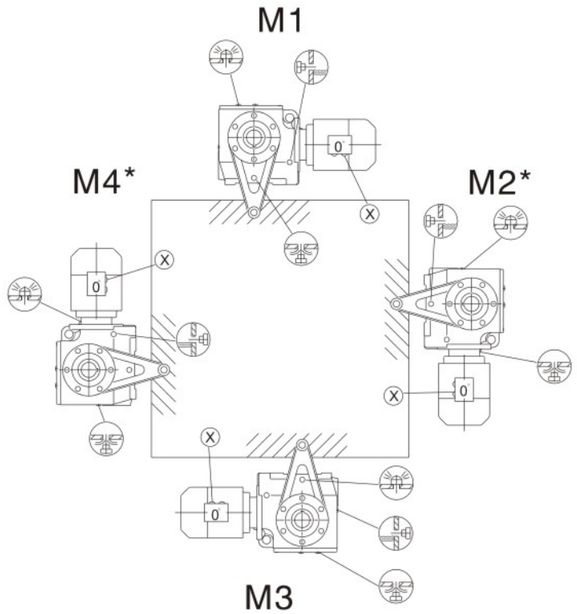


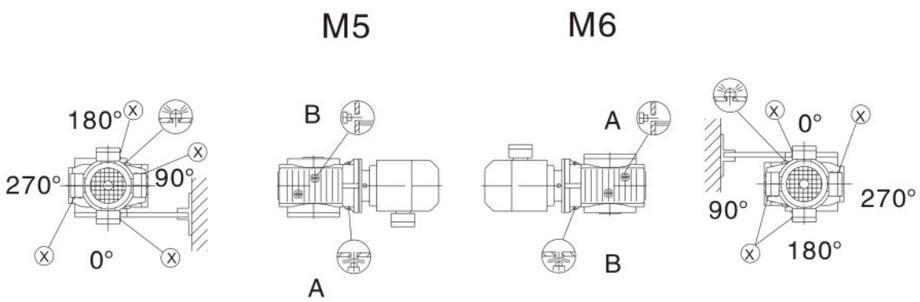




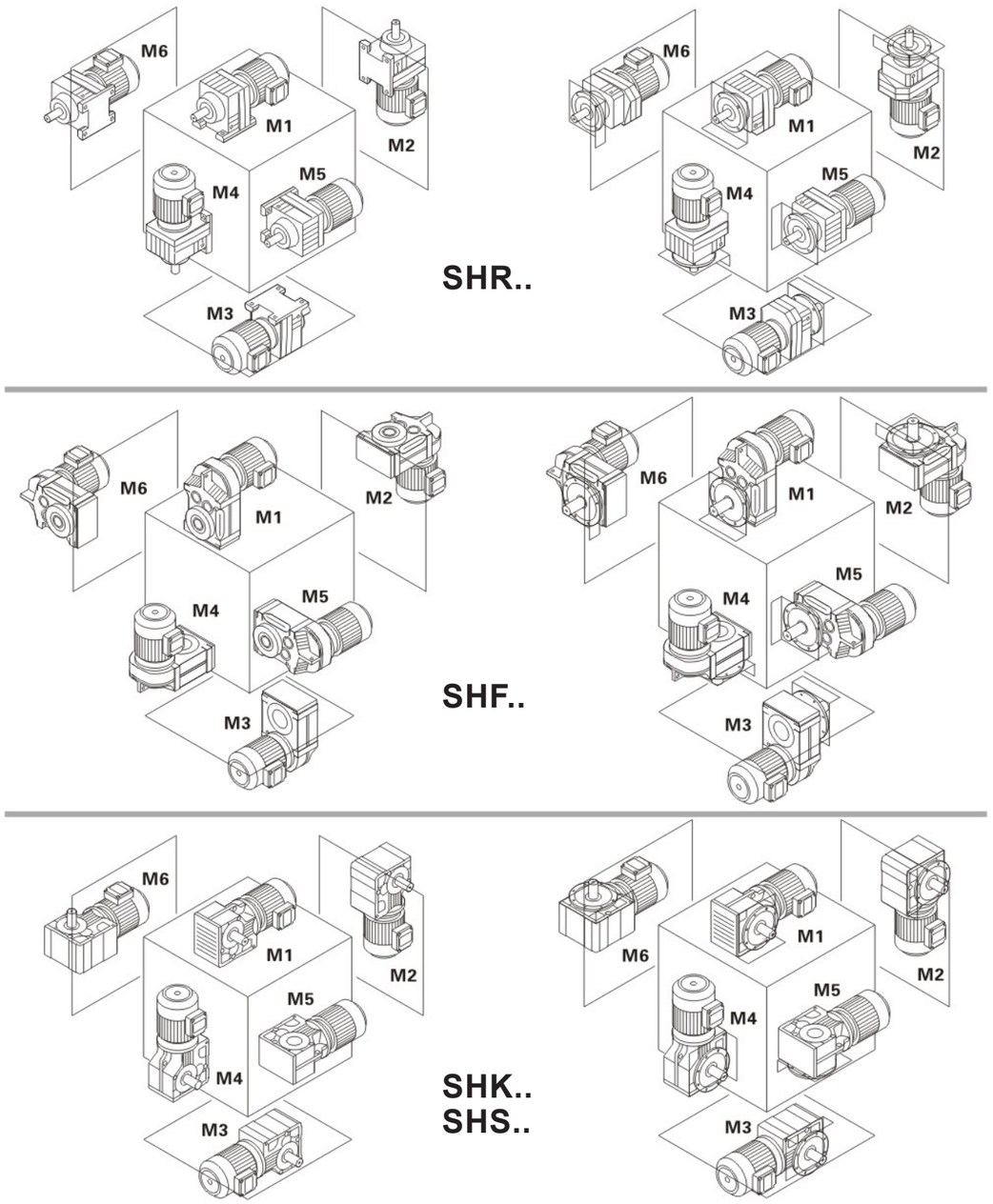
SHSA/SH47..-97..







