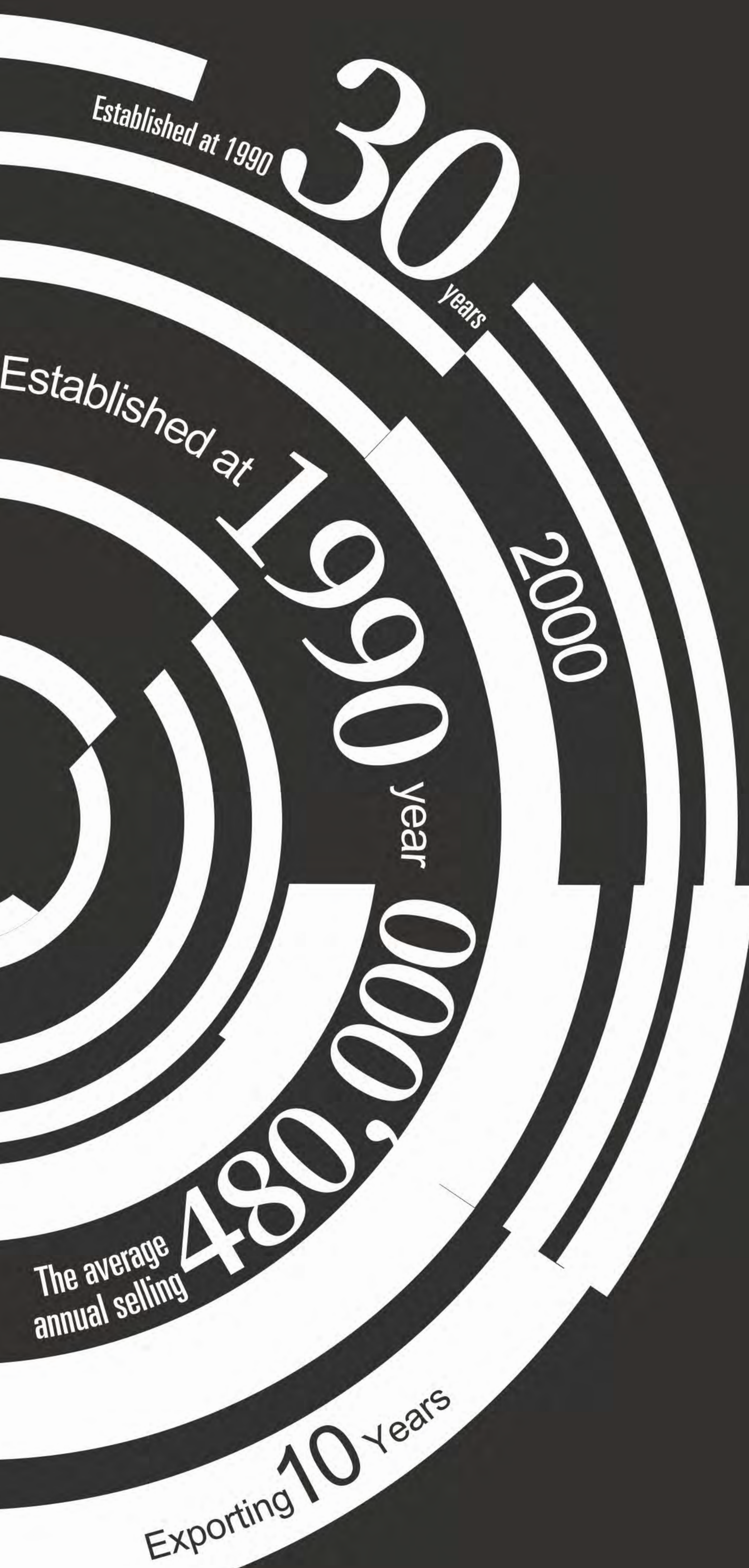


HYDRAULIC GEAR PUMPS

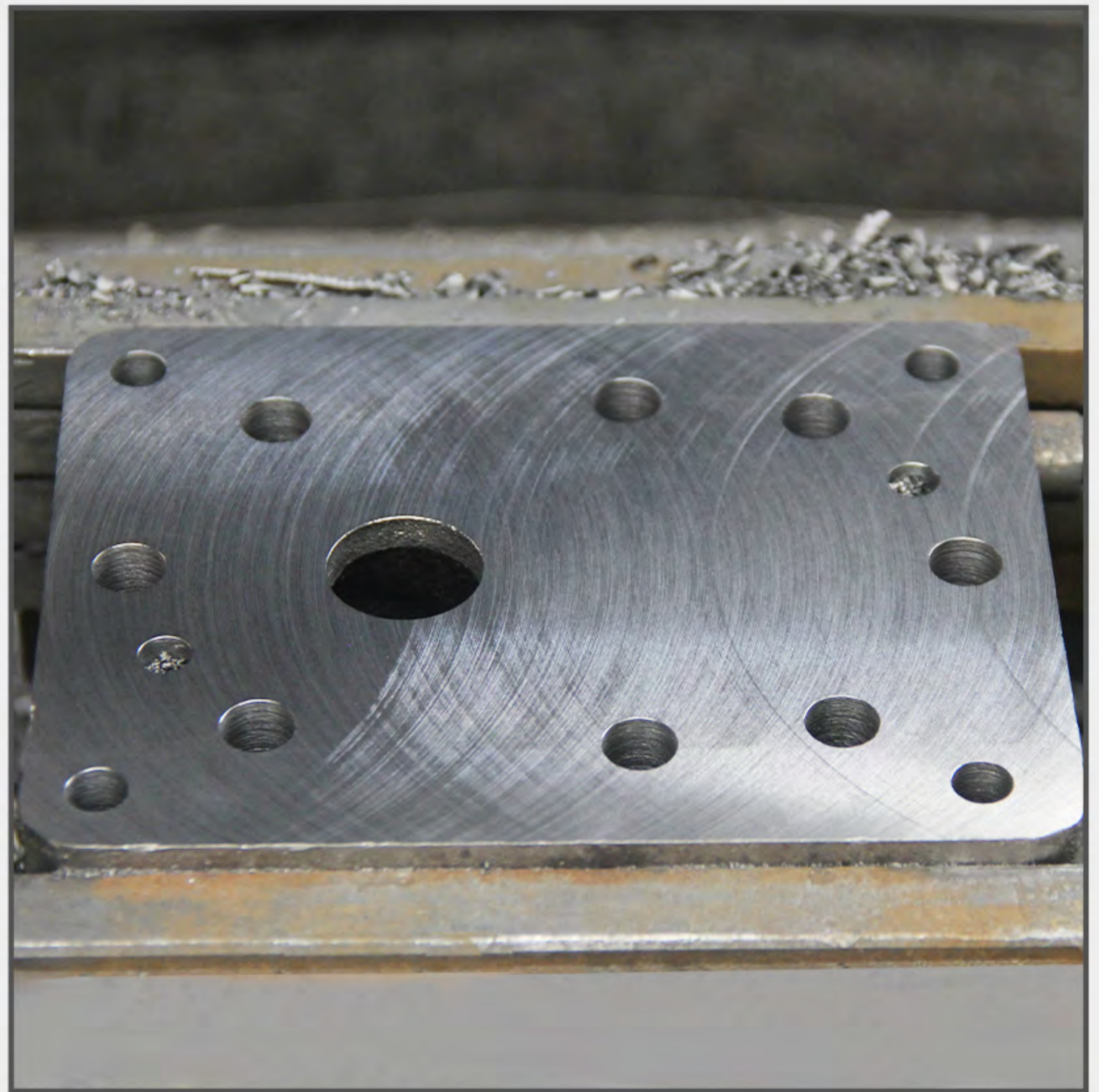
Innovations, Development,
Loyal Partnership
SJ-TECHNOLOGY
Your Professional Choices
Creating value for
customers



SJ-Technology®

淮安市胜杰液压机械有限公司

Huai An Sheng Jie Hydraulic Machinery Co. LTD



COMPANY INSTRUCTION

Huaian Sheng Jie Hydraulic Machinery Co., Ltd was Established in 1990. SJ Technology is definitely a professional manufacturer of high quality gear pumps, Depending on our good CNC machines, drilling machines, honing machines and good management of the factory, our products are with good quality and popular in the overseas market.

With outstanding performance, convenient operation, competitive price, our products are widely applied to agriculture, construction, petroleum, marine, mining and other industries. We always keep dedicating on designing, researching, producing new products according to the market and client's requests. Our products have already exported to Southeast Asia, Australia, Europe, the Middle East, Africa and Latin America, etc.. Regarding the requirements of the customers as its own responsibility. Based on our excellence engineer team and experienced sales team, SJ Technology would like to offer reliable quality products and perfect after-sales service.

Focusing on the quality, pursue the higher lever technology will be our most important aim. Welcome to visit our factory at any time.

Creating **Value For Customers**

Established at **1990** Year

Exporting **10** Years More Than **200** Staffs

The Average Annual Selling **480,000** Pcs

GENERAL INFORMATION

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BASIC DESIGN

External gear pumps are the most popular pumps used in modern hydraulic systems.

Their features are versatility, strength and long useful life.

The simple construction ensures limited purchase costs and servicing. Thanks to their basic concepts, together with ever-improving product design and features, research-based on many years of experience, accuracy in material selection, producing process followed in great detail and tests on mass-produced parts, our gear pumps have reached top quality standards.

For this reason, our products can work under heavy operating conditions and transmit high hydraulic power. Furthermore, SJ Technology gear pumps feature good hydraulic, mechanical and volumetric efficiency, low noise level and, last but not least, compact dimensions.

SJ Technology gear pumps have further developed its own range of products with a new series of pumps named GPM where groups names 0.5U, 1P, GPM1.0, GPM2.0, GPM3.0 are suitable for the most different applications in both industrial, mobile, marine and aerospace industries.

Generally these gear pumps, usually consist of a gear pair supported by two aluminum bushes, a body, a securing flange and a cover. Shaft of the driving gear projecting beyond the flange mounts a twin-lip seal ring (the inner lip being a seal and the outer being a dust seal). An elastic securing ring secures the ring in place. The body of the pump is made of special hi-resistant aluminum alloy obtained through extrusion process, while flange and cover are made out of spheroidal cast iron, this in order to ensure minimized deformation even when subject to high pressure, be it continuous or intermittent or peak pressure.

Gears are made of special steel. Their manufacturing process ground and fine finished so to have a high degree of surface ensure low pulsation levels and low noise levels during pump operation.

Bushings are made of special low-friction and hi-resistant aluminum alloy and manufactured from die-casting. Besides they are equipped with antifriction DU bearings.

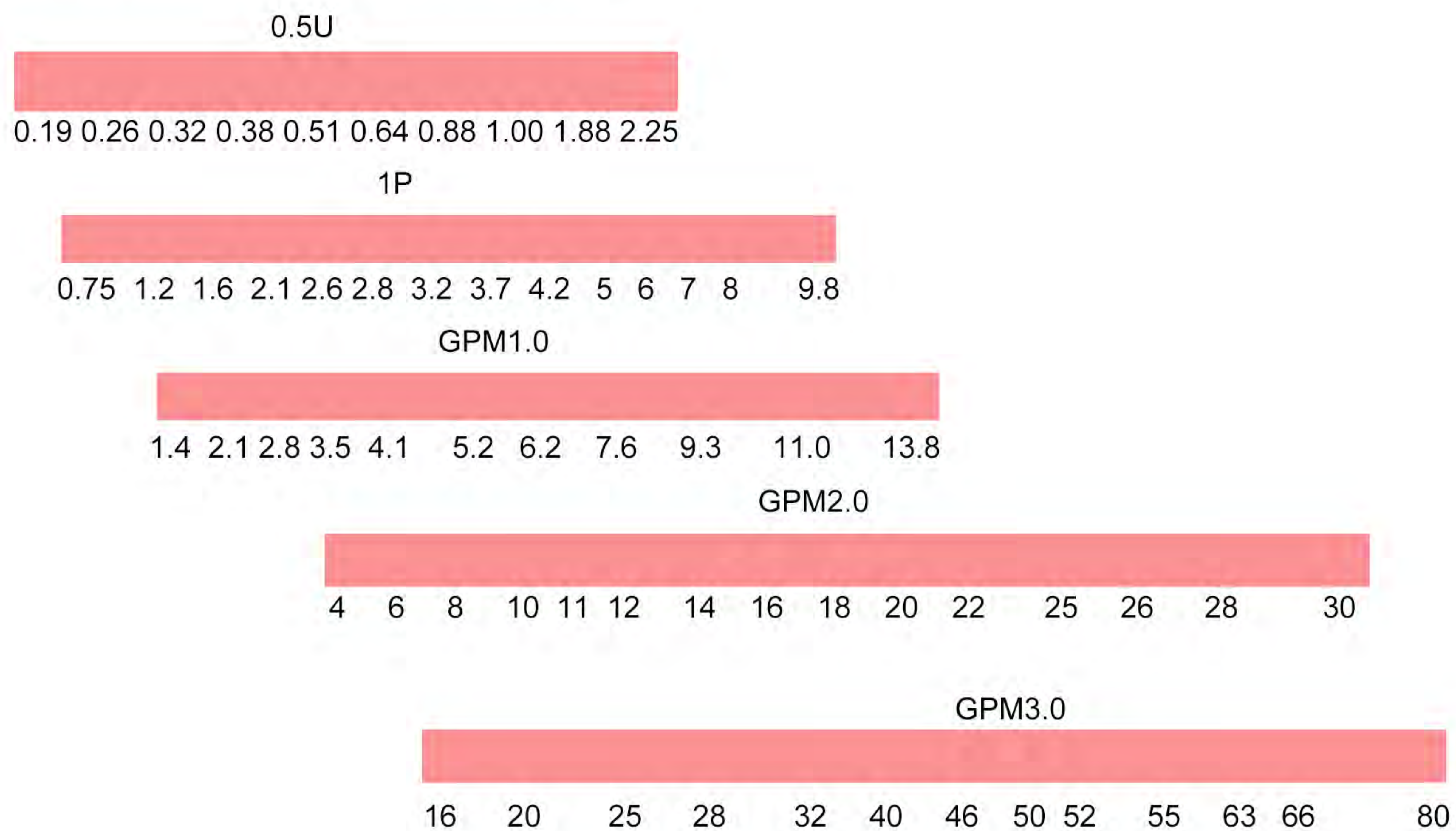
Special compensation zones onto bushings, insulated by special preformed seals with anti-extrusion ring, allow fully free axial and radial movement to the bushes, which is proportional to pump operating pressure. In this way, internal dripping is dramatically reduced, thus ensuring very good pump performance (both in terms of volume and in general) and proper lubrication of pump moving parts.

Product Range

SJ Technology gear pumps of the series GPM are produced in five different groups. Within each of them, the different displacements (between 0.19 and 80 cm³/rev) are obtained using different width of the gears.

Different flanges, shafts, inlet and pressure ports are available.

Available displacements are indicated below:



Technical Information

Please strictly follow assembly and use indications given in this catalogue for top performance and longer life of the GPM gear pumps series.

Some general considerations should be made on the hydraulic system, in which the pump must be fitted. Special attention shall be devoted to hydraulic system design and assembly, especially to intake, delivery and return pipes and position of system parts (valves, filters, tanks, heat exchangers and accumulators). Proper safety devices and reliable instruments to avoid fluid turbulence, especially in return pipe to the tank, and prevent air, water or foreign bodies from entering into the system are of major importance.

