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SKYLINK Magnetic Drive Gear Pump  
Focus on Fluid Delivery

# X-series

External Gear Pump



Conveying Solution Provider  
Industry Leader





## Quality & Services



## Complete fluid treatment Further improve productivity

### Advanced service

Skylink's advanced service strategy helps users save both time and cost. The services include free training of operating skills and troubleshooting ability so as to optimize working ability and ensure the longest service life.

- Technical Manual of Integrated Services

The manual introduces the performance and characteristics of pumps' key components.

- Skylink Maintenance Technology Exchange Meeting

The maintenance-based technical exchange meeting improves users' productivity.

- In terms of on-site system analysis

### High-quality products

As a typical symbol of product quality, Skylink's production base has passed ISO quality certification. To ensure the best reliability and performance of products, Skylink assembles each of its pumps manually based on the specific application requirements. Skylink's QA system is a comprehensive set of testing procedures and programs consisting of spectroscopic analysis, chemical composition analysis and quenching, in order to ensure full compliance with quality standards in all aspects, such as design, product and structure.

### Application experience

Based on Skylink's nearly 20 years of pump design, performance and application experience and data, our engineers could help satisfy any of your special application requirements in virtue of their rich experience and knowledge.

- Handling complex media

Skylink's gear pumps can also handle media, which are toxic, granular, corrosive, non-lubricating, with high pressure, high or low temperature and high viscosity, in addition to general ones.

- Efficient and flexible

Adjustable clearance and slow pump speed ensure high viscosity fluid could completely fill the gear space in order to maximize efficiency.

- Solution to complex applications

Skylink could satisfy the requirements of some complex scenarios and scenarios with large flow, such as high temperature, high pressure and high viscosity.

- Long service life

Our users know the features of our products the best, such as low cost, high efficiency and long service life. Our products have a longer service life than that of rivals, making them popular among all users.





# Market & Application



## We could supply products based on your industry

Based on our experience in thousands of liquids, we could provide you with optimal solutions whatever their thickness, temperature, grade (edible/toxic) or state (liquid/solid).



### Chemicals

- Acids and alkalis
- Alcohol and solvents
- Soaps and detergents



### Polymer

- Rubber and plastics
- Fibers and resins
- Polyurethane (PU)



### Oil

- Crude oil
- Lubricating oil and grease
- Bitumen and asphalt



### Fuels

- Refined oil
- Biofuel
- Liquefied gas



### Lithium battery

- Lithium battery paste



### Food

- Liquid sugar
- Chocolate and candy
- Edible oil



### Personal Care

- Lotions and creams
- Toothpaste
- Products of hair care and skin care



### Pulp and paper

- Coating
- Starch
- Black liquor soap



### Water and wastewater

- Methanol
- Polymer
- Additives



### Coating and sealant

- Paints, dyes and inks
- Adhesives
- Interstitial compound

## Pursuit of optimal application and highest customer satisfaction

We're always prepared to help customers choose pumps that fit them the best based on their realities. We also have many new products and technologies which are not described here, besides our wide range of contents that can be used for basic model selection guidance. Therefore, users can put forward their special requirements and selection guidance to Skylink Fluid Technology (Shanghai) Co., Ltd. or local distributors before placing an order.

## How to find the pump and information in need

Product catalogue contains relevant data to satisfy various demands. For new pump users, the working principle of gear pump is described on Page 5 and 6. More details are available in product section.

## Our Warranties

Skylink hereby warrants that all the products can run without any fault within 1 year since the date of use. Skylink also agrees to provide 18-month fault-free warranty calculated from the date of transportation. In other words, Skylink is responsible for repairing and changing free of charge the products that are sent back to factory due to quality problems occurring under the premise of normal use, and bears the freight arising therefrom.

Skylink does not assume any responsibility of transport damage ascribed to the buyer or other reasons or damage attributable to user's improper use and misoperation. We do not bear costs of maintenance and parts, unless otherwise approved by us. As for all equipment and accessories purchased by Skylink and applied to Skylink pumps, we only ensure the compliance with the original equipment manufacturer's warranties and guarantees. This is Skylink's sole warranty, which includes all other expressed or implied warranties, whatever the purpose of products (standard or special purpose).

