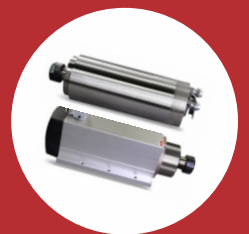
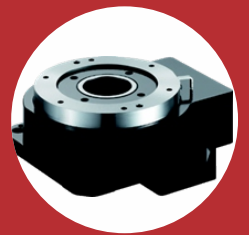


PRODUCT CATALOG

**Cost-effective
Planetary Gear Reducers
For Stepper Motors**

**Precise and Reliable
Motion Control Solutions**

**Satisfactory Performance
High Reliability
High Smoothness and Low Vibration&Noise
Long Lifetime
Flexible Customization**



About Us

-Automate In A Better Way-

COMPANY

Reliable & Long-Term Partnership

Focused on Providing Comprehensive, Reliable and Precise Motion Control Solutions with High Quality & Competitive Pricing.
Rich Industrial Automation Experiences
Future Oriented Development Strategy
Open For Overseas Market Cooperation



RESEARCH & DEVELOPMENT

Deliver the Best

More than 15 Years Motion Control R&D Experiences of Key Experts
Wide International R&D Cooperation
Continuous Cutting-Edge & Practical Technology Implement
Flexible & Fast Customization

PRODUCTS

Beyond Your Expectation

Wide Range of Motion Control Solutions, Designed for Different Market Segments.
Top Level of Products Performance with High Reliability & Attractive Prices. .
100% Replacements of Top Brands with Extra Values and Benefits.

PRODUCTION

Deliver the Best

Strict Quality Control System
100% Functional Test
48 Hours Aging Test
ISO9001 Certificates of Factories
3C, UL, CE, RoHS, etc. Certificates.



Target Application Markets

Covering Majority of Automation Applications

Electronics and Semiconductors, CNC (Laser, Plasma, Water Jet, Cutting, Milling, Engraving, Polishing, Positioning, etc.), Machine Tools, Medical, Aerospace, Test Bed, Packaging(Marking, Labeling, Feeding, etc.), Sewing, Printing, Textile, Dying, Fabrication, Surveillance, Logistics, Factory Automation, Sorting, Farming, Robotics, Printing, Automotive, Telecom, SPM, etc.

SERVICES

Professional and In Time

7*24H Technical Support.
Remote and On-site Training
Local Market Co-marketing
≥18 Months Warranty (5Years for some products)
Quick Customization and Delivery

Reliability

Process

Technology

Innovation

Productivity

System


AUTOMATION

Repeatability

Control

Precision

Products and Applications

—Precise & Reliable Motion Control Solutions—

2 & 3 Phase Stepper Drive

Step & Step Servo Drive
in One, 0.4-8.0A,
DC(12-75V) and AC(80-265VAC),
Pulse&DIR, CW&CCW,
EtherCAT, CanOpen, Profinet Mode-bus
Rich Special&Practical Functions,
Wide Applications in High-End Market,
Unique Design with Patents,
Fast Customization.



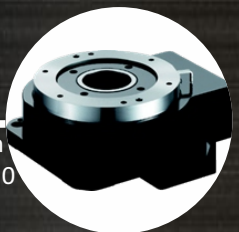
Auto Positioning Platform

Ultra Thin, Lightweight,
Hollow structure,
Hi Rigidity and Accuracy,
Size in Full Range.



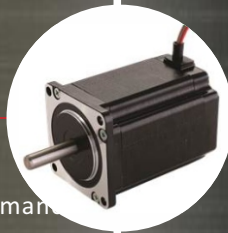
Rotar Actuators

Max. Torque 5-480N.m
Reduction Ratio 5 to 250
IP65
Direct Connection
Hollow Shaft
Flexible Installation
High Positioning Accuracy
Easy Equipped with Moto



2 & 3 Phase Stepper Motor

Nema11 to Nema52,
0.07 to 33.0N.m,
High Quality and Performance
Low heating and Vibration,
Hollow Shaft, Waterproof,
High Speed etc.
Fast Customization .



Planetary Gear Reducers

Round, Square,
Right-angle Types,
Size 28 to 120mm,
Standard Precision 12-18arcmin,
High Precision 3 and 5arcmin,
Rich Reduction Ratios,
High Input Speed, High Torque,
>20000 hours Lifetime,
Life-long Lubrication.



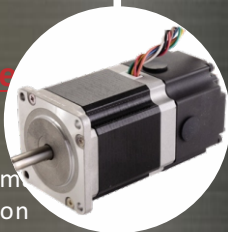
Electric Cylinders

Vertical, Horizontal,
Guideway
Reduction Ratio 5 to 250
IP65
Direct Connection
Hollow Shaft
Flexible Installation
High Positioning Accuracy
Easy Equipped with Moto



2 Phase Stepper Motor with Brake

Nema17 to Nema34
0.07 to 33.0N.m
High Quality and Performance
Low heating and Vibration
Extra Long Lifetime
Hollow Shaft, Waterproof,
High Speed etc.
Fast Customization



Brushless Products

30 to 750W
80 to 4000RPM
Low Noise
Low Vibration
Low Heating
Long Lifetime, Easy Maintenance
Customization Supported



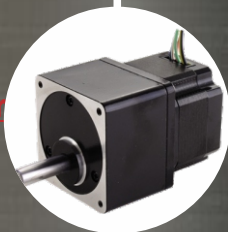
Electric Spindles

800W to above 30kW
Water and Air Cooling
Wood, Stone, Metal,
Glass etc.
High Precision and Performance
Flexible Customization



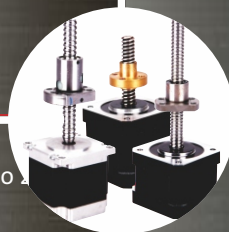
2 Phase Integrated Stepper Motor with Reducer

Nema17 to Nema34
0.2 to 12.0N.m
Compact Design,
High Reduction Ratios
1:3.6 to 1:100
High Smoothness
Extra Long Lifetime
Flexible Customization



2 Phase Linear Stepper Motor

Nema17 to Nema34
Rated Push Strength 5 to 10N
Lead 0.61 to 10mm
World-Class Lead Screw
High performance
Flexible Customization



Variable Frequency Drives

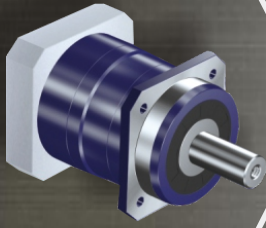
400W to above 30kW
Vector Control
Extra Long Life Time
Rich Functions and Interfaces
High Reliability