It is also very important to equip the hydraulic system with a proper filtering unit.

Before starting the system on a continuous basis, we suggest to adopt some simple precautions:

- ◆ Check for the direction of rotation of the pump to be consistent with the drive shaft one.
- ◆ Check for the direction of rotation of the pump to be consistent with the drive shaft one.
- ◆ Check for the proper alignment of pump shaft and motor shaft: it is necessary that the connection does not include axial or radial loads.
- ◆ Protect drive shaft seal during pump painting. Check if contact area between seal ring and shaft is clean: dust could provoke quicker wear and leakage.
- ◆ Remove all dirt, chips and all foreign bodies from flanges connecting inlet and delivery ports.
- ◆ Ensure that intake and return pipes ends are always below fluid level and as far from each other as possible.
- ◆ Install the pump below head, if possible.
- ◆ Fill the pump with fluid, and turn it by hand.
- ◆ Disconnect pump drain during startup to bleed air off the circuit.
- ◆ At first startup, set pressure limiting valves at min. value possible.
- ◆ Avoid lower rotation speed than min. allowed with pressure higher than continuous max. pressure.
- ◆ Do not start the system at low temperatures under load conditions or after long stops (always avoid or limit load starting for pump longer life).
- ◆ Start the system for a few minutes and turn on all components; bleed air off the circuit to check its proper filling.
- ◆ Check fluid level in the tank after loading all components.
- ◆ At last, gradually increase pressure, continuously check fluid and moving parts temperature, check rotation speed until you reach set operating values that shall be within the limits indicated in this catalogue.

It is widely known that most pumps early failures are due to contaminated fluids. The extreme reduction of the tolerances required in the design of the pumps and therefore their operation with minimum clearances, are heavily influenced by a fluid that is not perfectly clean.

It is proved that particles circulating in the fluid act as abrasive agents, damaging the surfaces they touch and increasing the quantity of contaminant.

For this reason, ensure that system is perfectly clean during startup and keep it clean for its whole operating life.

Necessary interventions to check and limit contamination should be performed in a preventive and corrective way.

Preventive actions include: proper cleaning of the system during assembly, deburring, eliminating the welding scum and fluid filtering before filing up.

Starting contamination lever of system fluid should not exceed class 18/15 (ref: ISO4406), Even fresh fluids might exceed this contamination level; therefore always pre-filter the fluid when filling up or topping up the system. Fit a proper tank; its capacity should be proportional to the volume displaced by the pump in one working minute.

Fluid contamination lever check and correction during operation can be obtained through filters that retain the particles in the fluid.

The filtering system shall always ensure contamination levers not exceeding the values indicated below:

Pressure	< 140bar	140-210bar	> 210bar
NAS1638 Class	10	9	9
ISO4406 Class	19/16	18/15	17/14
Ratio $\beta_x=75$	25-40 μ m	12-15 μ m	6-12 μ m

It is recommended to use a filtering system having absolute filtering power 5 μ m.

Use specific mineral oil based hydraulic fluids having good anti-wear, anti-foaming, antioxidant, anti-corrosion and lubricating properties. Fluids should also comply with DIN51525 and VDMA 24317 standards and get through 11th stage of FZG test.

For the standard models, the temperature of the fluid should not be between -10°C and + 80°C.

Fluid kinematic viscosity ranges are the following:

Allowed Value	6÷500 cSt
Recommended value	10÷100 cSt
Value allowed at startup	<2000 cSt

Inlet Pressure

Under standard working conditions, intake pipe pressure is lower than atmospheric pressure. The operating inlet pressure should range between 0.7 and 3 bars.

Mini Rotation Speed

We recommend a min. working speed for every pump group as following:

1P	800RPM
GPM1.0	600RPM
GPM2.0	500RPM
GPM3.0	400RPM

The pump must be in line with the P.T.O.

Make sure that the absorbed torque does not exceed the maximum torque allowed for the shaft.

Belt and gear drives are not recommended because they apply axial and radial loads on the bearing.

Direction Of Rotation

Definition of rotation direction: when standing before the pump with driving shaft up with its projecting end towards the observer, the pump is rotating clockwise in case of right-hand rotation “C”. The contrary will happen with left-hand pumps “A”, keeping the same point of view.

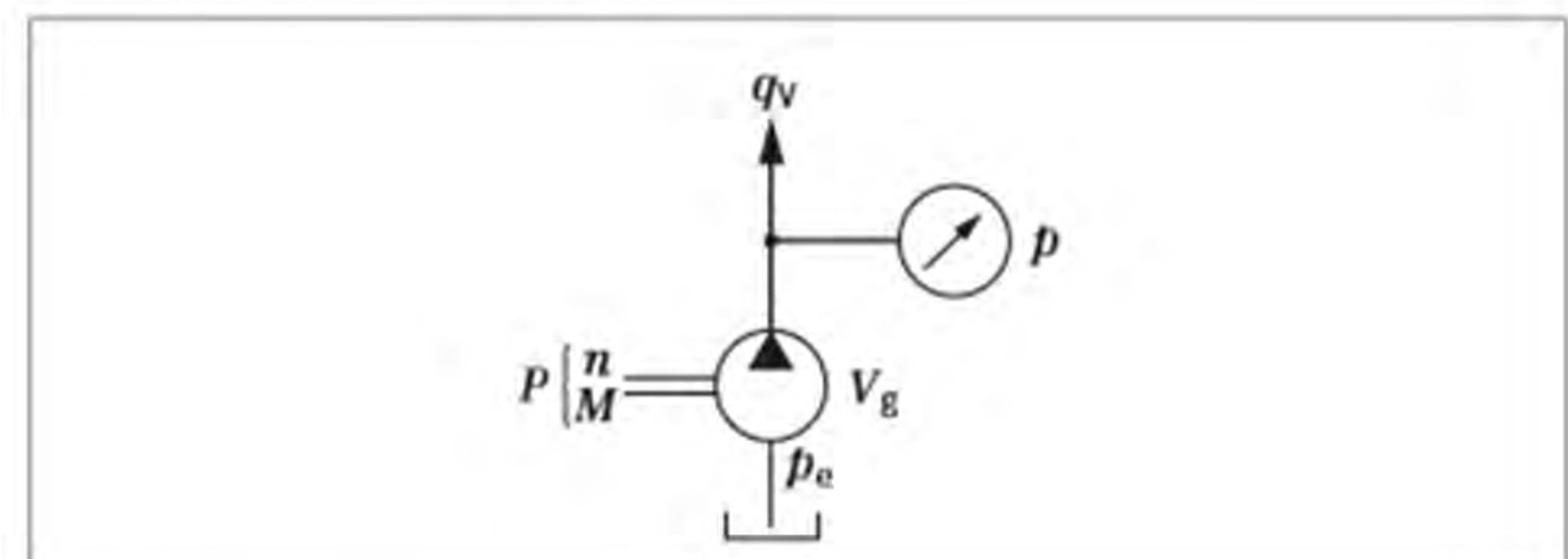


Design Calculations For Pumps

Design calculations for pumps		
Flow	$q_v = \frac{V_g \times n \times \eta_v}{1000}$	[l/min]
Torque	$M = \frac{V_g \times \Delta p}{20 \times \pi \times \eta_{hm}}$	[Nm]
Power	$P = \frac{2 \pi \times M \times n}{60000} = \frac{q_v \times \Delta p}{600 \times \eta_t}$	[kW]
Pressure	$\Delta p = \frac{M \times 20 \times \pi \times \eta_{hm}}{V_g}$	[bar]
	$\Delta p = \frac{P \times 600 \times \eta_t}{q_v}$	[bar]
Displacement	$V_g = \frac{q_v \times 1000}{n \times \eta_v}$	[cm ³]
	$V_g = \frac{M \times 20 \times \pi \times \eta_{hm}}{\Delta p}$	[cm ³]
Rotational speed	$n = \frac{q_v \times 1000}{V_g \times \eta_v}$	[min ⁻¹]

Key

- V_g Displacement per revolution [cm³]
- Δp Differential pressure [bar] ($\Delta p = p - p_e$)
- n Rotational speed [rpm]
- q_v Flow [l/min]
- M Torque [Nm]
- P Power [kW]
- η_v Volumetric efficiency²⁾
- η_{hm} Hydraulic mechanical efficiency²⁾
- η_t Total efficiency ($\eta_t = \eta_v \times \eta_{hm}$)²⁾

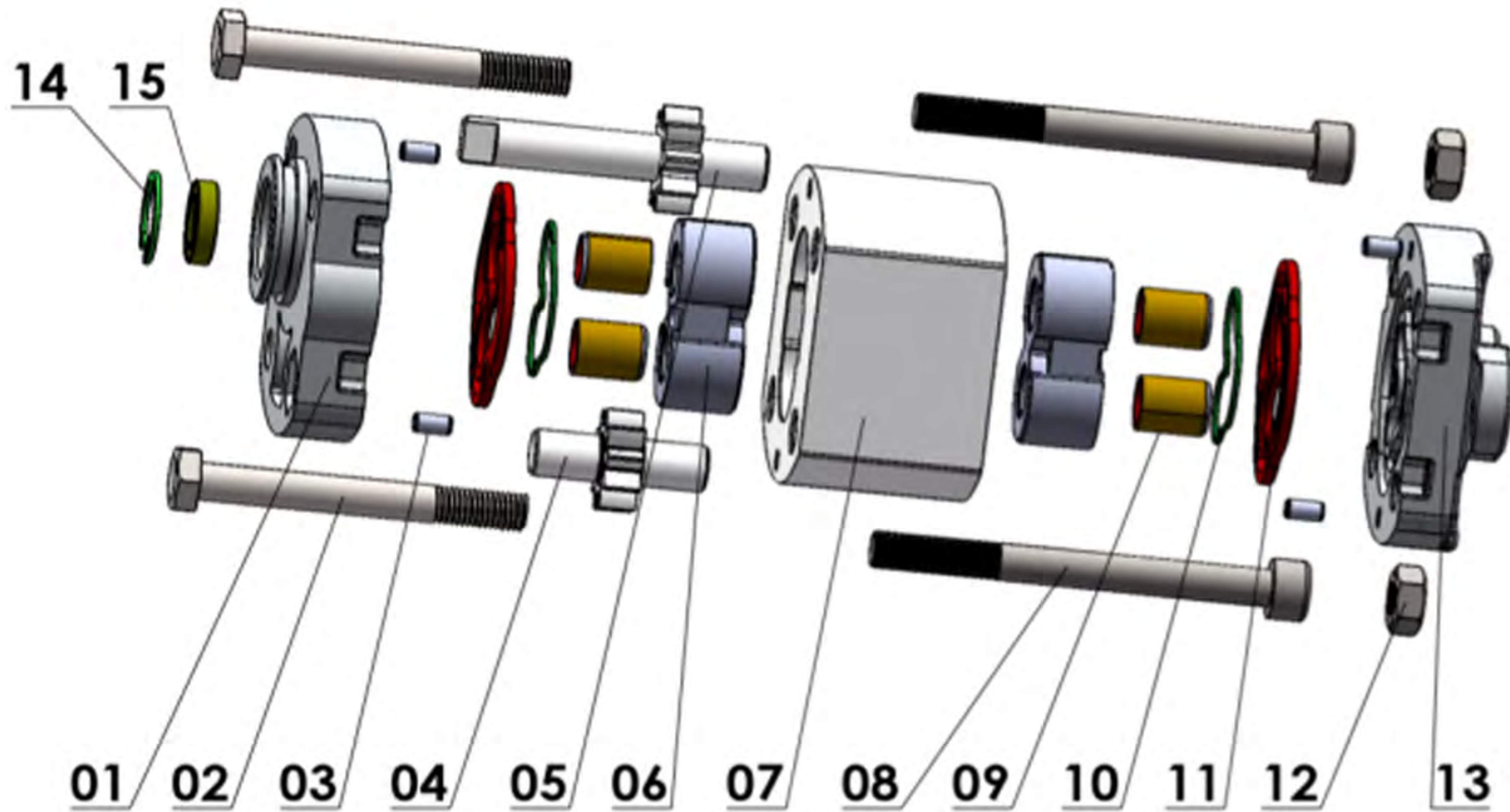


Note

On the following pages you can find diagrams for a rough calculation.

1P	F	C	1.2	K	G	G1				
Pump Series 1P	Pressure (bar)	Rotation	Displacement (ml/r)	Mounting flange type	Drive Shaft	Hole Type	Supported Bearing	Ports Position		Seals
	F:200	A: Anticlockwise	0.75	K	Omit- Tape 1:8	G1	Omit: Not Required	A	front inlet and front outlet	Omit: Range=-10°C +80°C
	G:250	C: Clockwise	1.2	K1	T: Tape 1:5	G8	O: Required	B	rear inlet and front outlet	V: Range=-10°C +120°C
			1.6	K2	G	N3		C	rear inlet and side outlet	H: Range=-40°C +80°C
			2.1	K3	G1	G4/D4		D	side inlet and side outlet	
			2.6	F		G3		R	rear inlet and rear outlet	
			2.8	F1		M		F	front inlet and rear outlet	
			3.2			H		E	side inlet and front outlet	
			3.7							
			4.2							
			5							
			6							
			7							
			8							
			9.8							

Model	Displacement cm ³ /rev	Max Pressure bar	Min Speed rpm	Max Speed rpm
1PFC0.75	0.75	250	1000	6000
1PFC1.2	1.2	250	1000	6000
1PFC1.6	1.6	250	1000	6000
1PFC2.1	2.1	250	1000	6000
1PFC2.6	2.6	250	1000	6000
1PFC2.8	2.8	250	800	6000
1PFC3.2	3.2	230	800	5000
1PFC3.7	3.7	230	800	4500
1PFC4.2	4.2	230	800	4000
1PFC5.0	5.0	210	600	3500
1PFC6.0	6.0	210	600	3000
1PFC7.0	7.0	210	600	2500
1PFC8.0	8.0	180	600	2100
1PFC9.8	9.8	180	600	2100