## Select a model?

Just follow the following 8 steps ...

1. Determine pumping flow
2. Determine fluid viscosity at delivery temperature
3. Select structure materials
4. Select pump size
5. Determine inlet and outlet sizes
6. Determine the power of drive motor
7. Consider fluid temperature
8. Select coupling type and drive type

After the steps above, you'll choose the most suitable product based on realities

Effect\_\_\_\_  
Optimal performance and maximum satisfaction



# Principle & Structure



Why is external gear pump the ultimate solution for high pressure pumping?

Why Skylink's external gear pump?

## Advantages

### Driver

Standard magnetic drive, which could reduce leakage risks

### High pressure

Anti-friction bearings, which provide high pressure with high efficiency and low wear...

### Longer service life

Hardened gears and shafts contribute to a long service life...

### Compact mounting options

Pumps with safety valves avoid damaging pump and motor by overload

### Stable flow and small pulsation

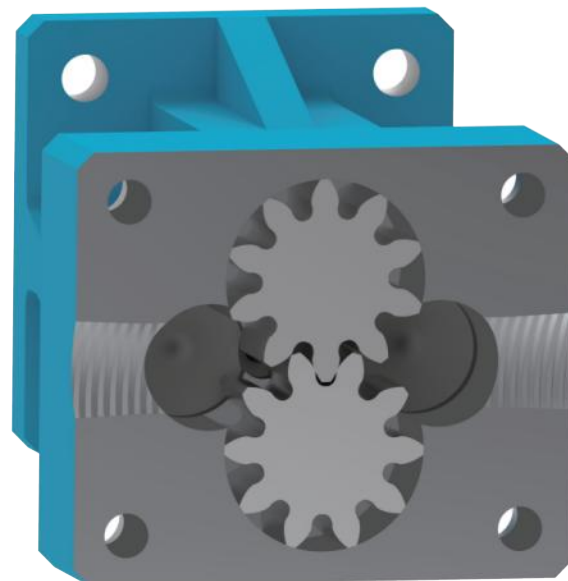
Accurate flow measurement

### Reliable and easy to maintain

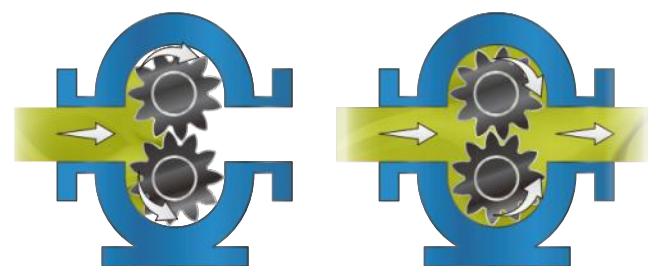
Only a pair of gears is used as rotating parts

### Multi-functional

Compact and durable design contribute to superior value and industry-leading multi-functional performance



- Both sides of gears are supported by bearings to ensure the differential pressure at inlet and outlet could reach of 500 pounds/psi
- Variable frequency motor drive entails no reducer
- No necessity of forced lubrication - self-lubricating bearings ensure smooth pump running



## Materials of structure and configuration options

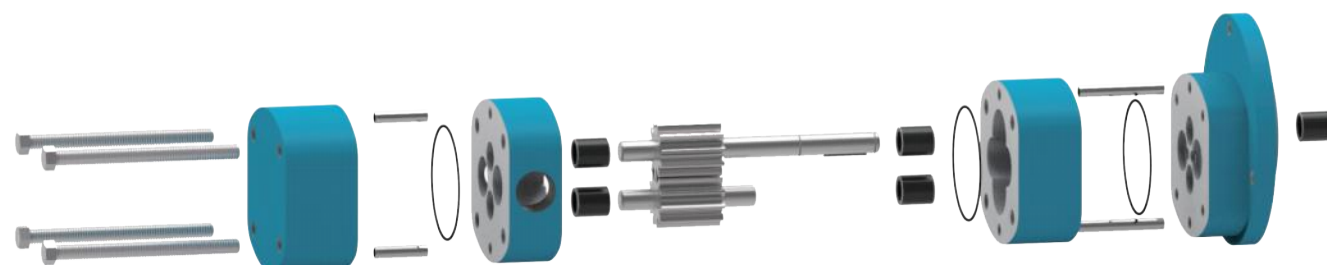
**External (end covers, cover and bracket)**  
iron, ductile iron