FACTORY AUTOMATION CUTTING MARKING ELECTRONIC
CABLING CNC LABELLING LASER MACHINE TOOL
METAL WORK PACKAGING MEDICAL SURVEILLANCE
TEXT BED SORTING WOOD WORK MARBLE WORK SEWING
GLASS WORK PLASMA ENGRAVING TEXTILE

Helical Gear Precision Planetary Gear Reducers

Matching All Motors

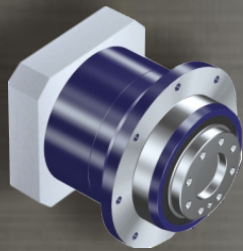
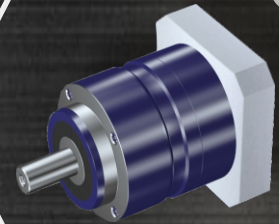


AF Series

Frame Size(mm)	: 60, 90, 110, 145, 180;
Reduction Ratios	: 3 to 10 (1 Stage), 15 to 100 (2 Stage);
Backlash	: 3 arcmin, 5 arcmin, 7 arcmin;
Input & Output Shaft Type	: All Main Stream, Customizable;
Average Lifetime	: >20000 Hours

AL Series

Frame Size(mm)	: 70, 90, 120, 155, 2095;
Reduction Ratios	: 3 to 10 (1 Stage), 15 to 100 (2 Stage);
Backlash	: 5 arcmin, 7 arcmin;
Input & Output Shaft Type	: All Main Stream, Customizable;
Average Lifetime	: >20000 Hours

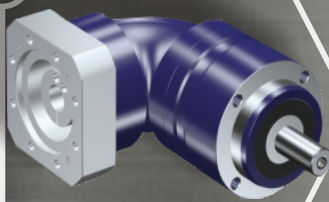
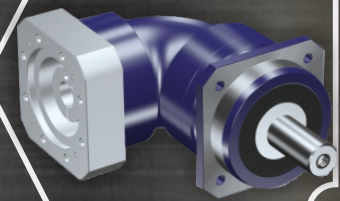


AH Series

Frame Size(mm)	: 64, 90, 110;
Reduction Ratios	: 4 to 10 (1 Stage), 16 to 100 (2 Stage);
Backlash	: 3 arcmin, 5 arcmin;
Input & Output Shaft Type	: All Main Stream, Customizable;
Average Lifetime	: >20000 Hours

ZAF Series

Frame Size(mm)	: 60, 90, 115, 140;
Reduction Ratios	: 3 to 10 (1 Stage), 16 to 100 (2 Stage);
Backlash	: 6 arcmin, 9 arcmin;
Input & Output Shaft Type	: All Main Stream, Customizable;
Average Lifetime	: >20000 Hours



ZAL Series

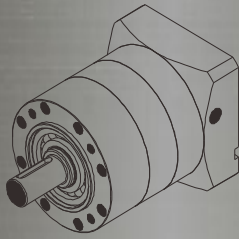
Frame Size(mm)	: 70, 90, 120, 155;
Reduction Ratios	: 3 to 10 (1 Stage), 16 to 100 (2 Stage);
Backlash	: 6 arcmin, 9 arcmin;
Input & Output Shaft Type	: All Main Stream, Customizable;
Average Lifetime	: >20000 Hours

Spur Gear Precision Planetary Gear Reducers

Matching All Motors

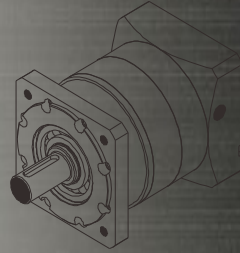
PLE series reducer (PLE060 PLE090 PLE120 PLE160)

4 optional size	60mm, 90mm, 120mm, 160mm	
Rated output torque	8.5Nm~680.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	12, 16, 20, 25, 28, 35, 40, 50, 70, 100
	3-stage	80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <3 arc-min Standard: <8 arc-min
	2-stage	Precision: <5 arc-min Standard: <10 arc-min
	3-stage	Precision: <8 arc-min Standard: <12 arc-min



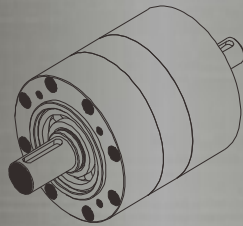
PLF series reducer (PLF060 PLF090 PLF120 PLF160)

4 optional size	60mm, 90mm, 120mm, 160mm	
Rated output torque	8.5Nm~680.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	12, 16, 20, 25, 28, 35, 40, 50, 70, 100
	3-stage	80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <3 arc-min Standard: <8 arc-min
	2-stage	Precision: <5 arc-min Standard: <10 arc-min
	3-stage	Precision: <8 arc-min Standard: <12 arc-min



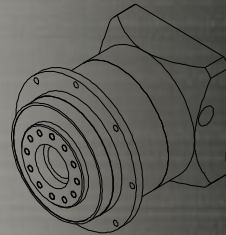
PLS series reducer (PLS060 PLS090 PLS120 PLS160)

4 optional size	60mm, 90mm, 120mm, 160mm	
Rated output torque	8.5Nm~680.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	12, 16, 20, 25, 28, 35, 40, 50, 70, 100
	3-stage	80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <3 arc-min Standard: <8 arc-min
	2-stage	Precision: <5 arc-min Standard: <10 arc-min
	3-stage	Precision: <8 arc-min Standard: <12 arc-min



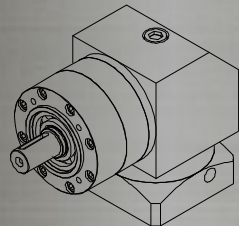
PLH series reducer (PLH064 PLH090 PLH120 PLH160)

4 optional size	64mm, 90mm, 120mm, 160mm	
Rated output torque	8.5Nm~680.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	12, 16, 20, 25, 28, 35, 40, 50, 70, 100
	3-stage	80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <3 arc-min Standard: <8 arc-min
	2-stage	Precision: <5 arc-min Standard: <10 arc-min
	3-stage	Precision: <8 arc-min Standard: <12 arc-min



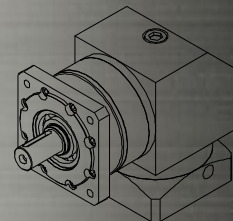
ZPLE series reducer (ZPLE060 ZPLE090 ZPLE120 ZPLE160)

4 optional size	60mm, 90mm, 120mm, 160mm	
Rated output torque	8.5Nm~680.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	12, 16, 20, 25, 28, 35, 40, 50, 70, 100
	3-stage	80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <3 arc-min Standard: <8 arc-min
	2-stage	Precision: <5 arc-min Standard: <10 arc-min
	3-stage	Precision: <8 arc-min Standard: <12 arc-min