Schematic diagram of the installation location



11. Dimension information

Shaft heights tolerances

h ≤250mm → −0.5mm
h >250 → −1mm

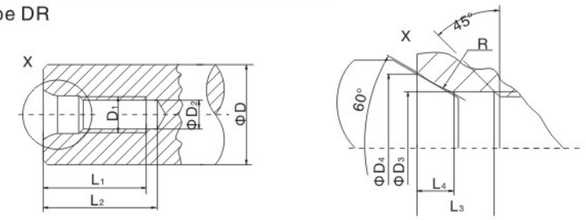
Foot−mounted gear units:The motor may project below the mounting surface when fitted, please check.

Shaft tolerance

Diameter tolerance

Φ ≤50mm →ISOk6
Φ >50 →ISOm6

Center hole in accordance with DIN332.
shape DR



Diameter of Output shaft	D1	D2	D3	D4	R	L1 +2	L2 min	L1	L4 ≈
ΦD=7−10mm	M3	2.5	3.2	5.3	4.0	9.0	12.0	2.6	1.8
ΦD>10−13mm	M4	3.3	4.3	6.7	5.0	10.0	14.0	3.2	2.1
ΦD>13−16mm	M5	4.2	5.3	8.1	6.3	12.5	17.0	4.0	2.4
ΦD>16−21mm	M6	5.0	6.4	9.6	8.0	16.0	21.0	5.0	2.8
ΦD>21−24mm	M8	6.8	8.4	12.2	10.0	19.0	25.0	6.0	3.3
ΦD>24−30mm	M10	8.5	10.5	14.9	16.0	22.0	30.0	7.5	3.8
ΦD>30−38mm	M12	10.2	13.0	18.1	20.0	28.0	37.0	9.5	4.4
ΦD>38−50mm	M16	14.0	17.0	23.0	25.0	36.0	45.0	12.0	5.2
ΦD>50−85mm	M20	17.5	21.0	28.4	31.5	42.0	53.0	15.0	6.4
ΦD>85−130mm	M24	21.0	25.0	34.2	40.0	50.0	63.0	18.0	8.0
ΦD>130mm	M30	26.5	31.0	42.6	50.0	63.0	85.0	20.0	10.0

Hollow shaft

Keys: In accordance with DIN6885(domed type)

Diameter tolerance

ISOH7 measured with plug gauge

Mulitiple−spine shafts

Dm Measuring roller diameter
Me Inspection size

Flange

Centering shoulder tolerance

Φ ≤230mm (flange size A 120−A300) →ISOj6
Φ >230mm (flange size A 350−A660) →ISOh6

Up to three different flange dimensions are available for each size of helical gear units AC (brake) motor and explosion−proof AC (brake) motor.The possible flanges per size are indicted in the relevant dimension sheets.