**internal (shaft)**  
steel

**Internal (gear)**  
steel, ceramic

**sleeve (sliding bearing)**  
carbon, silicon carbide and needle roller bearing

## Main pumping element



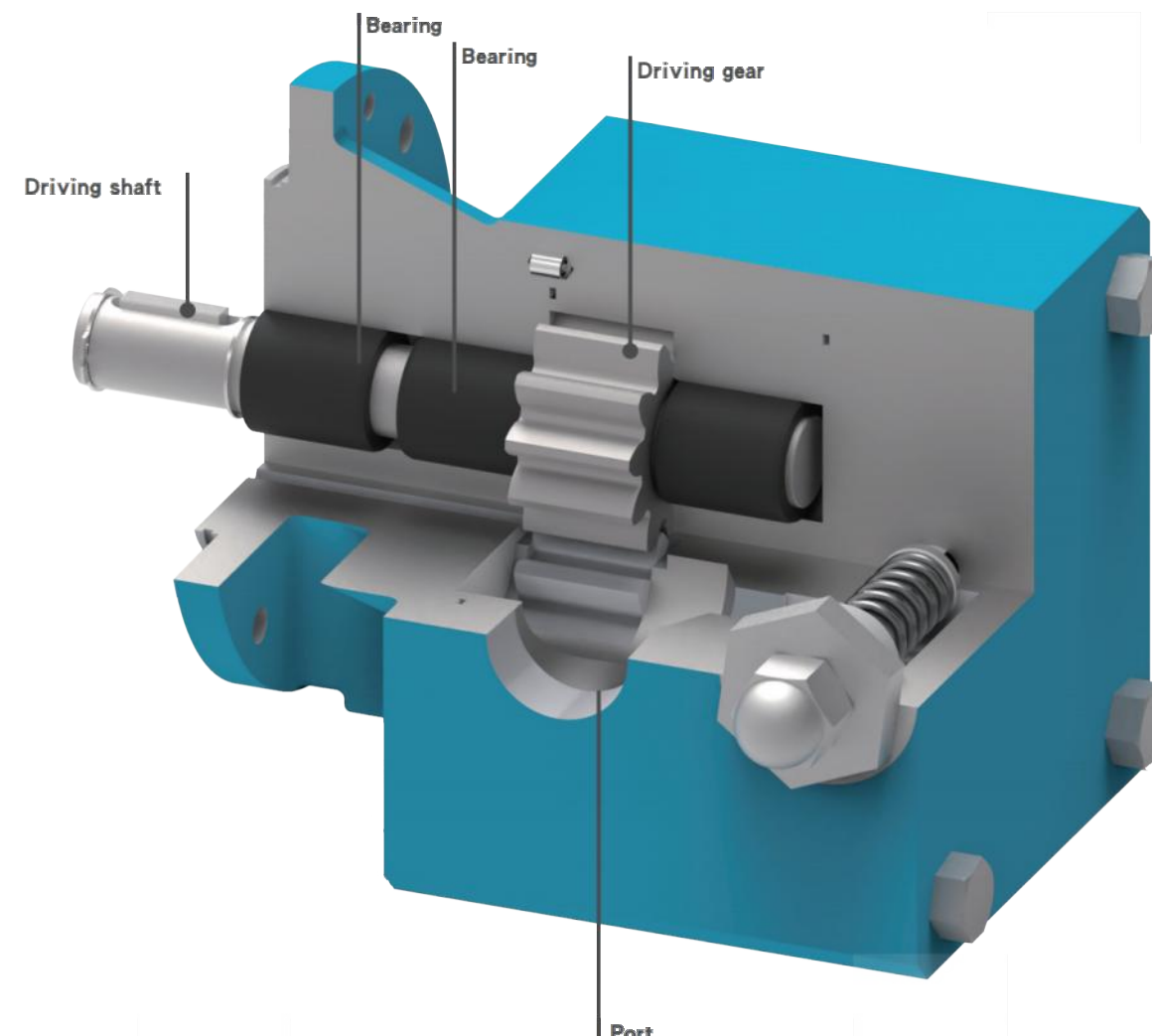
## Performance

**Flow range**  
101 gpm (383 l/min)

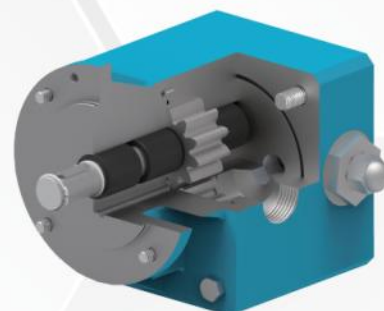
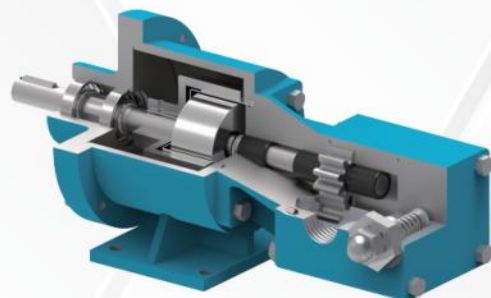
**Viscosity range**  
0.1 ~ 5400 cSt  
*A special structure*