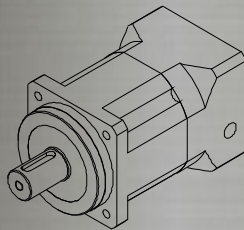
ZPLF series reducer (ZPLF060 ZPLF090 ZPLF120 ZPLF160)

4 optional size	60mm, 90mm, 120mm, 160mm	
Rated output torque	8.5Nm~680.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	12, 16, 20, 25, 28, 35, 40, 50, 70, 100
	3-stage	80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <3 arc-min Standard: <8 arc-min
	2-stage	Precision: <5 arc-min Standard: <10 arc-min
	3-stage	Precision: <8 arc-min Standard: <12 arc-min



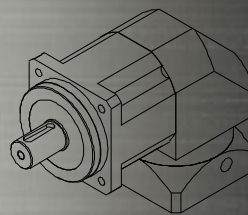
142 AB series reducer (AB060 AB090 AB120 AB150 AB180 AB220 AB280)

9 optional size	80mm, 90mm, 115mm, 142mm, 180mm, 220mm, 280mm, 335mm, 400mm	
Rated output torque	18.5Nm~9800.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	9, 15, 20, 25, 30, 35, 40, 50, 70, 1000
	3-stage	64, 80, 100, 150, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <4 arc-min Standard: <8 arc-min
	2-stage	Precision: <6 arc-min Standard: <10 arc-min
	3-stage	Precision: <7 arc-min Standard: <18 arc-min



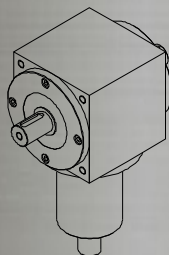
ABR series reducer (ABR060 ABR090 ABR115 ABR142 ABR180 ABR220 ABR280)

7 optional size	80mm, 90mm, 115mm, 142mm, 180mm, 220mm, 280mm	
Rated output torque	18.5Nm~5120.0Nm	
Ratio	1-stage	3, 4, 5, 7, 10
	2-stage	9, 15, 20, 25, 30, 35, 40, 50, 70, 1000
	3-stage	64, 80, 100, 150, 200, 250, 350, 400, 500, 700, 1000
backlash	1-stage	Precision: <5 arc-min Standard: <8 arc-min
	2-stage	Precision: <7 arc-min Standard: <10 arc-min
	3-stage	Precision: <9 arc-min Standard: <18 arc-min



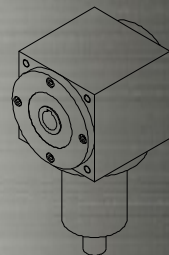
21 VS series reducer (VS09 VS11 VS14 VS17 VS21 VS25 VS30)

7 optional size	90mm, 110mm, 140mm, 170mm, 210mm, 240mm, 280mm	
The allowable input power	1.1KW~138KW	
Ratio	1, 1.5, 2, 3, 4, 5	



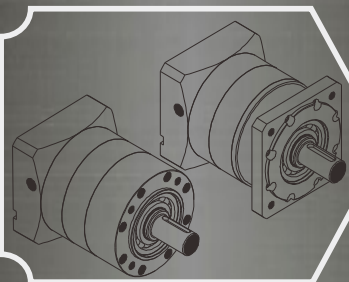
VA series reducer (VA09 VA11 VA14 VA17 VA21 VA24 VA28)

7 optional size	90mm, 110mm, 140mm, 170mm, 210mm, 240mm, 280mm	
The allowable input power	1.1KW~188KW	
Ratio	1, 1.5, 2, 3, 4, 5	



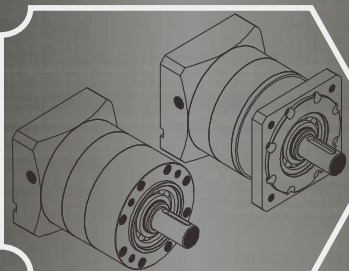
Cost-effective Planetary Gear Reducer

Matching Stepper Motors



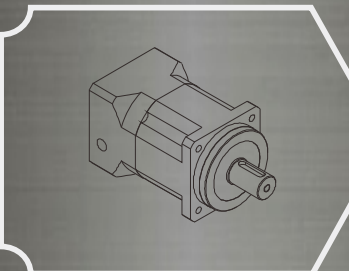
DLE42 & DLF42 Series

Frame Size(mm) : 42mm;
Reduction Ratios : 1:4/5/8/10/16/20/25/40/50/64/80/100/125/160/200
Backlash : 30 arcmin, 40 arcmin, 60 arcmin;
Input & Output Shaft Type: All Main Stream, Customizable;
Average Lifetime : >20000 Hours



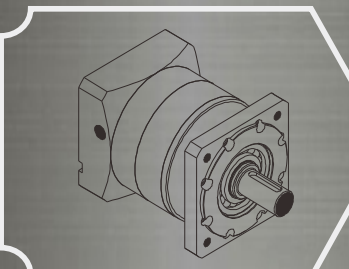
DLEP42 & DLFP42 Series

Frame Size(mm) : 42mm;
Reduction Ratios : 1:4/5/8/10/16/20/25/40/50/64/80/100/125/160/200
Backlash : 15 arcmin, 20 arcmin, 30 arcmin;
Input & Output Shaft Type: All Main Stream, Customizable;
Average Lifetime : >20000 Hours



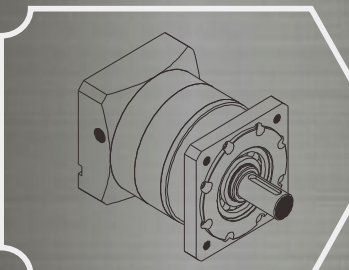
DLFS42 Series

Frame Size(mm) : 42mm;
Reduction Ratios : 1:4/5/7/10/16/20/25/28/35/40/50/70/100
Backlash : 5 arcmin, 7 arcmin;
Input & Output Shaft Type: All Main Stream, Customizable;
Average Lifetime : >20000 Hours



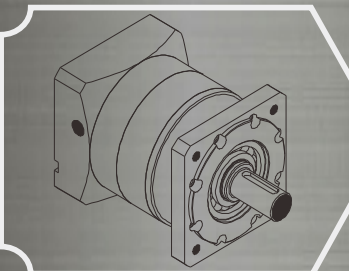
DLF57 Series

Frame Size(mm) : 57mm;
Reduction Ratios : 1:4/5/7/10/16/20/25/28/35/40/50/70/64/80/100/125/140/175/200
Backlash : 20 arcmin, 30 arcmin, 50 arcmin
Input & Output Shaft Type: All Main Stream, Customizable;
Average Lifetime : >20000 Hours