Lifting eyebolts,suspension eye lugs

SHR17...SHR27 helical gear units, motors up to DV100 and Spiroplan geared motoes are delivered without special reansport fixtures. Otherwise, the gear units and motors are equipped with cast−on suspension eye lugs, screw−on suspension eye lugs or sceew−on lifting eyebolts.

Gear unit/motor type	Screw−on lifting eyebolts /suspension eye lugs	Cast−on suspension eye lugs
SHR/RF37-57,SHRX/RXF57-67	●	—
≥SHR67	●	—
SHF37-157	—	●
SHK37-157	—	●
SHK167-187	●	—
SHS37-47	●	—
SHS57-97	—	●
≥D112	●	—

Breather valves

The gear unit dimension drawings are always shown with screw plugs. The corresponding sc −rew plug is replaced by an breather valve at the factory depending on with mounting position M1−M6 is ordered. Theis means the contour dimensions may be slightly different.

Shrink disk connevtion

Hollow shaft gear unit with shrink disk connection: If required, please request a detailed data sheet on shrink disks form company, data sheet no.33 753..95.

Splined hollow shaft

Hollow shaft gear units SHFV.. in sizes 37−107 and SHFV.. In sizes 37−107 are supplied with a splined hollow shaft to ISO4762.

Rubber buffer for SHFA/SHFH/SHFV

f stands for the compressed dimension of Rubber buffer in the Manax torque.

brake motors

In brake motors, dimensions G1B apply instead of G1 and KB instead of K

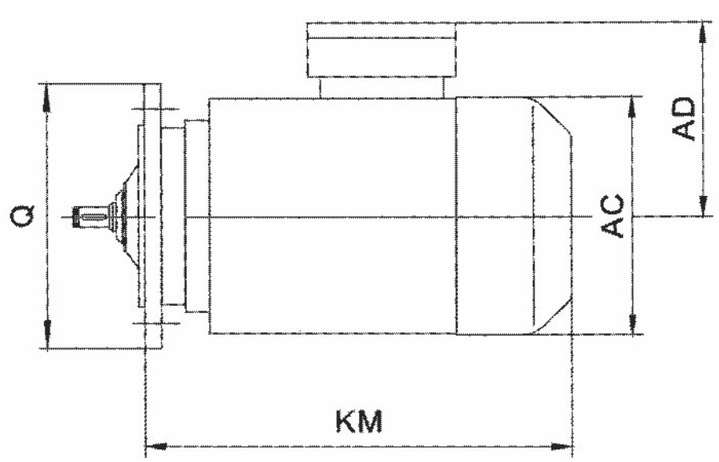
Motor accessory

The motor dimensions may different as a result of motor accessory. Please refer to the dimensions of the motor accessory.

Special versions

The dimensions of the terminal box on special versions such as KS or CSA may different form the standard dimensions.

11. Size of motor



	Q mm	KM mm	L1 mm	L2 mm	L3 mm	AD mm	AC mm
D63	120	221	259	281	319	96	138
	160	216	254	276	314		
	200	210	248	270	308		
D71	120	239	281	299	341	103	158
	160	234	276	294	336		
	200	228	270	288	330		
D80	120	271	320	330	379	108	168
	160	265	314	324	373		
	200	259	308	318	367		
	250	254	303	313	362		
D90	120	314	370	369	425	139	195
	160	309	365	364	420		

	Q mm	KM mm	L1 mm	L2 mm	L3 mm	AD mm	AC mm
D132ML	400	385	468	423	506	168	275
	450	377	460	415	498		
	550	369	452	407	490		
D160M	200	509	607	544	642	261	330
	250	504	602	539	637		
	300	499	597	534	632		
	350	493	591	528	626		
	400	486	584	521	619		
	450	478	576	513	611		
	550	470	568	505	603		
D160L	250	548	646	583	681	261	330
	300	543	641	578	676		

	Q mm	KM mm	L1 mm	L2 mm	L3 mm	AD mm	AC mm
D90	200	301	357	356	412	139	195
	250	297	353	352	408		
	300	291	347	346	402		
D100	120	334	399	389	454	131	218
	160	326	391	381	446		
	200	318	383	373	438		
	250	314	379	369	434		
	300	308	373	363	428		
	350	302	367	357	422		
D112	160	382	459	427	504	151	240
	200	373	450	418	495		
	250	368	445	413	490		
	300	363	440	408	485		
	350	357	434	402	479		
D132S	160	420	503	458	541	168	275
	200	408	491	446	529		
	250	403	486	441	524		
	300	398	481	436	519		
	350	392	475	430	513		
	400	385	468	423	506		
D132M	200	408	491	446	529	168	275
	250	403	486	441	524		
	300	398	481	436	519		
	350	392	475	430	513		
	400	385	468	423	506		
	450	377	460	415	498		
D132ML	200	408	491	446	529	168	275
	250	403	486	441	524		
	300	398	481	436	519		
	350	392	475	430	513		