**Pressure**  
500 pounds/psi (34 bars)  
*Intermittent pressure: 2,500 pounds/psi (170 bars)*

**Temperature**  
-40 ° F ~ +450 ° F (-40 ° C ~ +230 ° )  
*A special structure*



# External Gear Pump

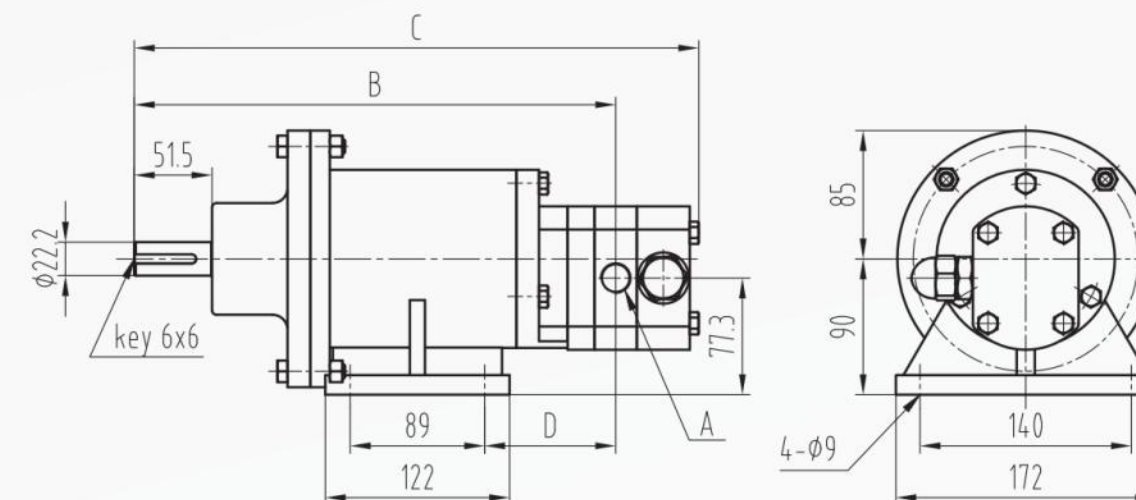


## Performance parameters of gear

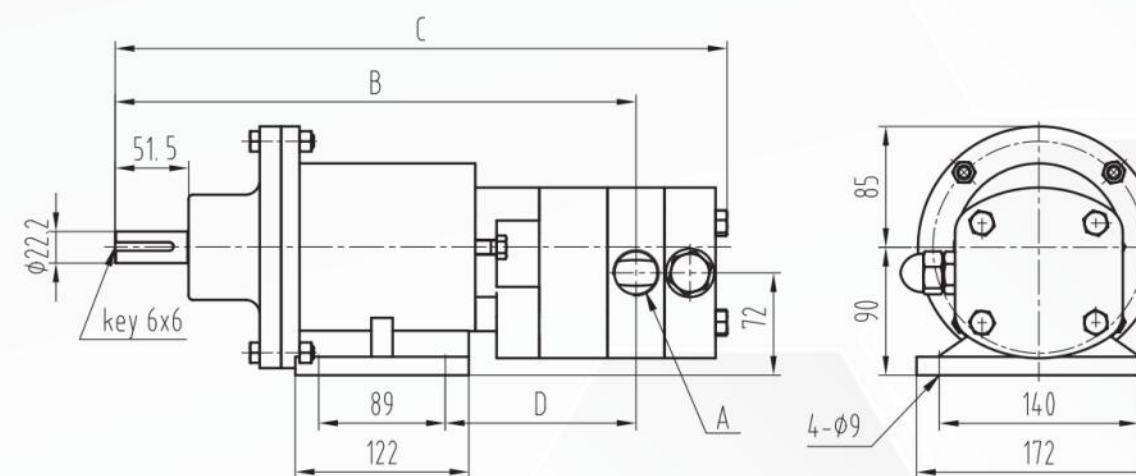
Model	Inlet and outlet diame-	1450PM@50Hz		Max. continuous pressure		Max. withstand temperature		Magnetic coupling Torque Nm
		LPM	m <sup>3</sup> /h	PSIG	BAR	°F	°C	
X <sub>1</sub> -8.9	1/2	8.9	0.5	500	34	450	230	5.4
X <sub>1</sub> -23.5	3/4	23.9	1.4	200	14	450	230	12
X <sub>2</sub> -35	1	35	2.1	500	34	450	230	12
X <sub>2</sub> -50	1	50	3	500	34	450	230	54
X <sub>3</sub> -78	1 1/2	78	4.7	500	34	450	230	54
X <sub>3</sub> -157	2	157	9.4	500	34	450	230	105
X <sub>4</sub> -22	2	220	13.2	500	34	450	230	105
X <sub>4</sub> -39	3	390	23.3	290	20	450	230	210

## Material descriptions of gear

Parts	Materials	Parts	Materials
Bracket	Carbon steel and cast iron	Gear	Heat treated steel and ceramics
Cover	Ductile iron and stainless steel	Plain bearing	Carbon graphite and silicon carbide
End cover	Ductile iron and stainless steel	O-ring	Fluororubber and EPDM
Safety valve body	Ductile iron and stainless steel	magnetic drive cover	316L stainless steel
Safety valve core	Stainless steel	Magnetic block of outer	Cast iron or carbon steel
Safety valve lift spring	Stainless steel	magnetic frame	Samarium cobalt



Model	A	B	C	D
x <sub>1</sub> -8.9-01	1/2"	318	374	86.8
x <sub>1</sub> -23.5-02	3/4"	345	404	113.8



Model	A	B	C	D
x <sub>2</sub> -35-02	1"	352	435	120
x <sub>2</sub> -50-02	1"	366	449	134

X<sub>1</sub>-01/02  
(5.4Nm)