DLFP57 Series

Frame Size(mm) : 57mm;
Reduction Ratios: 1:4/5/7/10/16/20/25/28/35/40/50/70/64/80/100/125/140/175/200
Backlash : 15 arcmin, 20 arcmin, 30 arcmin;
Input & Output Shaft Type: All Main Stream, Customizable;
Average Lifetime : >20000 Hours



DLF86 Series

Frame Size(mm) : 86mm;
Reduction Ratios: 1:4/5/7/10/16/20/25/28/35/40/50/70/64/80/100/125/140/175/200
Backlash : 10 arcmin, 15 arcmin, 25 arcmin;
Input & Output Shaft Type: All Main Stream, Customizable;
Average Lifetime : >20000 Hours

Content of Cost-effective Planetary Gear Reducers

Nema 17 to Nema 34

Advantages

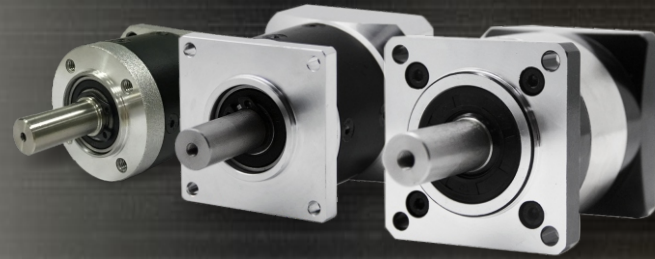
High Quality

Cost-effectiveness

Fast Delivery

Rich Experiences

Flexible Customization



Contents

- P1. DLE42 Series (Standard Precision)
- P2. DLF42 Series (Standard Precision)
- P3. DLEP42 Series (High Precision)
- P4. DLFP42 Series (High Precision)
- P5. DLFS42 Series (Super High Precision)
- P6. DLF57 Series (Standard Precision)
- P7. DLFP57 Series (High Precision)
- P8. DLF86 Series (Standard Precision)
- P9. Installation Guide

Naming Rules

DLE P 42 - L1 - 5 - X

Reserved for Customization

Reduction Ratio:
5 for 1:5, 10 for 1:10, etc.

Stage:
L1: 1-Stage, L2: 2-Stage, L3: 3-Stage

Frame Size:
42mm, 57mm, 86mm

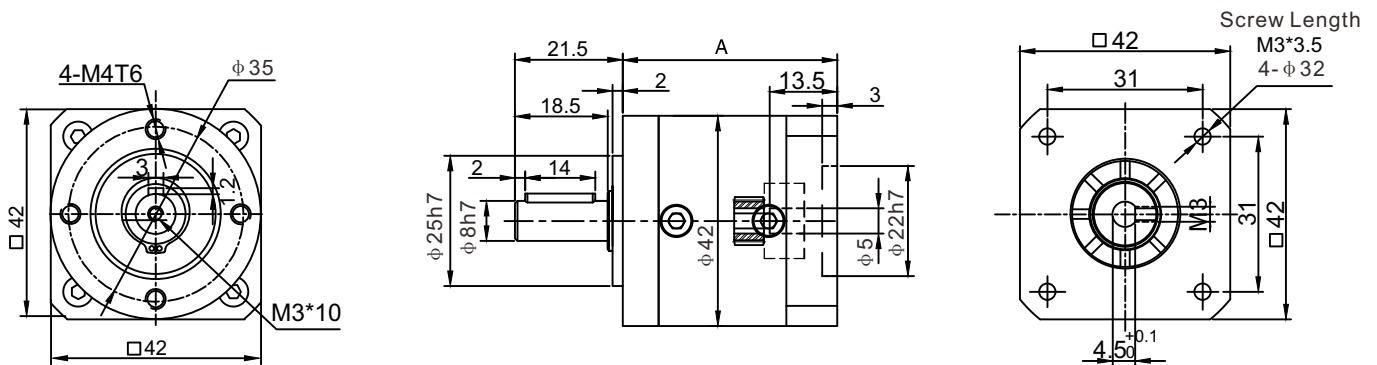
Precision Level
P for Precision, S for Special Precision

Serial Name

DLE42 Series Planetary Gear Reducer

Standard Precision for Stepper Motors

Mechanical Dimensions in mm



Note: Customizable to match with all motors.

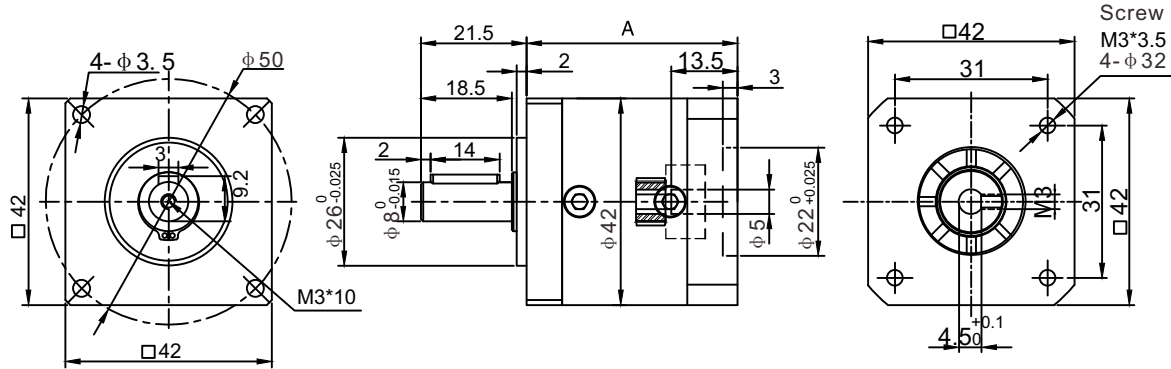
Specifications

Stage	1-Stage				2-Stage					3-Stage					
Length of A (mm)	40				52					64					
Reduction Ratio	4	5	8	10	16	20	25	40	50	64	80	100	125	160	200
Rated Output Torque (N.m)	8	7	4	4	12	12	10.5	10.5	10.5	15.5	15.5	15.5	13.5	15.5	13.5
Max. Output Torque (N.m)	16	14	8	8	24	24	21	21	21	31	31	31	27	31	27
Fullload Efficiency (%)	96%				94%					90%					
Backlash	<30arcmin				<40arcmin					<60arcmin					
Weight (kg)	0.23				0.34					0.5					
Average Lifetime (H)	> 20000														
Lubrication	Long-term Effective Grease														
Rotation Direction	Input Output Same Direction														
Working Temperature	-10 ⁰ ~+80 ⁰														
Installation	Any														

DLF42 Series Planetary Gear Reducer

Standard Precision for Stepper Motors

Mechanical Dimensions in mm



Note: Customizable to match with all motors.