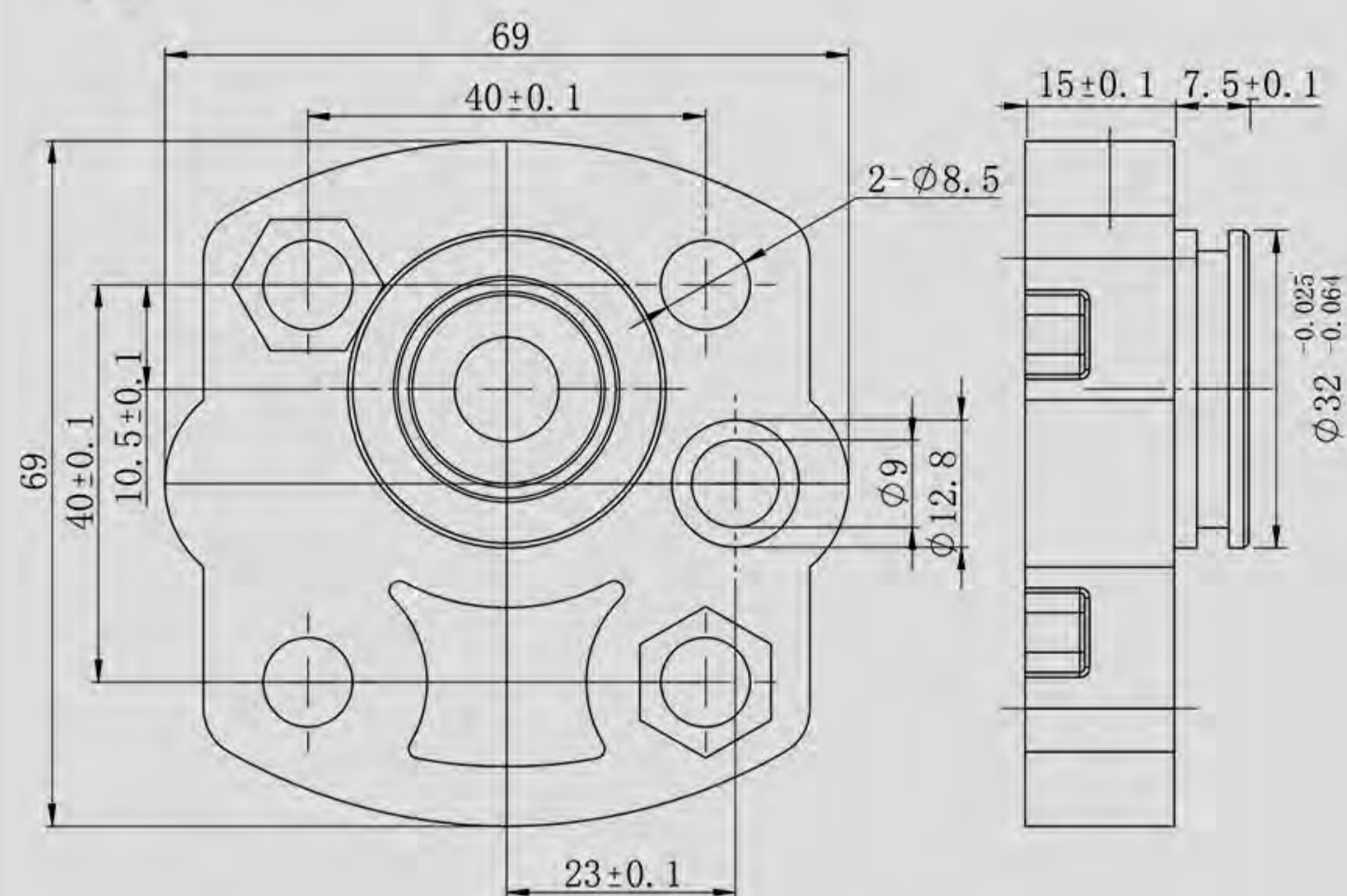
BASIC PUMP'S PARTS

- | | | | | | |
|----|--------------|----|---------------------|----|-------------------|
| 01 | Front Flange | 06 | Bearing | 11 | Seal |
| 02 | Bolts | 07 | Pump Housing | 12 | Nuts |
| 03 | Pin | 08 | Bolts | 13 | Rear Cover |
| 04 | Gear | 09 | Slide Bearing | 14 | Stop Ring |
| 05 | Driving Gear | 10 | Anti Extrusion Seal | 15 | Rotary Shaft Seal |