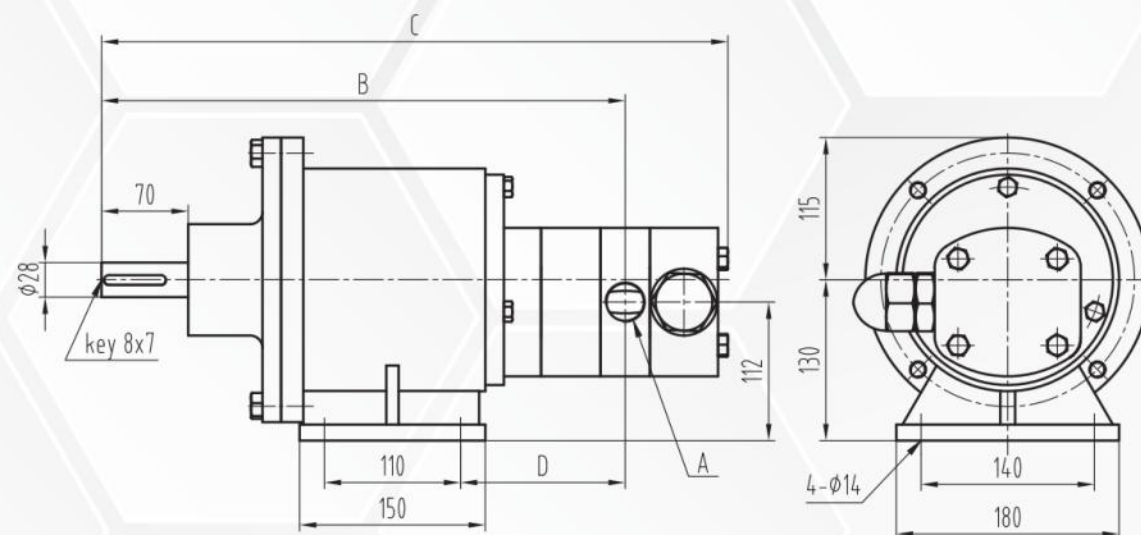
X<sub>2</sub>-02  
(12Nm)