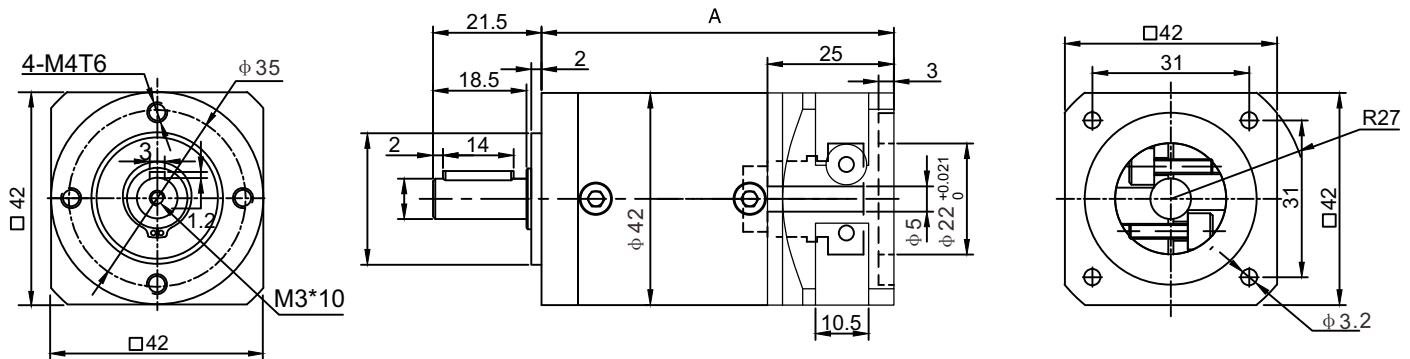
Specifications

Stage	1-Stage				2-Stage					3-Stage					
Length of A (mm)	40				52					64					
Reduction Ratio	4	5	8	10	16	20	25	40	50	64	80	100	125	160	200
Rated Output Torque (N.m)	8	7	4	4	12	12	10.5	10.5	10.5	15.5	15.5	15.5	13.5	15.5	13.5
Max. Output Torque (N.m)	16	14	8	8	24	24	21	21	21	31	31	31	27	31	27
Fullload Efficiency (%)	96%				94%					90%					
Backlash	<30arcmin				<40arcmin					<60arcmin					
Weight (kg)	0.23				0.34					0.5					
Average Lifetime (H)	> 20000														
Lubrication	Long-term Effective Grease														
Rotation Direction	Input Output Same Direction														
Working Temperature	$-10^{\circ}\sim+80^{\circ}$														
Installation	Any														

DLEP42 Series Planetary Gear Reducer

High Precision for Stepper Motors

Mechanical Dimensions in mm



Note: Customizable to match with all motors.

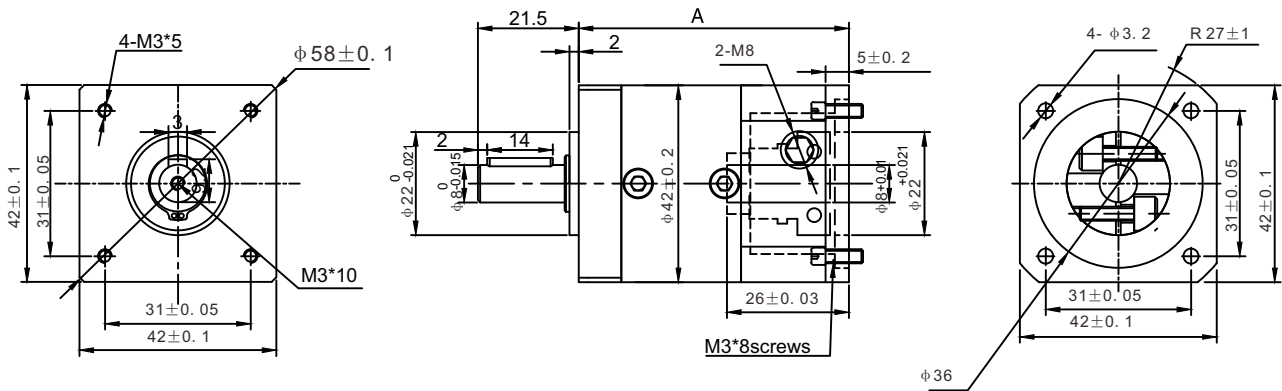
Specifications

Stage	1-Stage				2-Stage					3-Stage					
Length of A (mm)	58				70					82					
Reduction Ratio	4	5	8	10	16	20	25	40	50	64	80	100	125	160	200
Rated Output Torque (N.m)	8	7	4	4	12	12	10.5	10.5	10.5	15.5	15.5	15.5	13.5	15.5	13.5
Max. Output Torque (N.m)	16	14	8	8	24	24	21	21	21	31	31	31	27	31	27
Fullload Efficiency (%)	96%				94%					90%					
Backlash	<15arcmin				<20arcmin					<30arcmin					
Weight (kg)	0.23				0.34					0.5					
Average Lifetime (H)	> 20000														
Lubrication	Long Term Effective Grease														
Rotation Direction	Input Output Same Direction														
Working Temperature	-10 ^o ~+80 ^o														
Installation	Any														

DLFP42 Series Planetary Gear Reducer

High Precision for Stepper Motors

Mechanical Dimensions in mm



Note: Customizable to match with all motors.

Specifications

Stage	1-Stage				2-Stage					3-Stage					
Length of A (mm)	58				70					82					
Reduction Ratio	4	5	8	10	16	20	25	40	50	64	80	100	125	160	200
Rated Output Torque (N.m)	8	7	4	4	12	12	10.5	10.5	10.5	15.5	15.5	15.5	13.5	15.5	13.5
Max. Output Torque (N.m)	16	14	8	8	24	24	21	21	21	31	31	31	27	31	27
Fullload Efficiency (%)	96%				94%					90%					
Backlash	<15arcmin				<20arcmin					<30arcmin					
Weight (kg)	0.33				0.45					0.57					
Average Lifetime (H)	> 20000														
Lubrication	Long-term Effective Grease														
Rotation Direction	Input Output Same Direction														
Working Temperature	-10 ⁰ ~+80 ⁰														
Installation	Any														

DLFS42 Series Planetary Gear Reducer

High Precision for Servo Motors

Mechanical Dimensions in mm

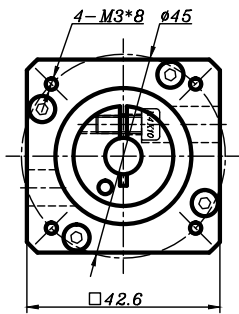
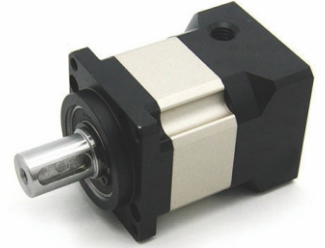