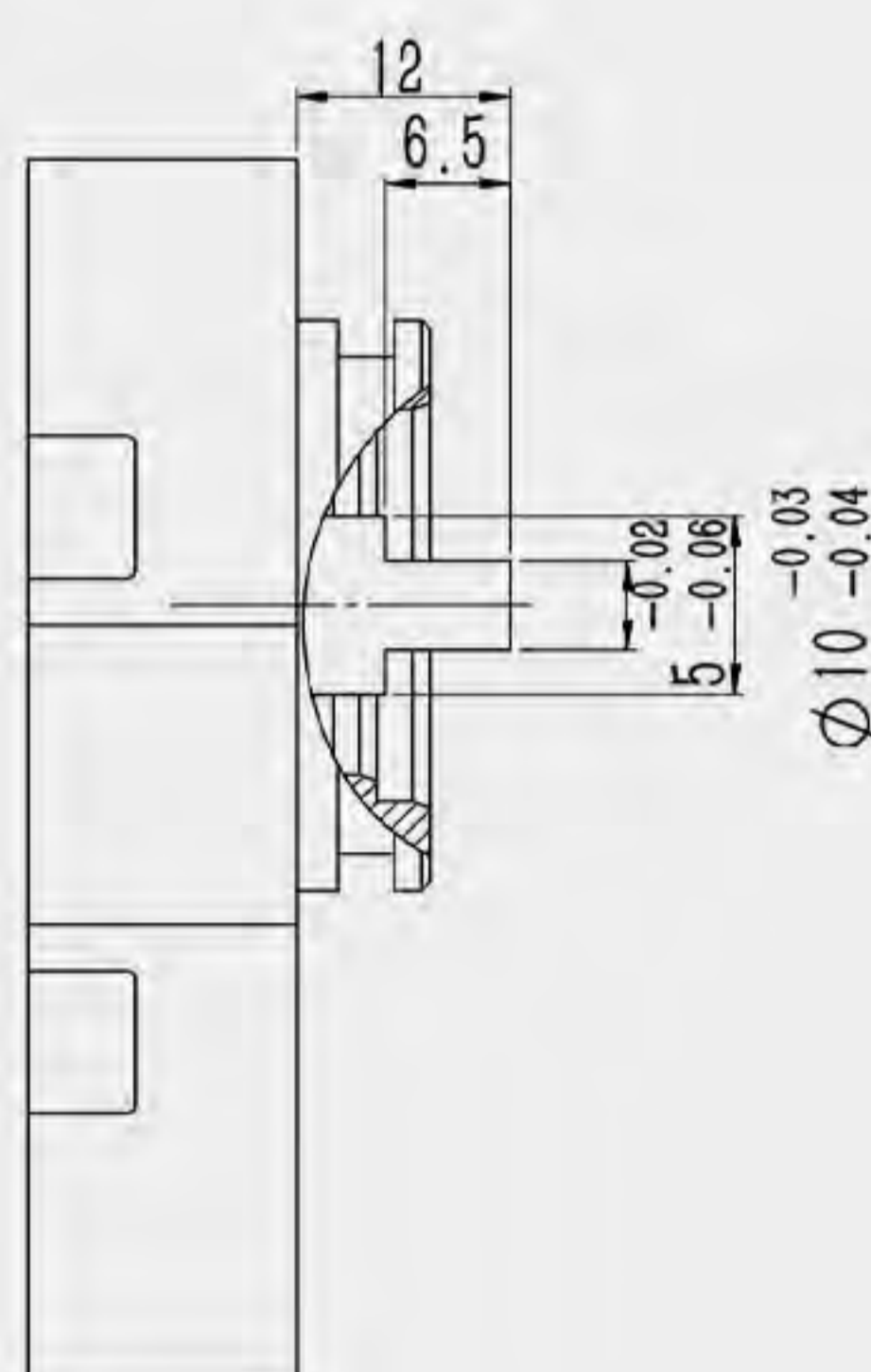
FRONT COVER

SHAFTS

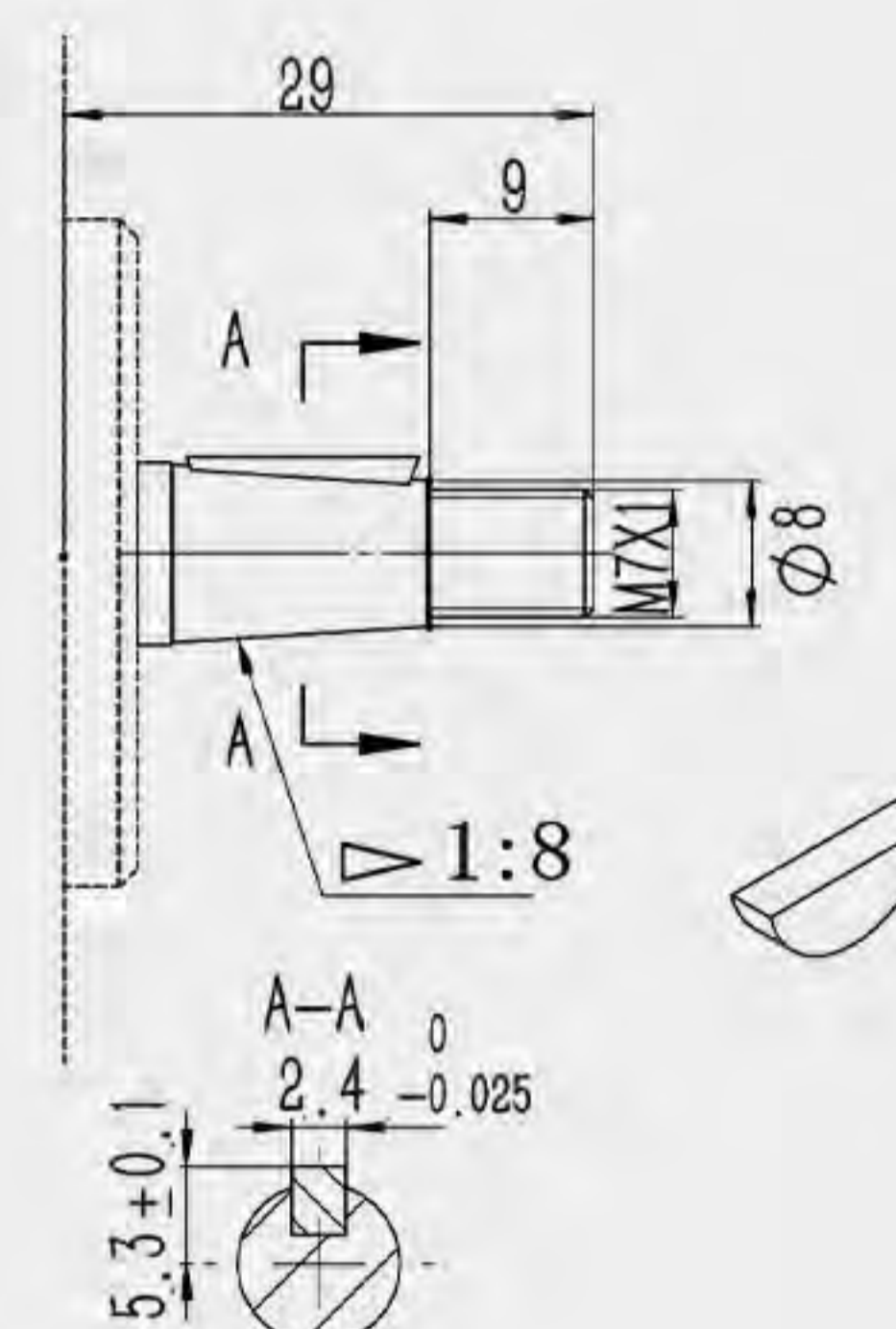
K



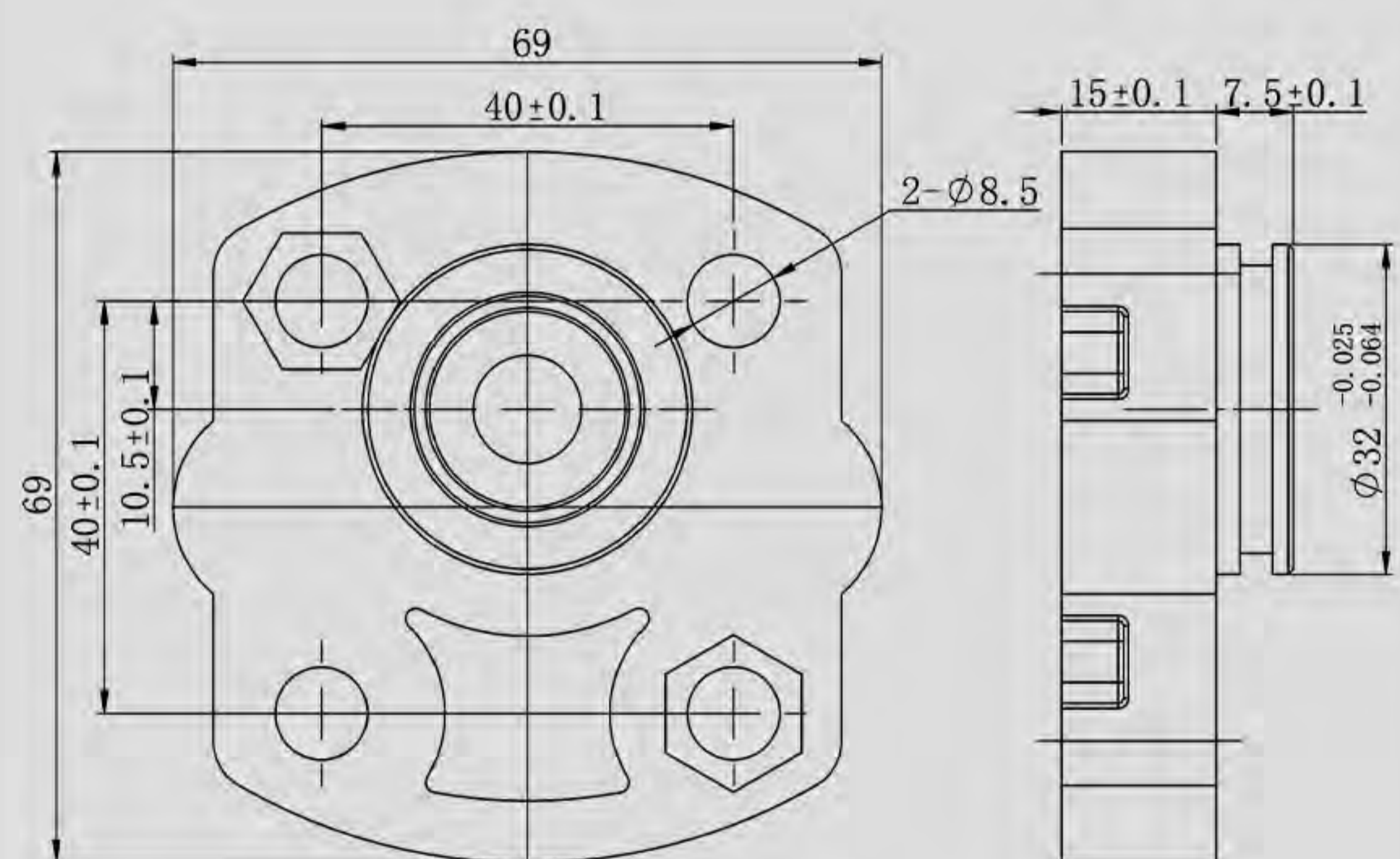
G



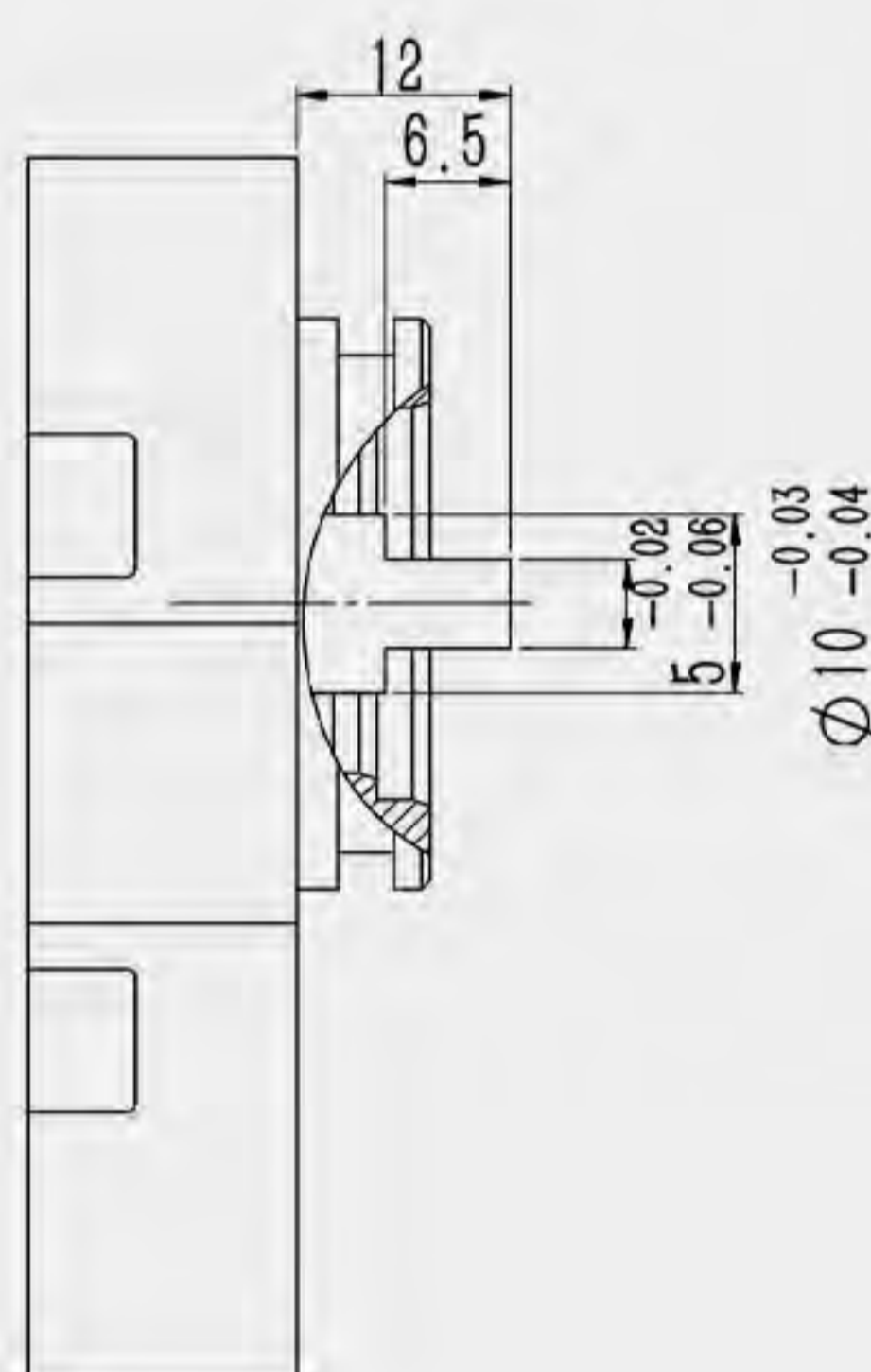
OMIT



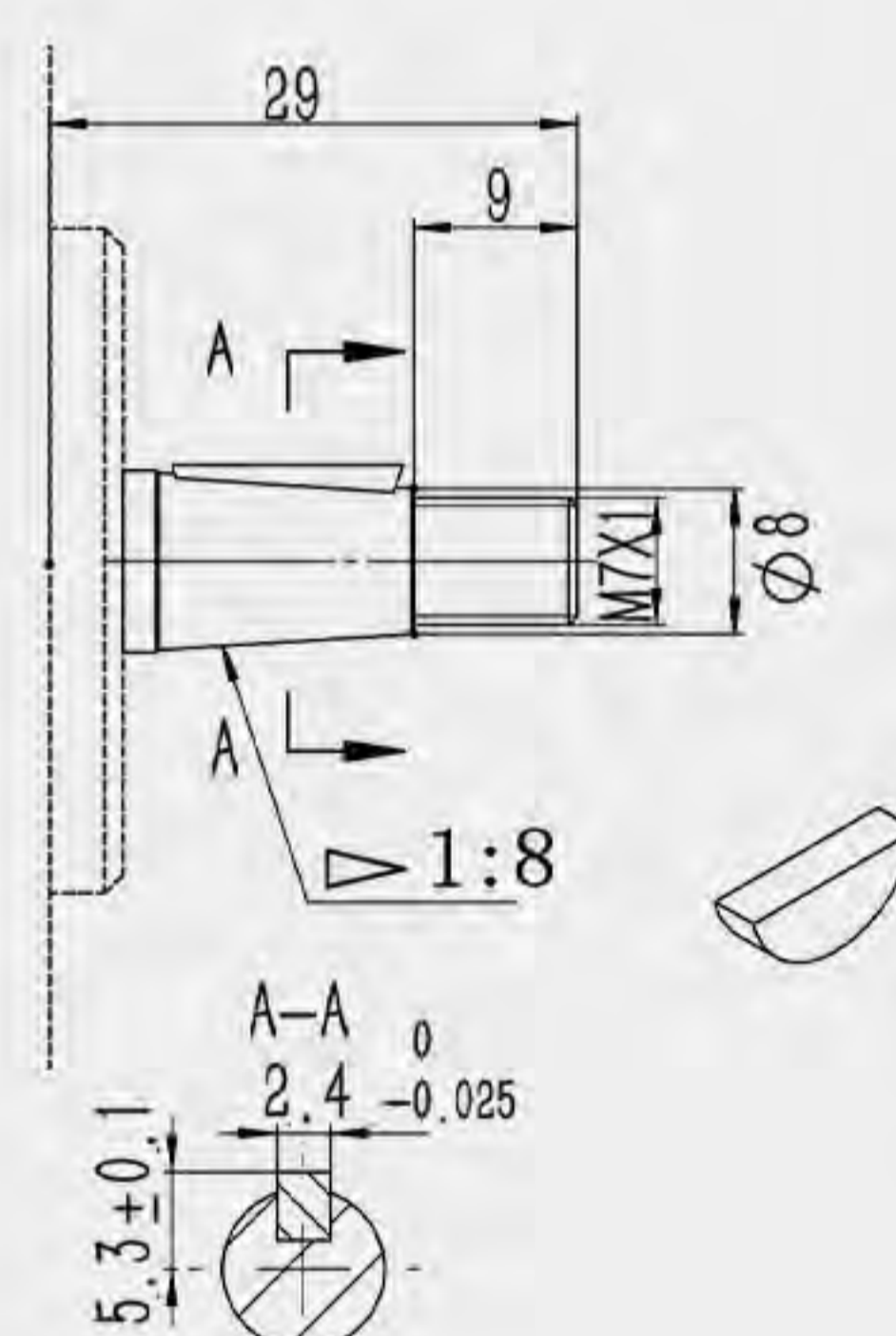
K1



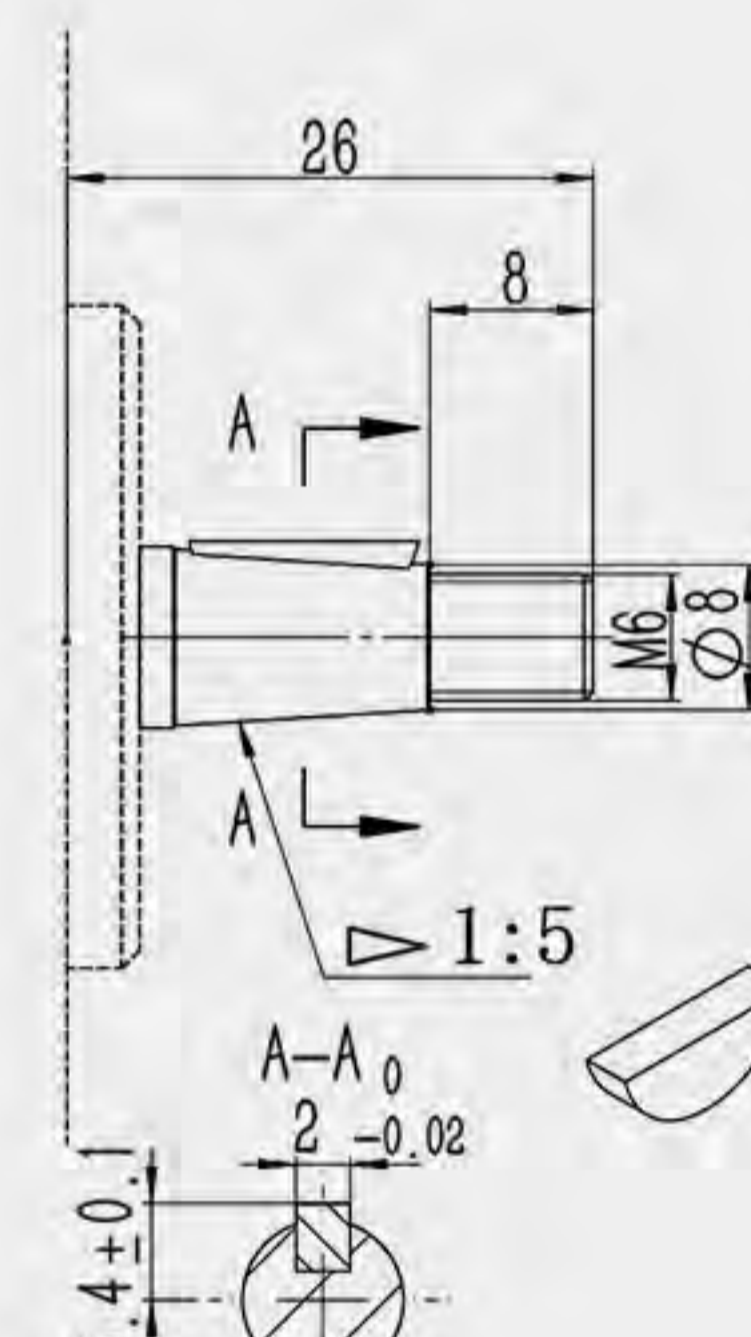
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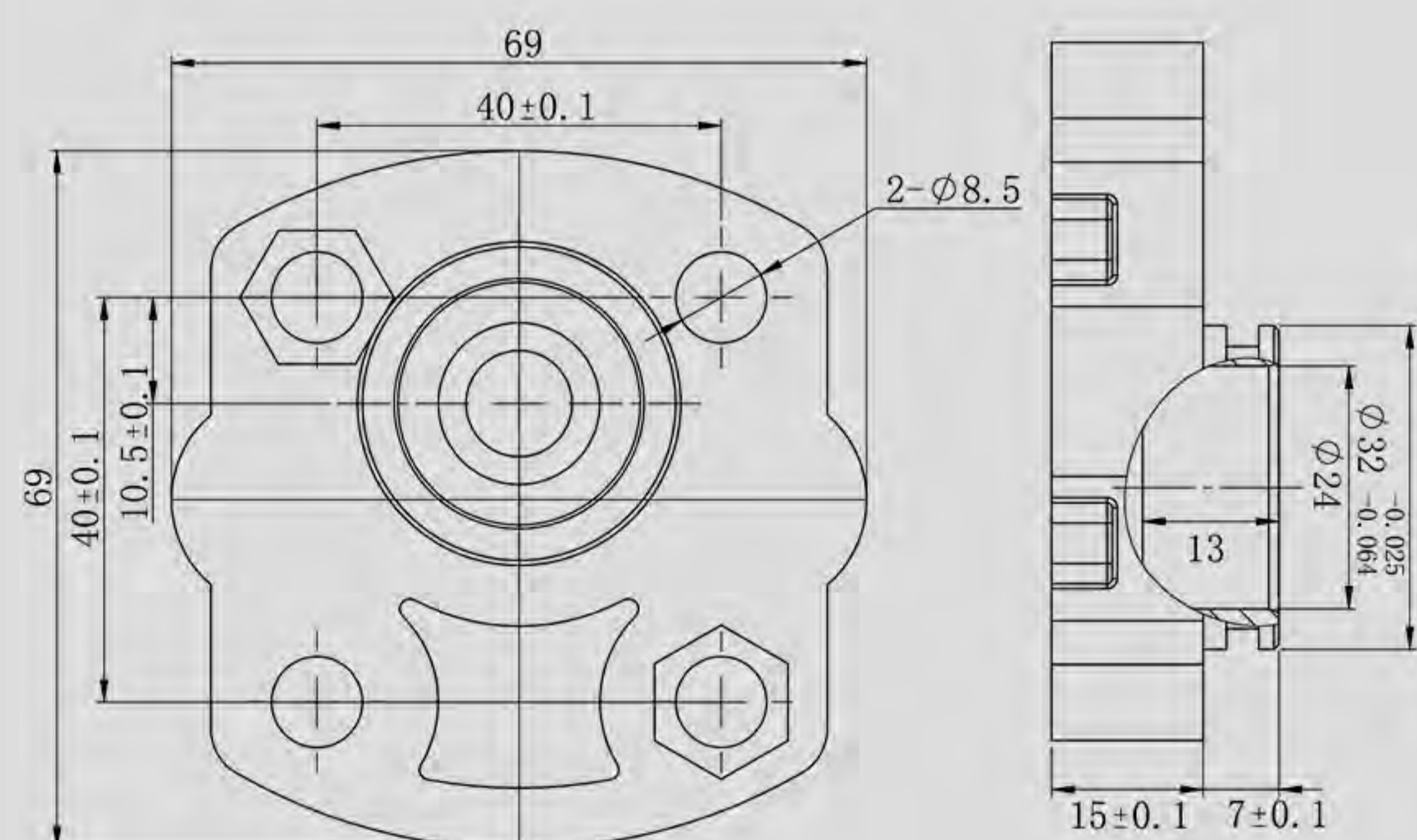
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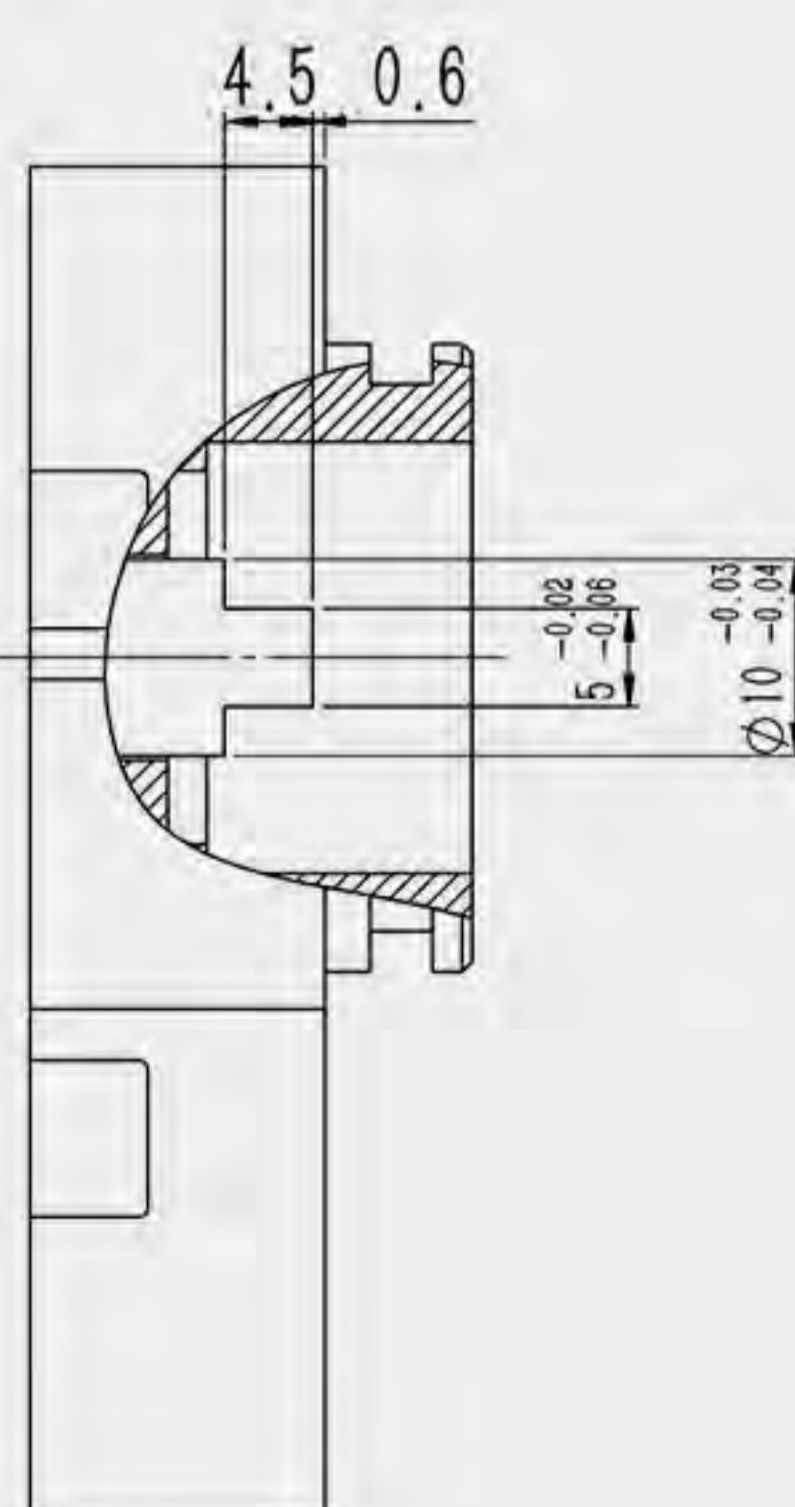
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K2