	Q mm	KM mm	L1 mm	L2 mm	L3 mm	AD mm	AC mm
D160L	350	537	635	572	670	261	330
	400	530	628	565	663		
	450	522	620	557	655		
	550	514	612	549	647		
D180	250	575	689	600	714	280	380
	300	570	684	595	709		
	350	564	678	589	703		
	400	557	671	582	696		
	450	549	663	574	688		
	550	541	655	566	680		
D200	300	700	824	740	864	314	420
	350	694	818	734	858		
	400	687	811	727	851		
	450	679	803	719	843		
	550	671	795	711	835		
D225S	300	716	858	756	898	335	470
	350	710	852	750	892		
	400	703	845	743	885		
	450	695	837	735	877		
	550	687	829	727	869		
D225M	300	741	883	781	923	335	470
	350	735	877	775	917		
	400	728	870	768	910		
	450	720	862	760	903		
	550	712	854	752	894		
D250M	400	793	946	839	992	370	510
	450	785	938	831	984		
	550	777	930	823	976		
D280	400	898	1054	943	1099	408	580
	450	890	1046	935	1091		
	550	882	1038	927	1083		
D315	660	1130	1286	1175	1331	530	635

Notes:
L1 is the KM vatue for motor with thrake.
L2 is the KM vatue for asynchronous motor with frequency.
L3 is the KM vatue for asynchronous motor with frequency and brake.
If you have any special requirements please contact us.

Gear motor weights

Gear Reducer size	Kg	Gear Reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg
SHRX57	9	SHR..27	4	SHR..87	55	SHF27	6.5	SHF57	25
SHRXF57	11	SHR..27F	4	SHR..87F	63	SHFA27	6	SHFA57	24
SHRX67	12	SHR..37	10	SHR..97	100	SHFF27	8	SHFF57	31
SHRXF67	16	SHR..37F	12	SHR..97F	118	SHFAF27	7	SHFAF57	30
SHRX77	20	SHR..47	14	SHR..107	130	SHF37	13	SHF67	31
SHRXF77	24	SHR..47F	14	SHR..137	235	SHFA37	12	SHFA67	27
SHRX87	35	SHR..57	20	SHR..147	360	SHFF37	15	SHFF67	37
SHRXF87	40	SHR..57F	24	SHR..167	605	SHFAF37	14	SHFAF67	35
SHRX97	59	SHR..67	25	SHR..177	980	SHF47	18	SHF77	55
SHRXF97	66	SHR..67F	29	SHR..187	1400	SHFA47	17	SHFA77	50
SHRX107	88	SHR..77	30			SHFF47	21	SHFF77	66
SHRXF107	103	SHR..77F	36			SHFAF47	20	SHFAF77	58

Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg
SHF87	96	SHF127	401	SHK37	12	SHK67	30	SHK97	150
SHFA87	90	SHFA127	365	SHKF37	15	SHKF67	36	SHKF97	171
SHFF87	112	SHFF127	447	SHKA37	11.5	SHKA67	37	SHKA97	130
SHFAF87	105	SHFAF127	401	SHKAF37	15	SHKAF67	34	SHKAF97	156
SHF97	157	SHF157	632	SHK47	19	SHK77	54	SHK107	260
SHFA97	150	SHFA157	610	SHKF47	22.5	SHKF77	62	SHKF107	271
SHFF97	190	SHFF157	740	SHKA47	18	SHKA77	46	SHKA107	231
SHFAF97	171	SHFAF157	670	SHKAF47	21	SHKAF77	55	SHKAF107	265
SHF107	241	SHF167	1040	SHK57	24	SHK87	90	SHK127	410
SHFA107	225	SHFA167	990	SHKF57	29	SHKF87	100	SHKF127	452
SHFF107	269	SHF177	1520	SHKA57	22	SHKA87	78	SHKA127	381
SHFAF107	245	SHFA177	1460	SHKAF57	28	SHKAF87	91	SHKAF127	419