Fig. 1

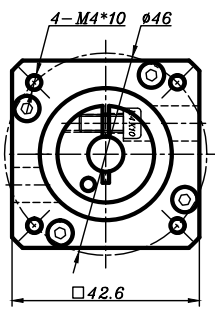
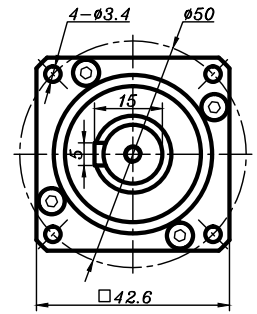
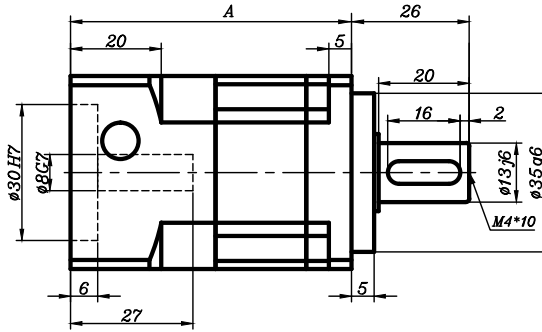


Fig. 2



Note: Customizable to match with all motors.

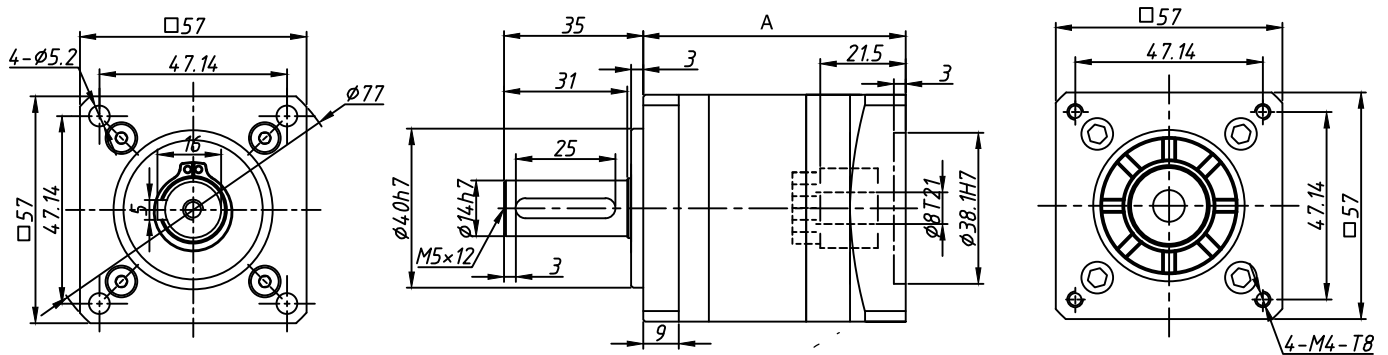
Specifications

Stage	1-Stage				2-Stage								
Length of A (mm)	62				82								
Reduction Ratio	4	5	7	10	16	20	25	28	35	40	50	70	100
Rated Output Torque (N.m)	15	15	12	10	18	18	18	15	15	18	18	15	12
Max. Output Torque (N.m)	30	30	24	20	36	36	36	30	30	36	36	30	24
Fullload Efficiency (%)	96%				94%								
Backlash	<5arcmin				<7arcmin								
Weight (kg)	0.5				0.7								
Average Lifetime (H)	> 20000												
Lubrication	Long-term Effective Grease												
Rotation Direction	Input Output Same Direction												
Working Temperature	-10 ⁰ ~+80 ⁰												
Installation	Any												

DLF57 Series Planetary Gear Reducer

Standard Precision for Stepper Motors

Mechanical Dimensions in mm



Note: Customizable to match with all motors.

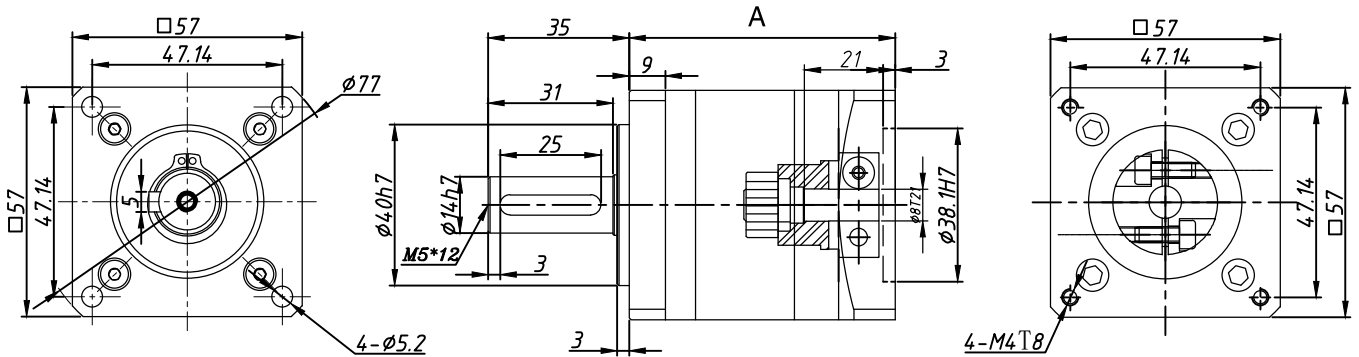
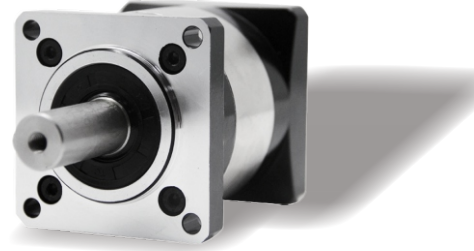
Specifications

Stage	1-Stage				2-Stage								3-Stage							
Length of A (mm)	55(66)				70(81)								85(96)							
Reduction Ratio	4	5	7	10	16	20	25	28	35	40	50	70	64	80	100	125	140	175	200	
Rated Output Torque (N.m)	27	29.5	19.5	8.5	30	30	33	30	33	30	33	21.5	37.5	37.5	37.5	37.5	37.5	41	37.5	
Max. Output Torque (N.m)	54	59	39	17	60	60	60	60	66	60	66	66	75	75	75	75	75	82	82	
Fullload Efficiency (%)	96%				94%								90%							
Backlash	<20arcmin				<30arcmin								<50arcmin							
Weight (kg)	0.8				1.0								1.3							
Average Lifetime (H)	> 20000																			
Lubrication	Long-term Effective Grease																			
Rotation Direction	Input Output Same Direction																			
Working Temperature	-10 ⁰ ~+80 ⁰																			
Installation	Any																			

DLFP57 Series Planetary Gear Reducer

High Precision for Stepper Motors

Mechanical Dimensions in mm



Note: Customizable to match with all motors.