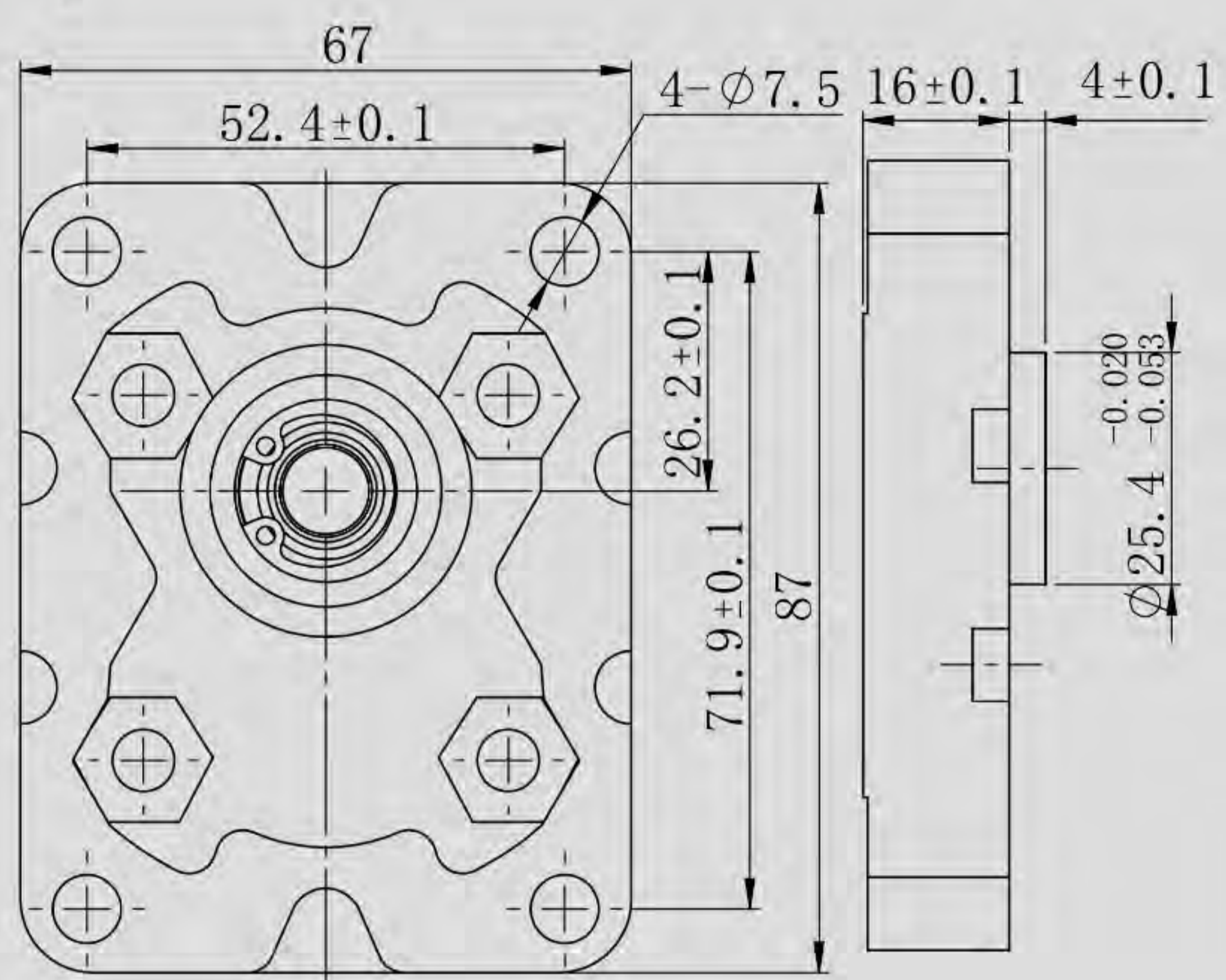
G1



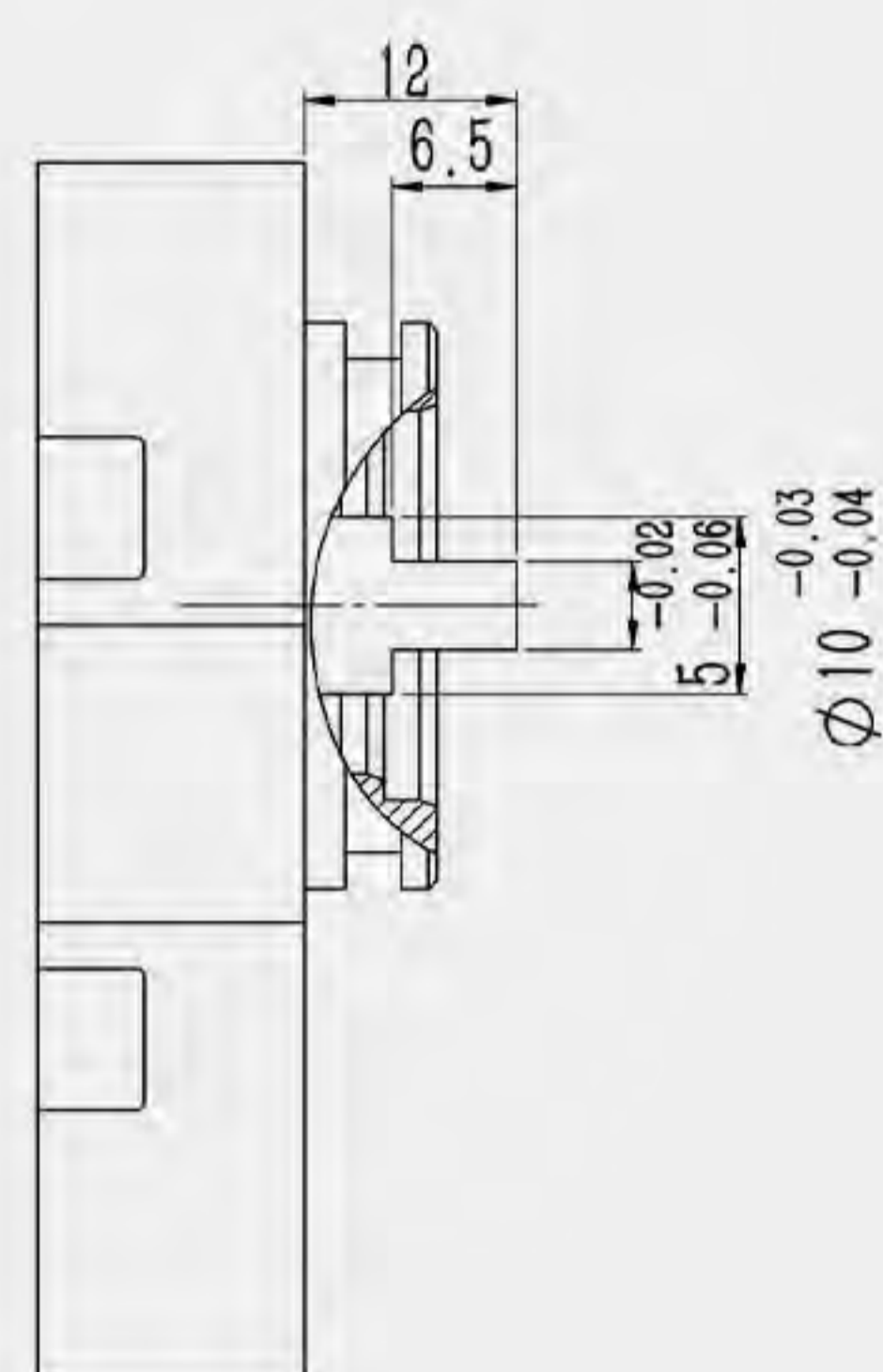
FRONT COVER

SHAFTS

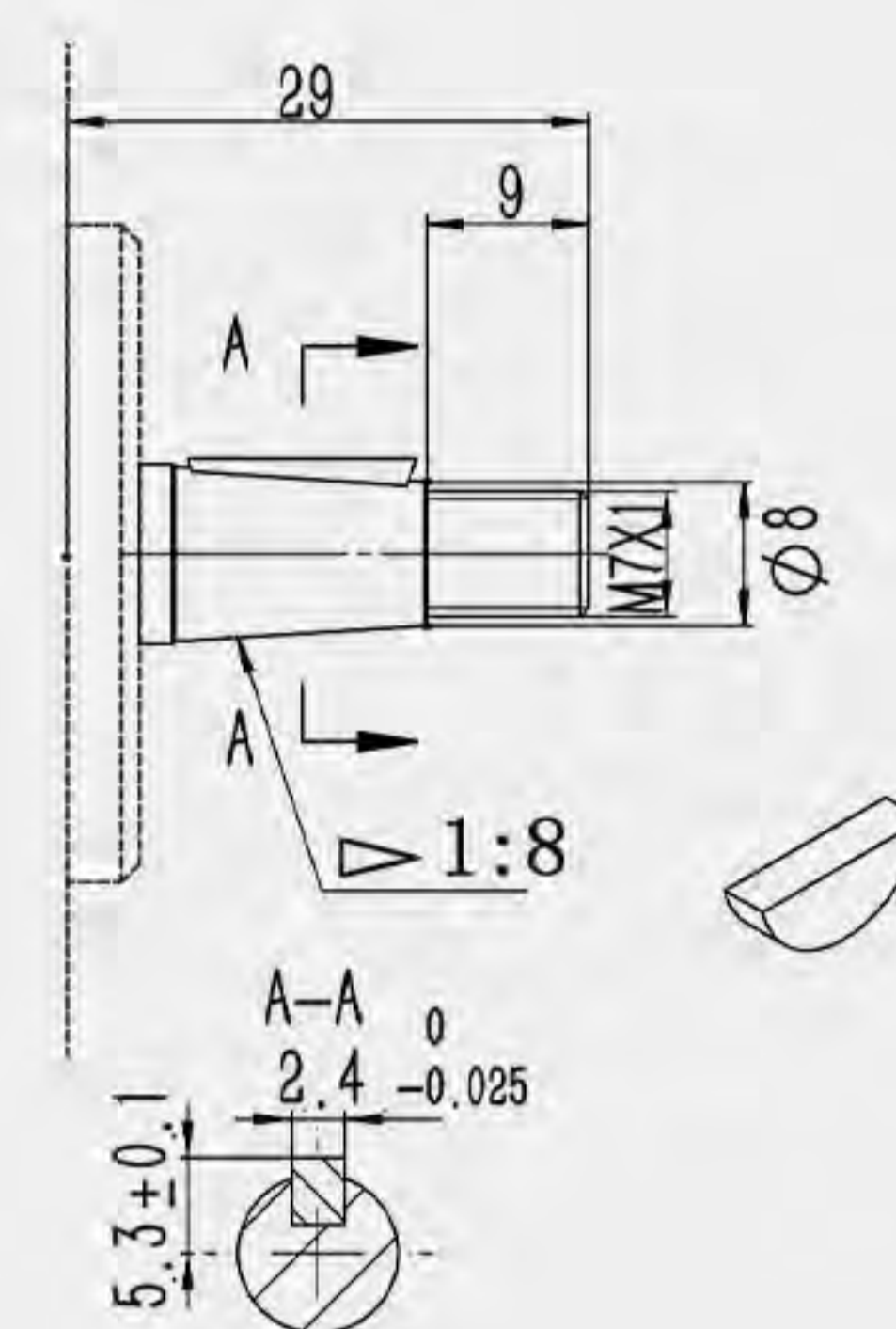
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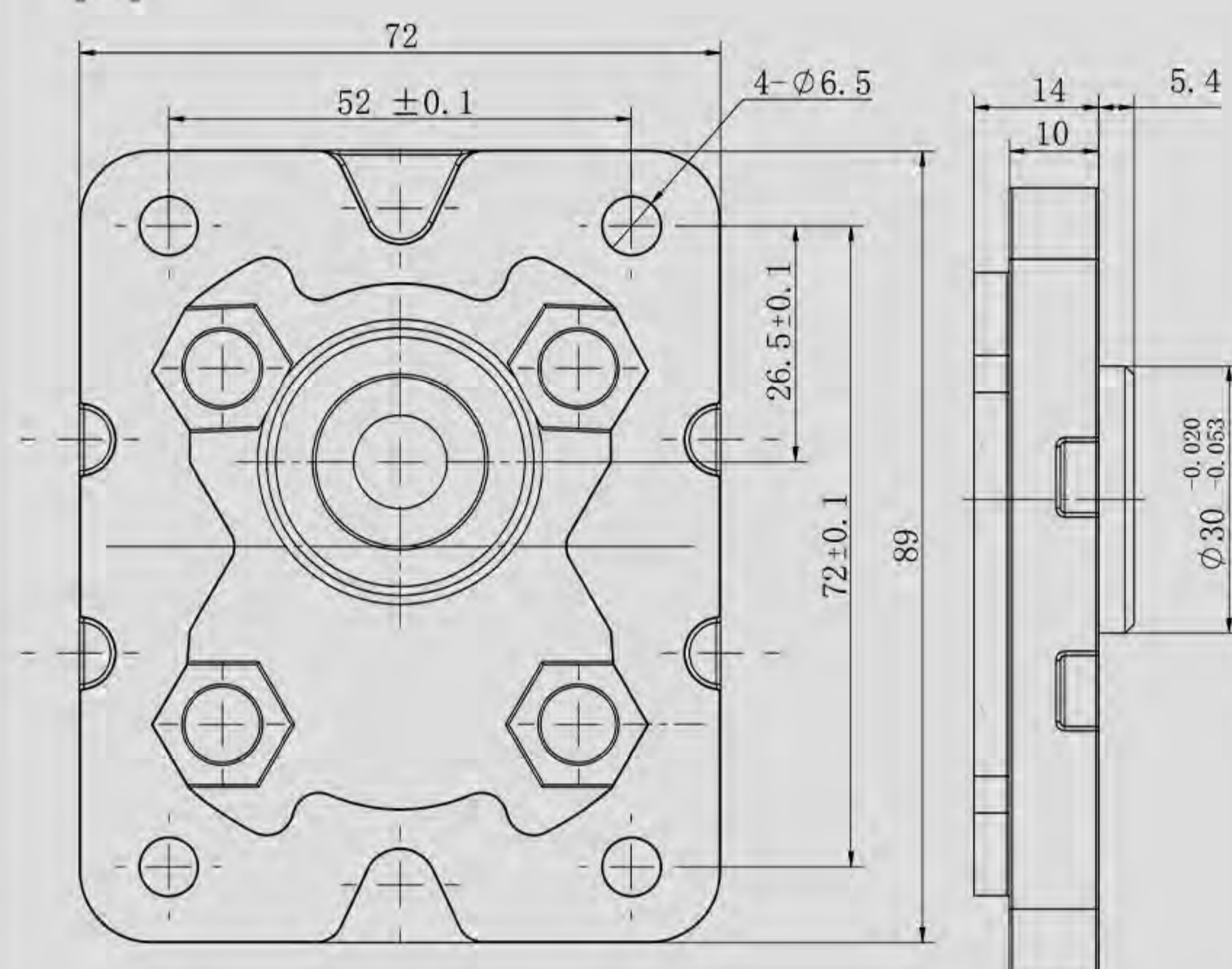
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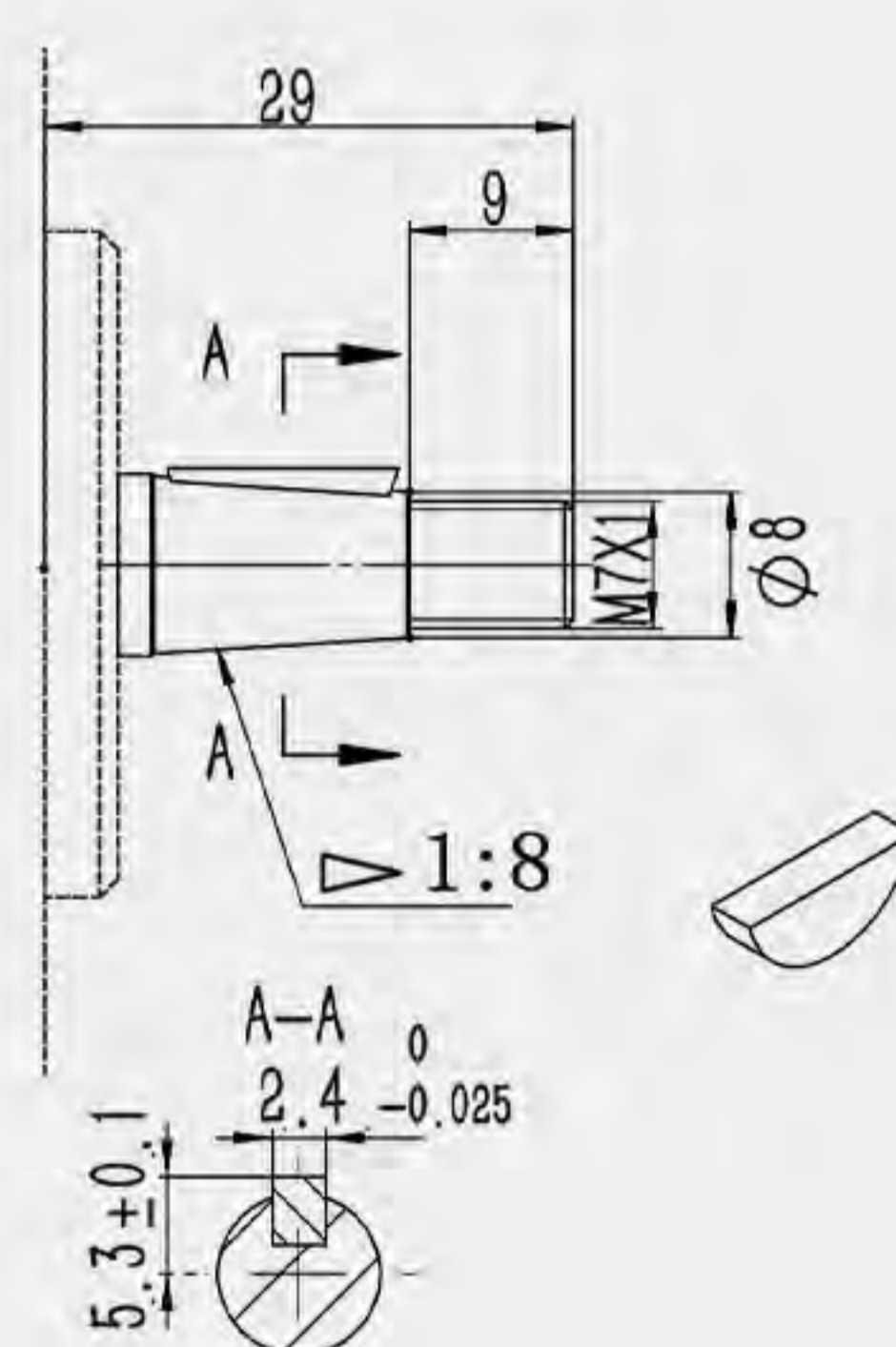