# External Gear Pump

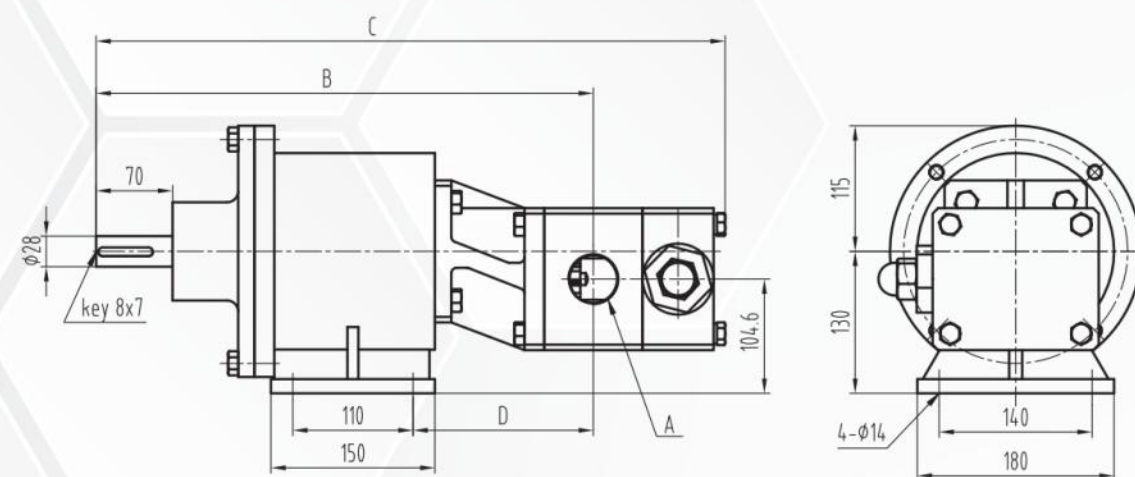


**X<sub>2</sub>-03**  
(54Nm)

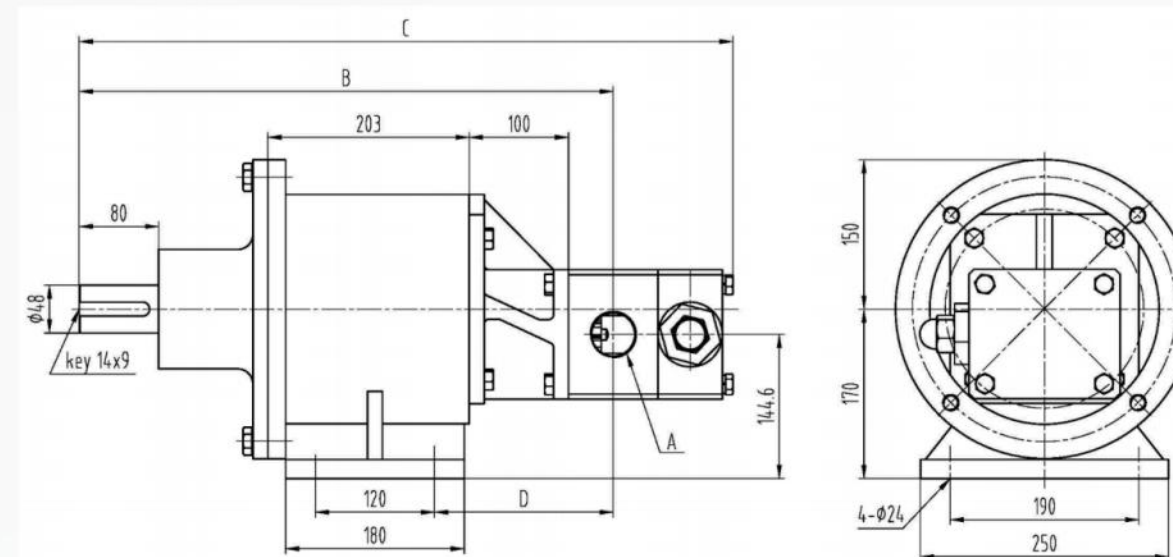


Model	A	B	C	D
x <sub>2</sub> -35-03	1"	409	492	119
x <sub>2</sub> -50-03	1"	423	506	133

**X<sub>3</sub>-03**  
(54Nm)

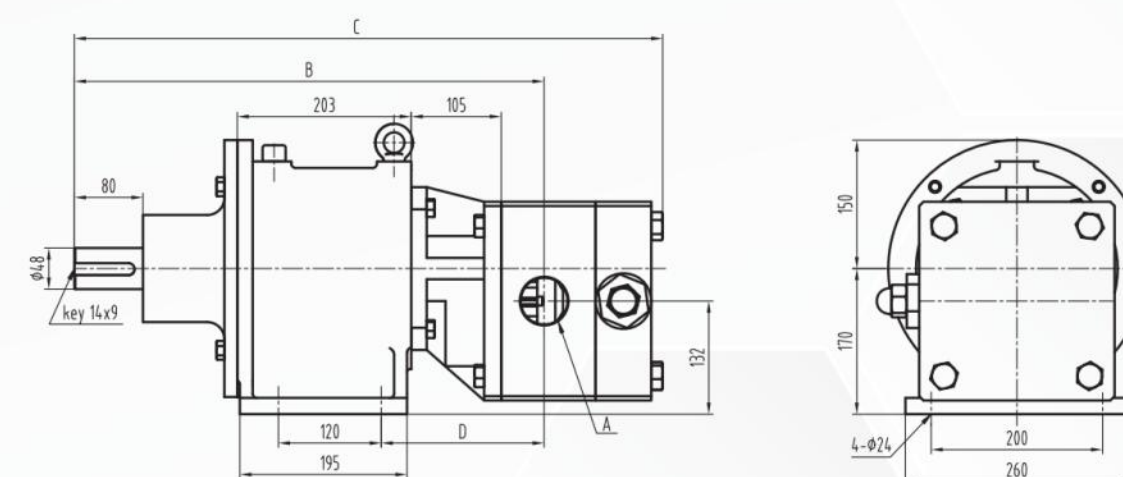


Model	A	B	C	D
x <sub>3</sub> -78-03	1 1/2"	455	572.5	165
x <sub>3</sub> -157-03	2"	465	592.5	175



Model	A	B	C	D
x <sub>3</sub> -78-04	1 1/2"	538	655	180
x <sub>3</sub> -157-04/05	2"	548	675	190

**X<sub>3</sub>-04/05**  
(105Nm)



Model	A	B	C	D
x <sub>4</sub> -220-04/05	2"	548	696	190
x <sub>4</sub> -390-04/05	3"	566	736	208

**X<sub>4</sub>-04/05**  
(105/210Nm)