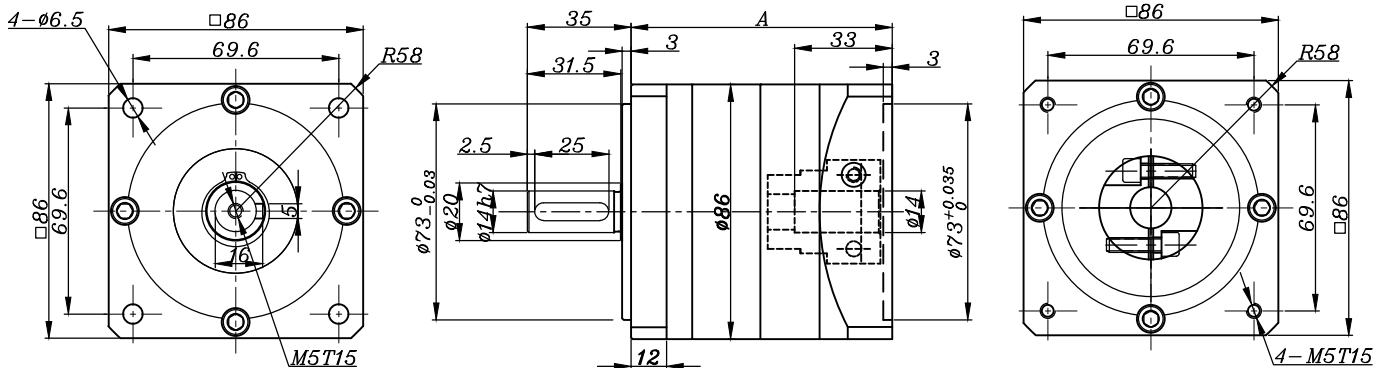
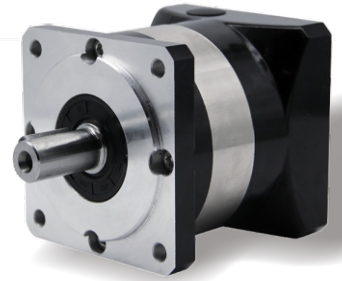
Specifications

Stage	1-Stage				2-Stage								3-Stage							
Length of A (mm)	55(66)				70(81)								85(96)							
Reduction Ratio	4	5	7	10	16	20	25	28	35	40	50	70	64	80	100	125	140	175	200	
Rated Output Torque (N.m)	27	29.5	19.5	8.5	30	30	33	30	33	30	33	21.5	37.5	37.5	37.5	37.5	37.5	41	37.5	
Max. Output Torque (N.m)	54	59	39	17	60	60	60	60	66	60	66	66	75	75	75	75	75	82	82	
Fullload Efficiency (%)	96%				94%								90%							
Backlash	<15arcmin				<20arcmin								<30arcmin							
Weight (kg)	0.8				1.0								1.3							
Average Lifetime (H)	> 20000																			
Lubrication	Long-term Effective Grease																			
Rotation Direction	Input Output Same Direction																			
Working Temperature	-10 ⁰ ~+80 ⁰																			
Installation	Any																			

DLF86 Series Planetary Gear Reducer

Standard Precision for Stepper Motors

Mechanical Dimensions in mm



Note: Customizable to match with all motors.

Specifications

Stage	1-Stage				2-Stage								3-Stage							
Length of A (mm)	89				112								135							
Reduction Ratio	4	5	7	10	16	20	25	28	35	40	50	70	64	80	100	125	140	175	200	
Rated Output Torque (N.m)	86	94.5	64	39.5	96	96	105	96	105	96	105	71.5	120	120	120	132	120	132	120	
Max. Output Torque (N.m)	172	189	128	79	192	192	210	192	210	192	210	143	240	240	240	264	240	264	240	
Fullload Efficiency (%)	96%				94%								90%							
Backlash	<10arcmin				<15arcmin								<25arcmin							
Weight (kg)	2				2.8								3.6							
Average Lifetime (H)	> 20000																			
Lubrication	Long-term Effective Grease																			
Rotation Direction	Input Output Same Direction																			
Working Temperature	-10 ⁰ ~+80 ⁰																			
Installation	Any																			

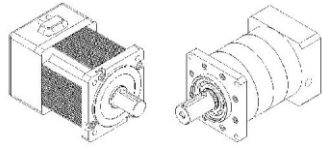
Planetary Reducer Installation Guide

The correct installation, use and maintenance of the reducer, is an important link to ensure the normal operation of machinery and equipment. Therefore, before you install reducer, please strictly in accordance with the following installation related matters, serious assembly.

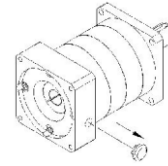
1. Connected with the original motivation:

First Step Confirm the motor and reducer is intact before installation, and strictly check the size of each part of motor and the speed reducer is connected is matched, mainly refers to the convex table size and speed reducer groove size motor and tolerances (Fig. 1).

The second step The dustproof reducer flange lateral process hole on the cover, adjust the input shaft of the speed reducer elastic clamping device so that the fastening bolt and the process holes, insert the inner six angle wrench (Figure 2). This procedure is suitable for connecting the elastic clamping mechanism.

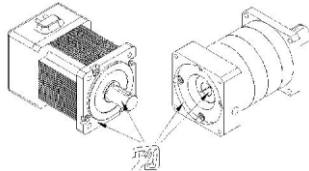


(Figure 1)

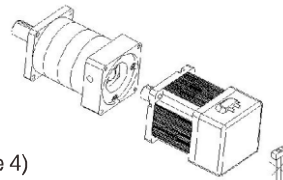


(Figure 2)

The third step Take the motor shaft key (key connection slightly), connecting part of the output shaft of the motor, the positioning boss and reducer anti rust oil gasoline or zinc sodium water to wipe the net (Figure 3), its purpose is to ensure that the close connections and the flexibility of the operation, and prevent unnecessary wear and tear, the electric machine and reducer natural join. The connection must ensure that the output shaft of the speed reducer and motor input shaft coaxial line, and the two outer flanges parallel, if the shaft is not consistent, will cause the motor shaft breakage or reducer gear wear. In addition, when in installation, prohibited the use of hammer, strike, to prevent axial and radial force is too large damage to the bearing or gear (Figure 4).