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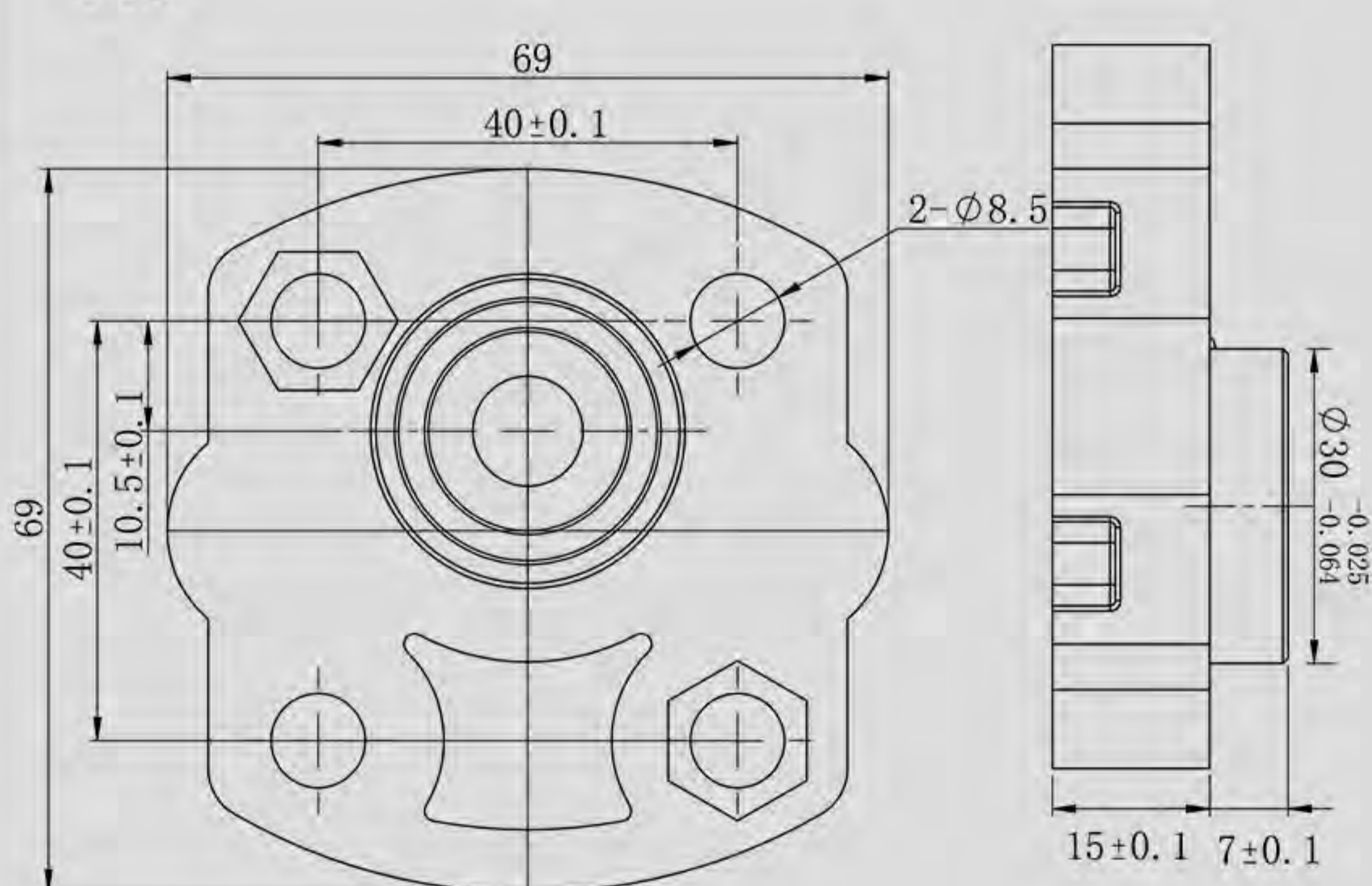
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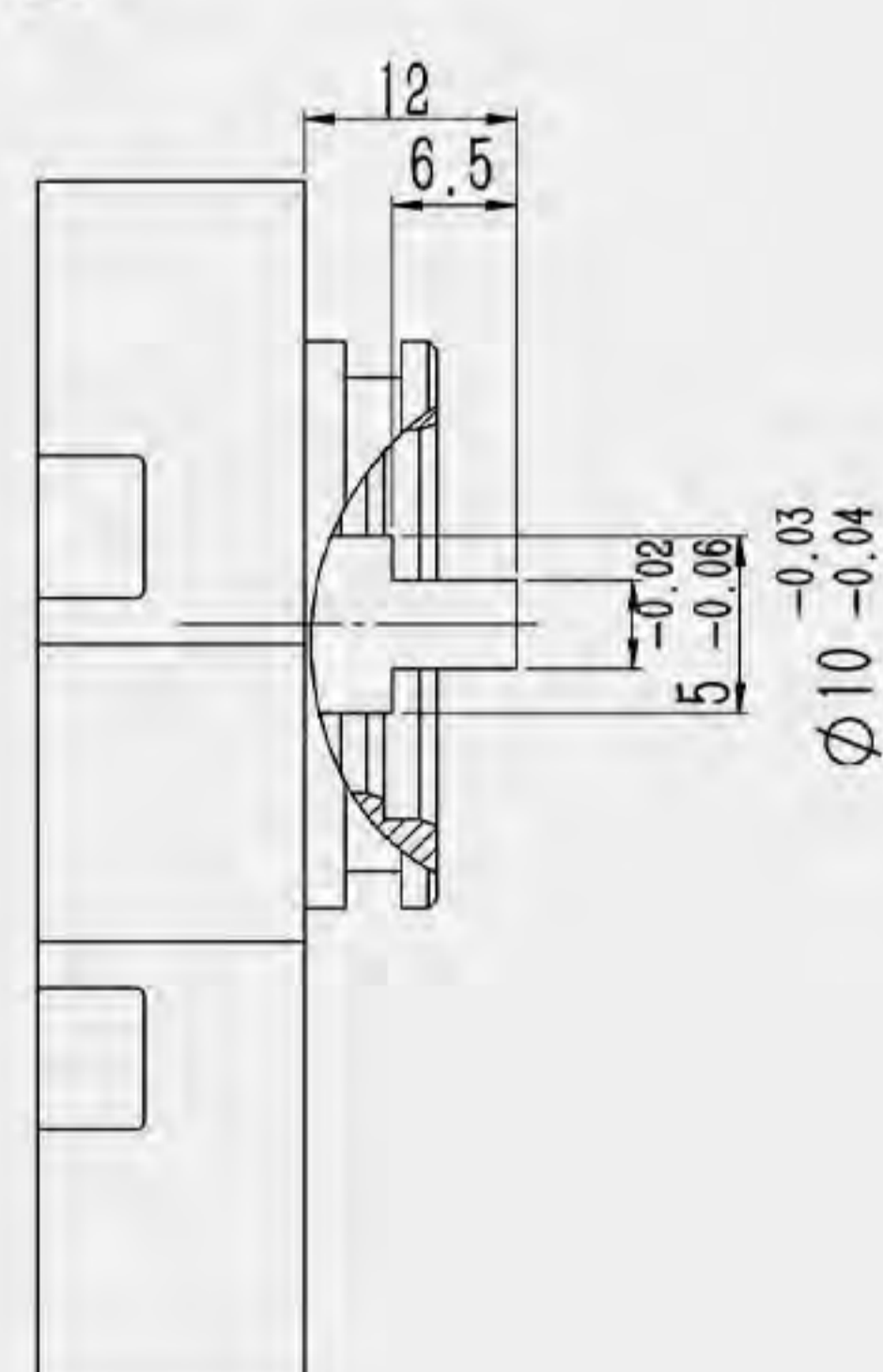
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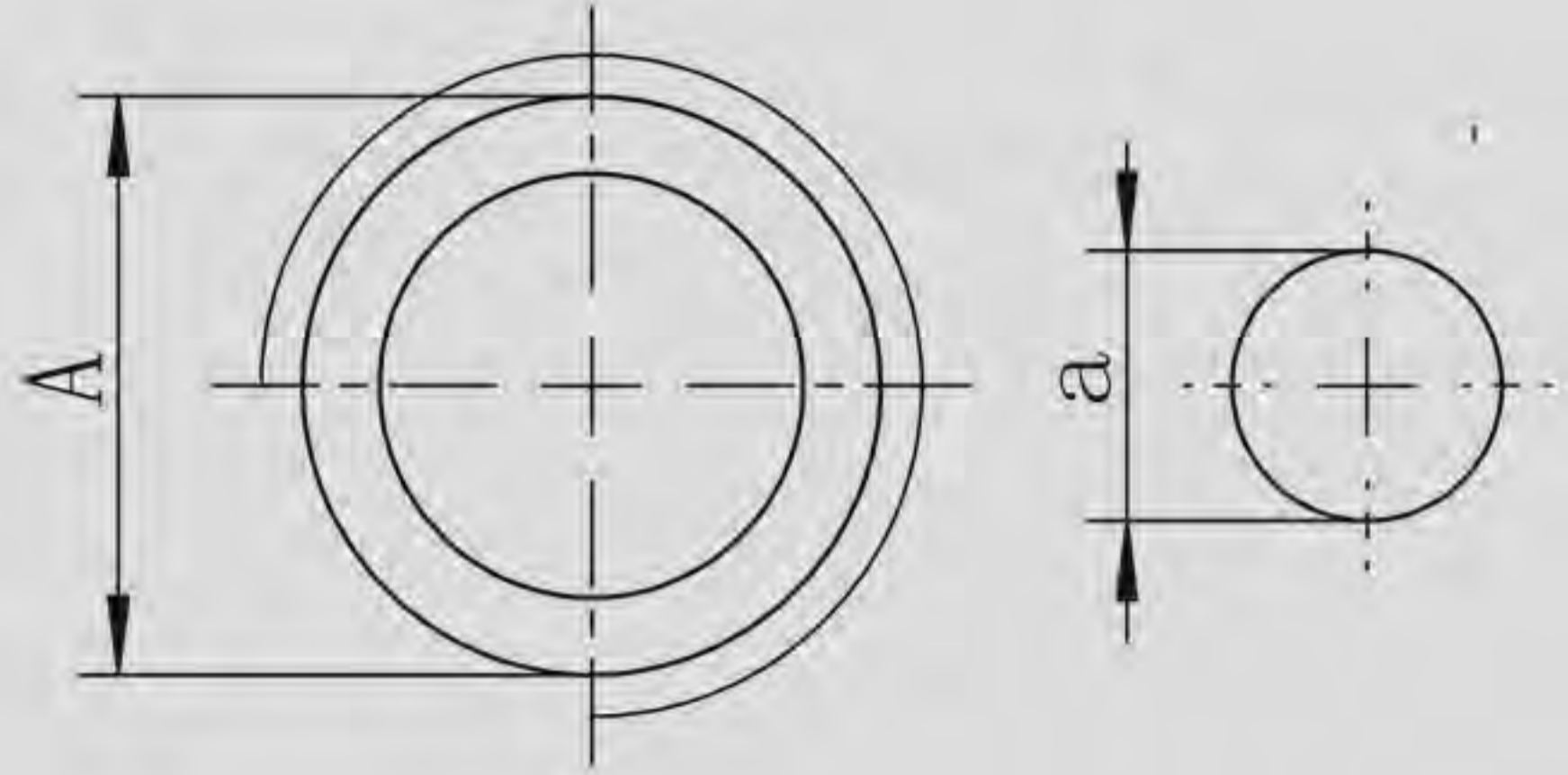
K3