Gear motor weights

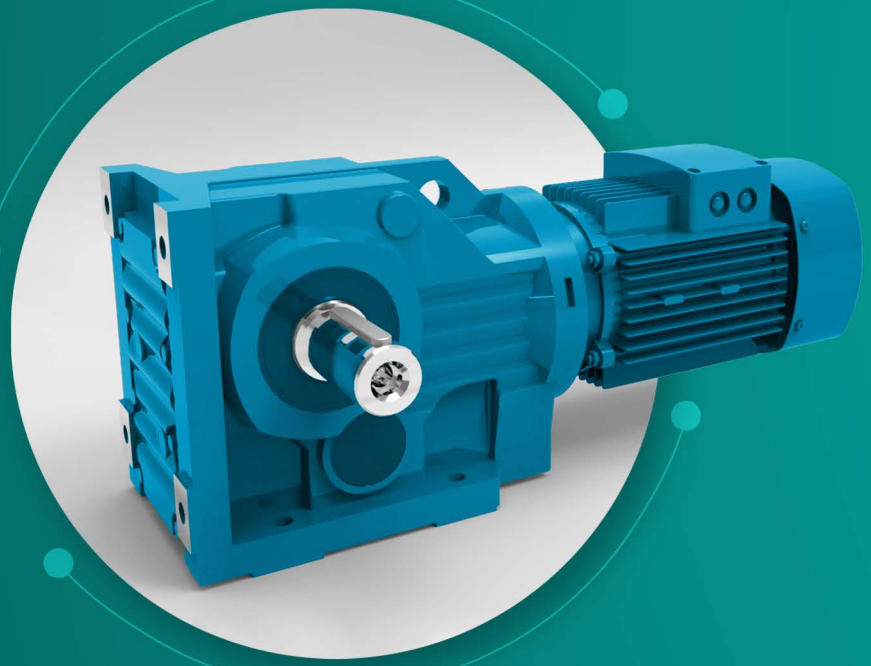
Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Motor size	Kg
SHK157	635	SHS37	6	SHS67	25	SHS97	140	D63S2	9
SHKF157	715	SHSF37	8	SHSF67	32	SHSF97	171	D63M2	10
SHKA157	603	SHSA37	6	SHSA67	26	SHSA97	135	D63L2	10
SHKAF157	660	SHSAF37	7.5	SHSAF67	31	SHSAF97	160	D71D2	14
SHK167	1035	SHS47	10	SHS77	45			D80K2	18
SHKH167	1000	SHSF47	14	SHSF77	55			D80N2	20
SHK187	1615	SHSA47	11	SHSA77	45			D90S2	20
SHKH187	1550	SHSAF47	13	SHSAF77	52			D90L2	23
		SHS57	14	SHS87	80			D100M2	30
		SHSF57	18	SHSF87	101			D100L2	32
		SHSA57	14	SHSA87	76			D112M2	37
		SHSAF57	17	SHSAF87	94			D132S2	57

Motor size	Kg	Motor size	Kg	Motor size	Kg	Motor size	Kg	Motor size	Kg
D132M2	60	D63L4	11	D160L4	130	D90S6	20	D225M6	281
D160M2	114	D71D4	12	D180M4	166	D90L6	20	D250M6	378
D160L2	131	D80K4	14	D180L4	182	D100M6	28	D280S6	475
D180M2	168	D80N4	15	D200L4	232	D100L6	31	D280M6	541
D200L2	236	D90S4	19	D225S4	280	D112M6	37		
D225S2	255	D90L4	23	D225M4	309	D132S6	64		
D225M2	288	D100M4	32	D250M4	400	D132M6	73		
D250M2	382	D100L4	35	D280S4	515	D160M6	104		
D280S2	494	D112M4	52	D280M4	601	D160L6	126		
D280M2	550	D132S4	60	D71D6	12	D180M6	169		
D63S4	10	D132M4	72	D80K6	14	D200L6	225		
D63M4	11	D130M4	109	D80N6	17	D225S6	266		

Notes: The weight of reducers in the table is the average weight for each ratio.
If you need exact weight for certain ratio or input output modules. please consult our company.

Isfahan Shakerin Gearbox

شاکرین گیربکس اصفهان



NEW

2022 Edition

شرکت شاکرین گیربکس اصفهان

طراح و سازنده گیربکس‌های خورشیدی
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