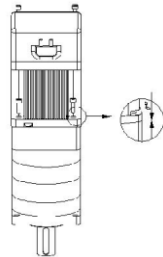


(Figure 3)

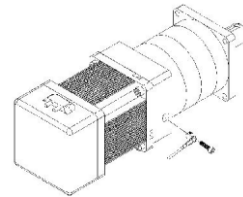


(Figure 4)

The fourth step When connect the motor and reducer, please ensure the motor shaft keyway with the fastening bolt upright. In order to ensure the uniform stress, please make the installation bolt rotating arbitrary diagonal position, but don't tighten, then screw on the other two diagonal position of the mounting bolts finally by tightening the four mounting bolt (Figure 5). Finally, tighten the fastening bolt. High precision fastening bolts with torque wrench according to fixed torque data indicated (see Table 1) were fixed and examined (Figure 6).



(Figure 5)



(Figure 6)

(Table 1)

Screw size	Six hexagon head size	Magnitude of 10.9 screw locking torque		Magnitude of 12.9 screw locking torque	
	(mm)	(Nm)	(In-lbs)	(Nm)	(In-lbs)
M 3*0.5P	2.5	1.8	16	2.1	19
M 4*0.7P	3.0	4.1	37	4.9	44
M 5*0.8P	4.0	8.2	73	9.8	87
M 6*1P	5.0	14	124	17	151
M 8*1.25P	6.0	34	302	41	364
M 10*1.5P	8.0	67	594	80	709
M 12*1.75P	10.0	116	1028	139	1232
M 14*2P	12.0	186	1648	223	1976
M 16*2P	14.0	286	2534	343	3038

2. Connecting with the working machine:

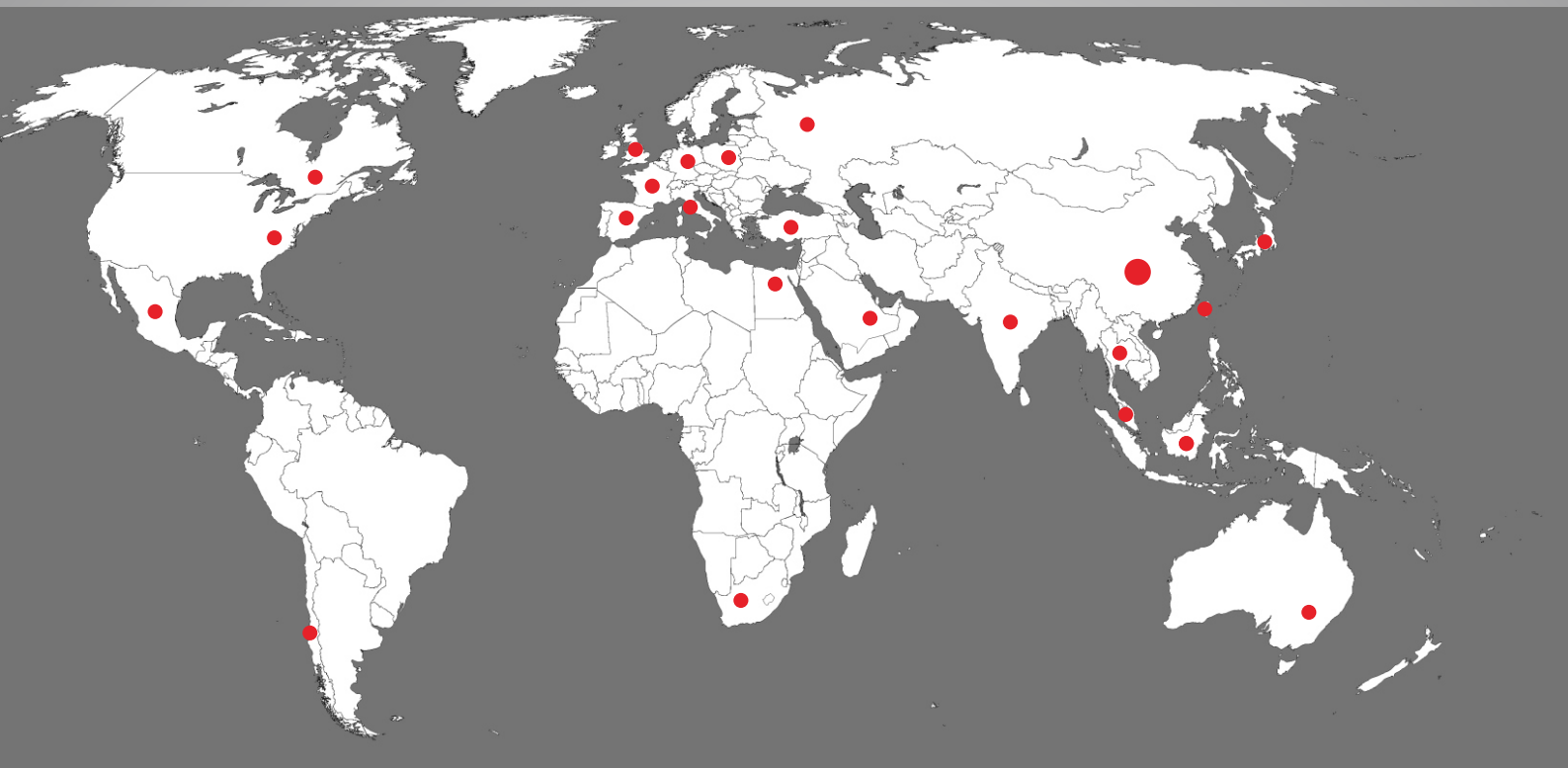
Installation and working machine, attention should be paid to the center axis of transmission, the error may not use the compensation amount is greater than all. On the good service life can be prolonged, and the transmission efficiency is obtained. Install the transmission on the output shaft, are not allowed to use a hammer percussion, usually with inner screw assembly jig and shaft ends, bolt driving piece pressing, damaged or is likely to cause of internal parts of reducer. Best not to use steel fixed coupling, because this kind of coupling installation is improper, will cause unnecessary loads, resulting in bearing early damage, even causing the output shaft fracture.

3. Speed reducer fixed:

Reducer should be firmly installed in the steady reference or support, and the circulation of cooling air flow. Reference or support is not reliable, operation will cause vibration and noise, and urges the bearing and gear damage. When the drive coupling protrusion or a gear, sprocket drive, should be considered with the protection device. After installation, should be installed according to the comprehensive examination order position accuracy, reliability of the fasteners, pressed, after installation should be flexible rotation. Reducer loading is required when the load test run, time shall not be less than 2 hours. Operation should be smooth, no impact, vibration, noise and oil leakage phenomenon, found abnormal should be excluded. If the ambient temperature is too high or too low, the need to change the grease.

4. Installation:

Any installation



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