G

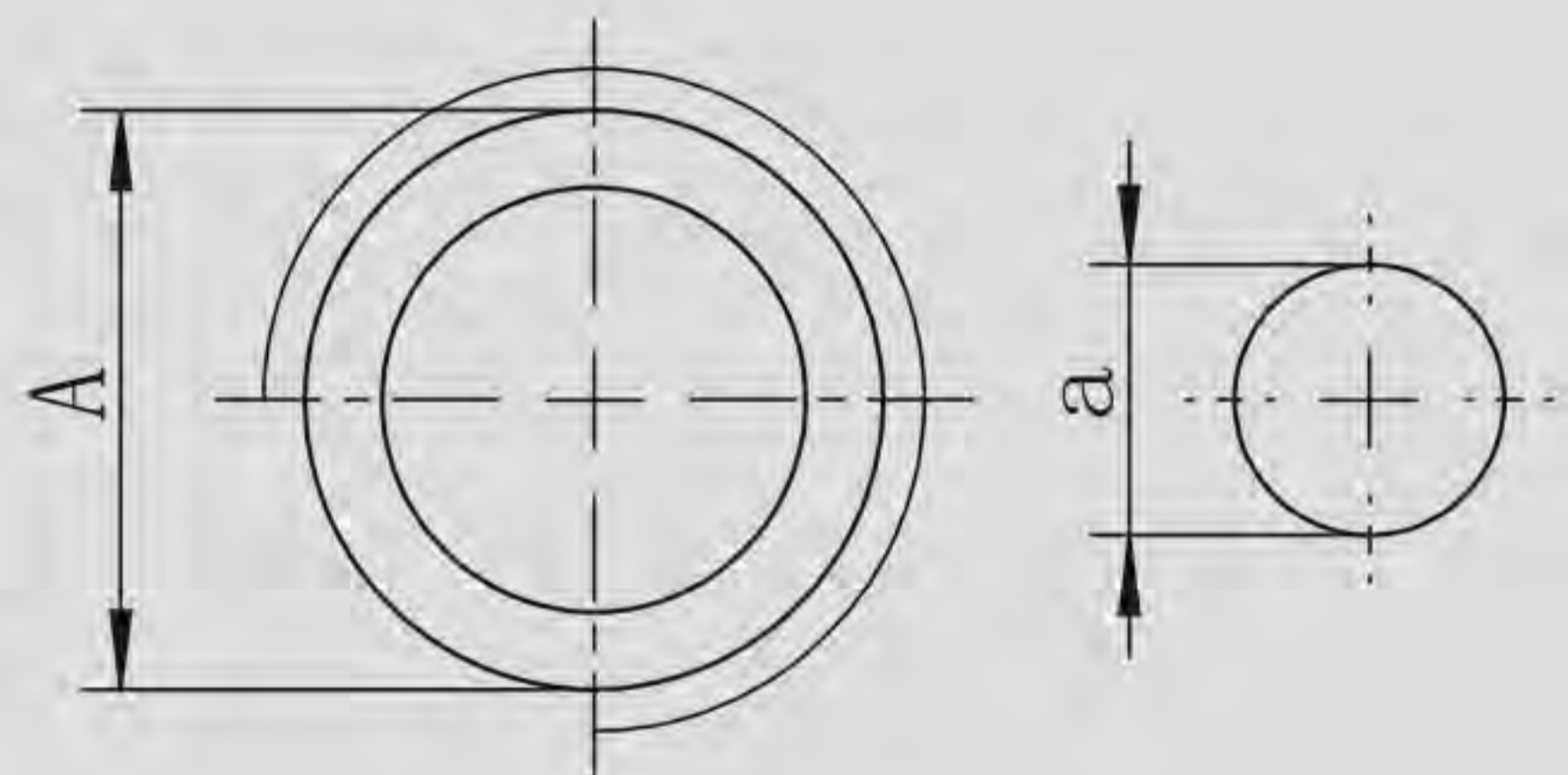


Code: G1



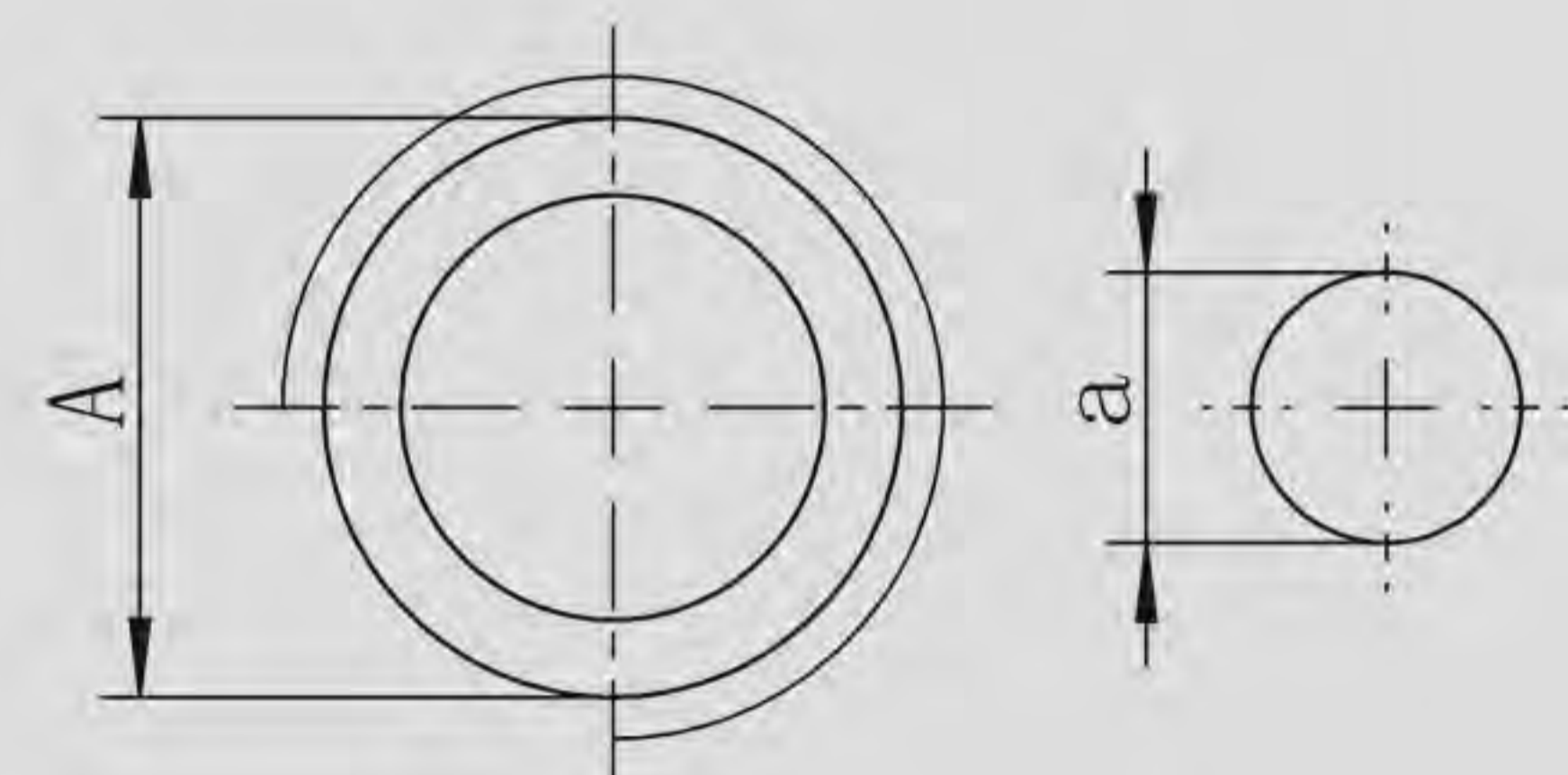
Type	Inlet	Outlet
	A	a
1PFC0.75-1PFC9.8	G1/4	Φ9

Code: G8



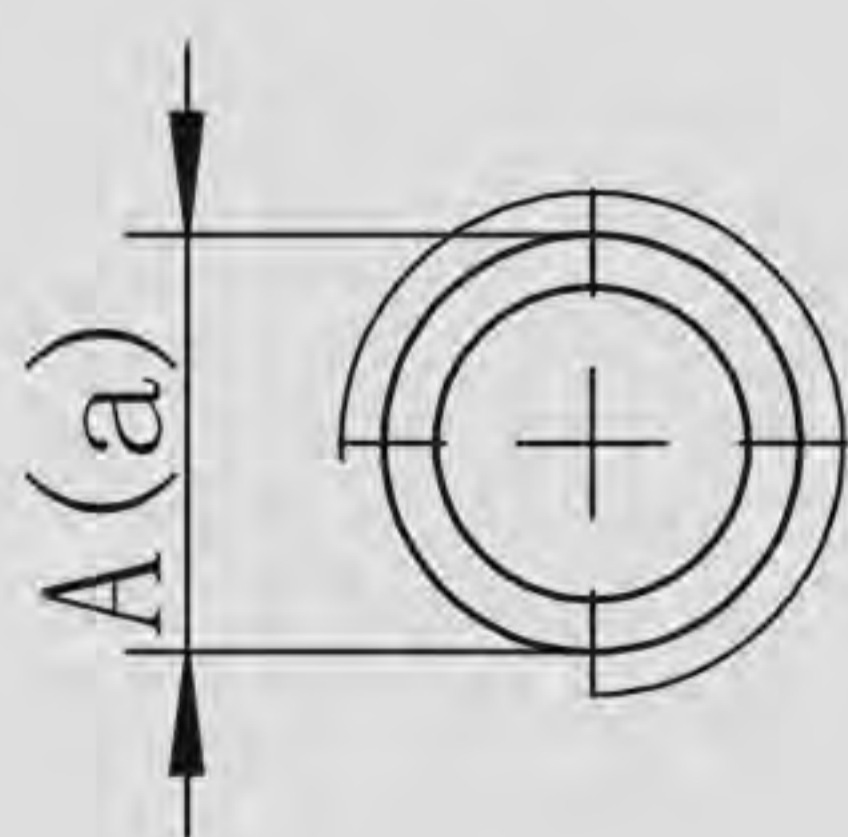
Type	Inlet	Outlet
	A	a
1PFC0.75-1PFC9.8	G3/8	Φ9

Code: N3



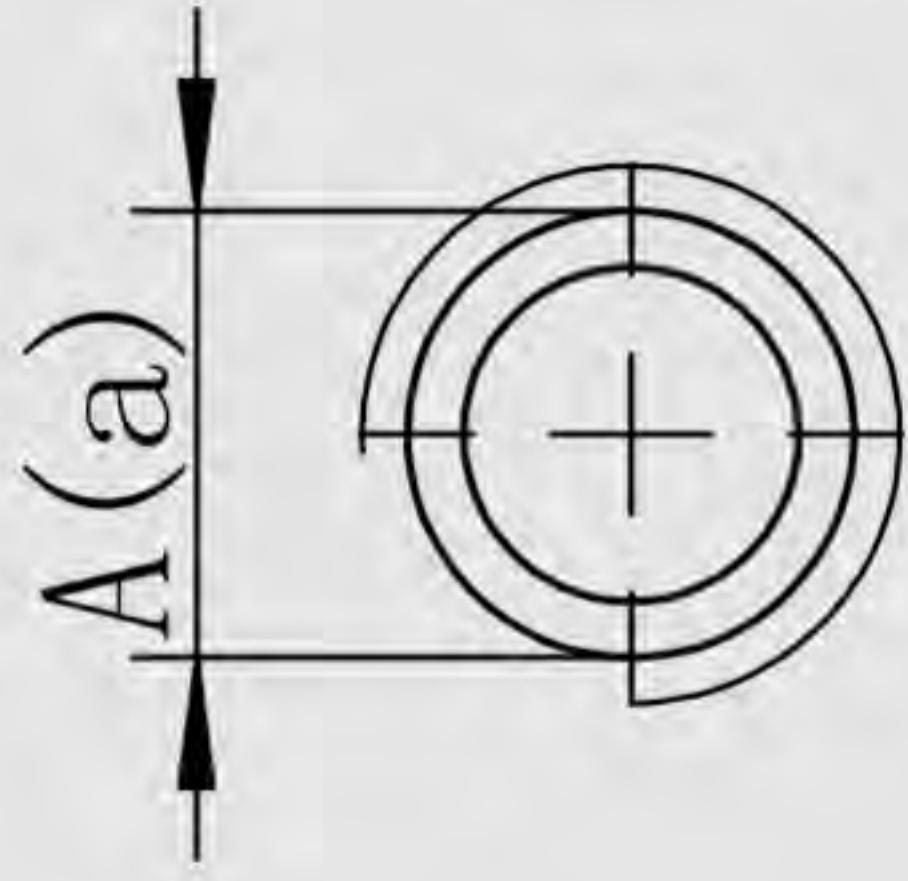
Type	Inlet	Outlet
	A	a
1PFC0.75-1PFC9.8	3/8NPT	Φ9

Code: G4/D4



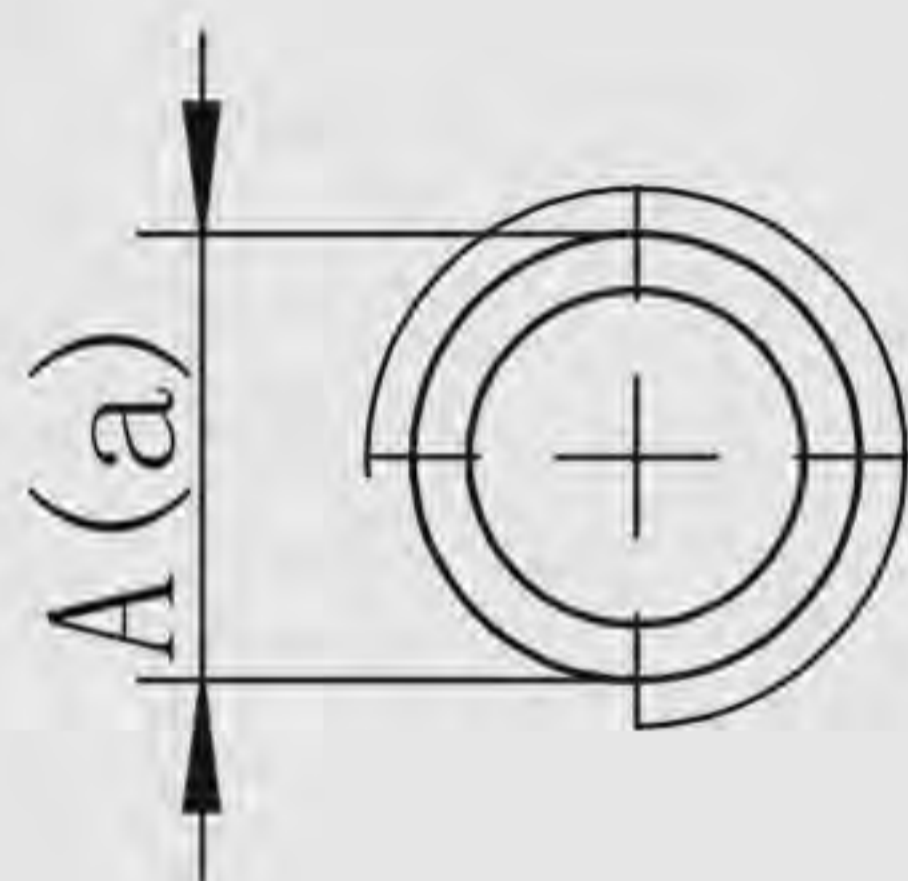
Type	Code	Inlet	Outlet
	A	A	
1PFC0.75-1PFC9.8	G4	G3/8	
1PFC0.75-1PFC9.8	D4	G1/4	

Code: G3



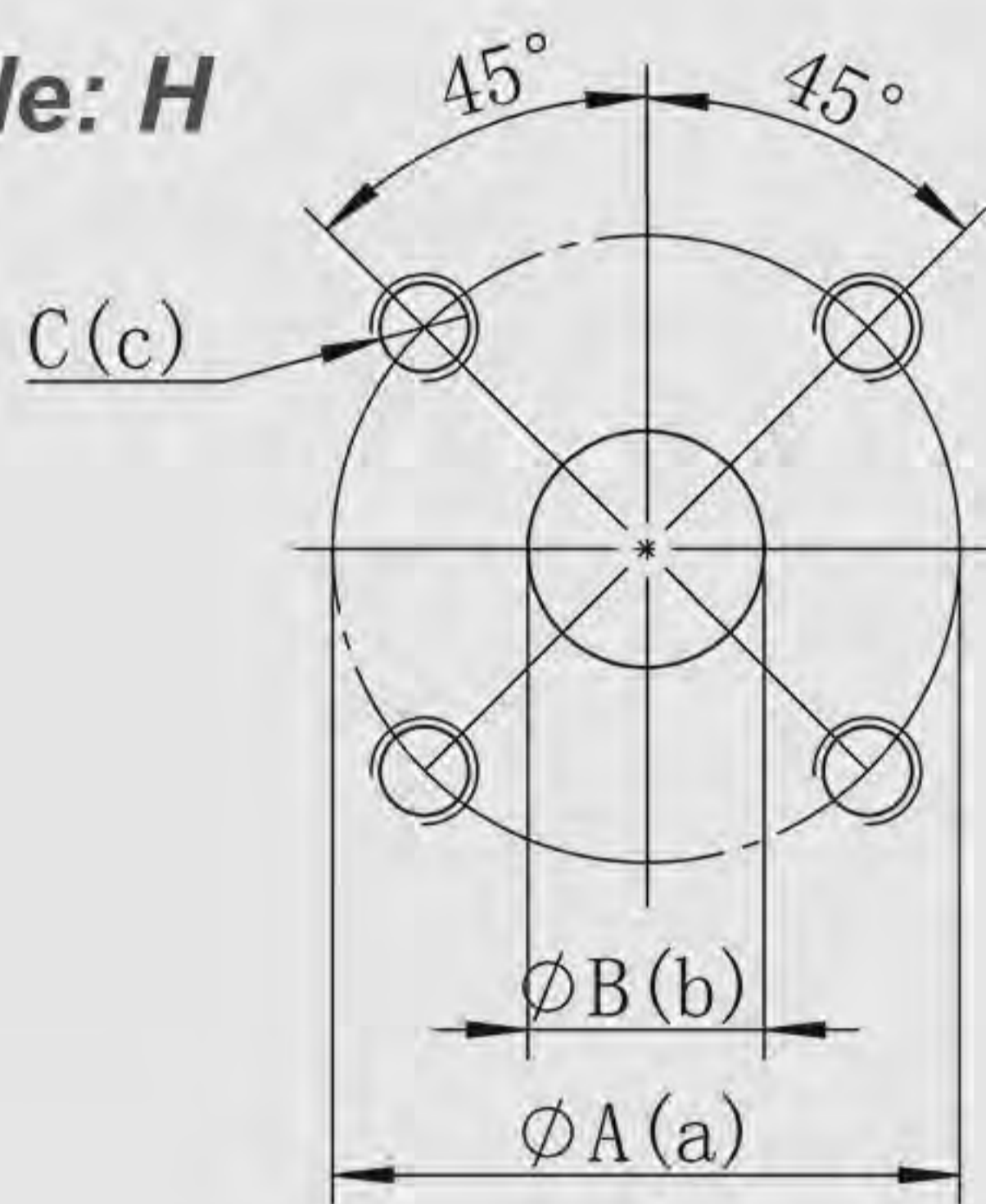
Type	Inlet	Outlet
	A	a
1PFC0.75-1PFC9.8	G3/8	G3/8

Code: M



Type	Inlet	Outlet
	A	a
1PFC0.75-1PFC9.8	M18X1.5	M14X1.5

Code: H



Type	Inlet			Outlet		
	A	B	C	a	b	c
1PFC0.75-1PFC9.8	30	12	M6	30	12	M6

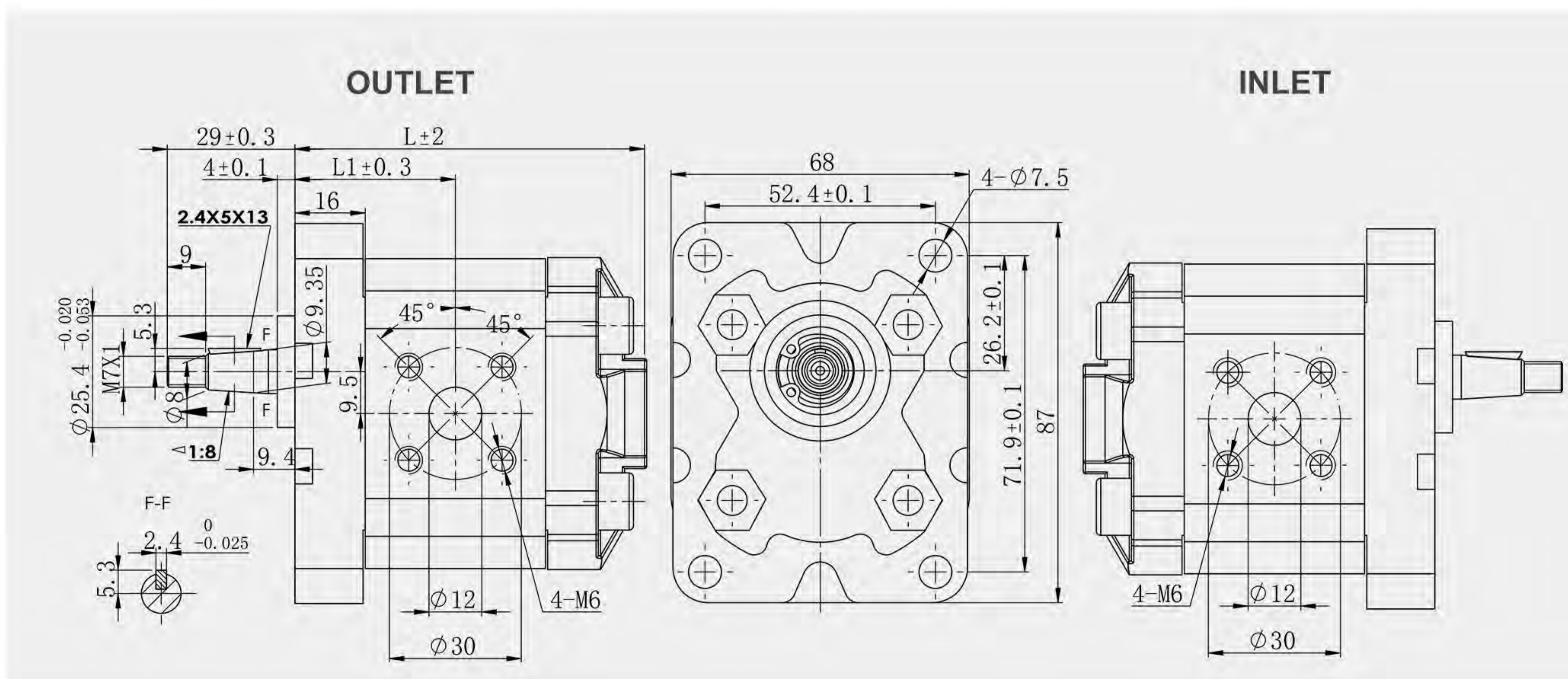


Standard ports: M6 thread depth 12 mm.

OPTIONS "GAS": G3/8 thread depth 12 mm. Threads are machined on both body sides.

To mount the pump, n.4 M8 screws, with a torque wrench setting fixed at $27 \pm 3 \text{ Nm}$.

Shaft M7 nut, with a torque wrench setting fixed at 8 Nm .



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	L1	L
1PFC0.75FTHD	0.75	1.0	230	270	3000	6000	1000	34	75
1PFC1.2FTHD	1.2	1.6	230	270	3000	6000	1000	35	77
1PFC1.6FTHD	1.6	1.9	230	270	3000	6000	1000	36	79
1PFC2.1FTHD	2.1	2.3	230	270	3000	6000	1000	37	81
1PFC2.6FTHD	2.6	3.0	230	270	3000	6000	1000	38	83
1PFC2.8FTHD	2.8	3.9	230	270	3000	6000	1000	39	85
1PFC3.2FTHD	3.2	4.6	210	250	2500	5000	800	40	87
1PFC3.7FTHD	3.7	5.3	210	250	2500	4500	800	41	89
1PFC4.2FTHD	4.2	5.8	210	250	2500	4000	800	42	91
1PFC5.0FTHD	5.0	7.1	190	230	2500	3500	800	44	95
1PFC6.0FTHD	6.0	8.3	190	230	2000	3000	600	46	99
1PFC7.0FTHD	7.0	10.0	160	200	2000	2500	600	49	105
1PFC8.0FTHD	8.0	11.0	160	200	2000	2100	600	51.5	110
1PFC9.8FTHD	9.8	14.0	160	200	1500	2000	600	56	119

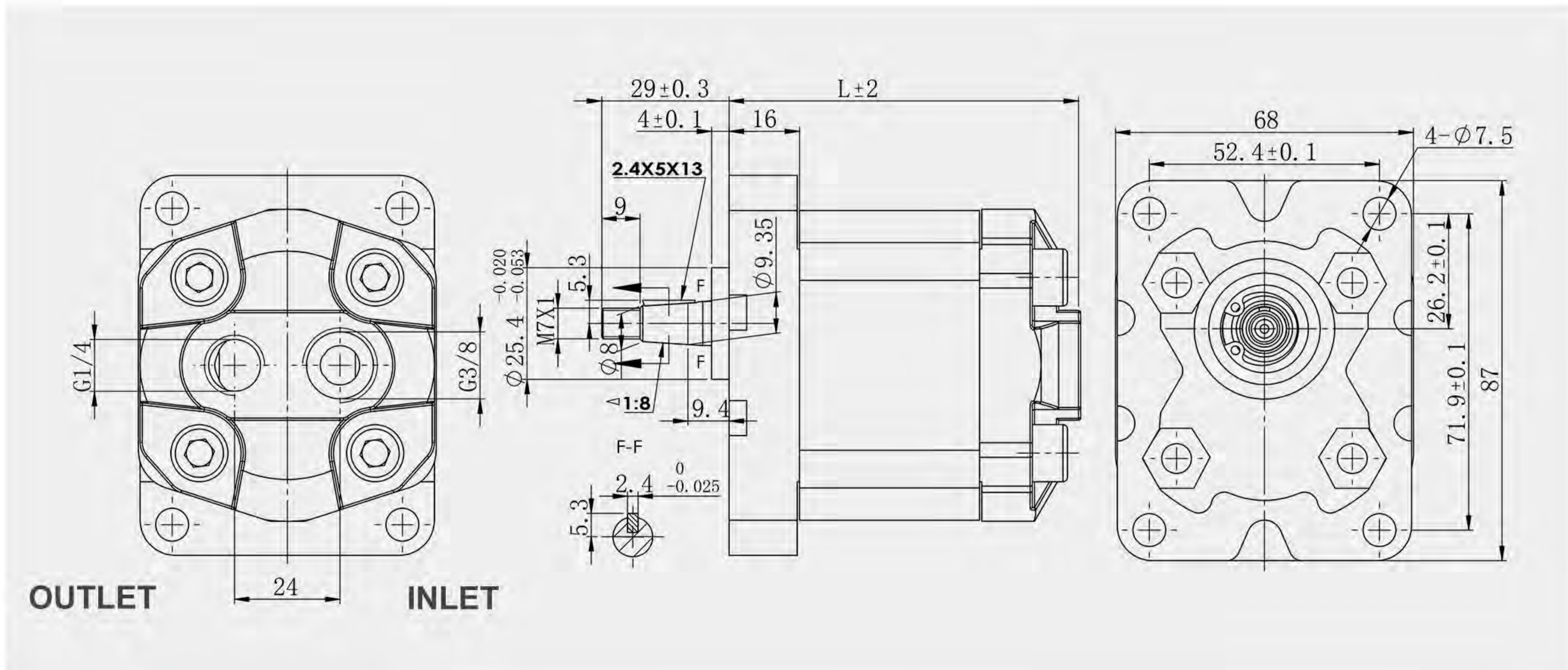
1P Gear Pumps



Standard ports: G1/4 thread depth 12 mm. G3/8 thread depth 12 mm

To mount the pump, n.4 M8 screws, with a torque wrench setting fixed at $27 \pm 3 \text{ Nm}$.

Shaft M7 nut, with a torque wrench setting fixed at 8 Nm .

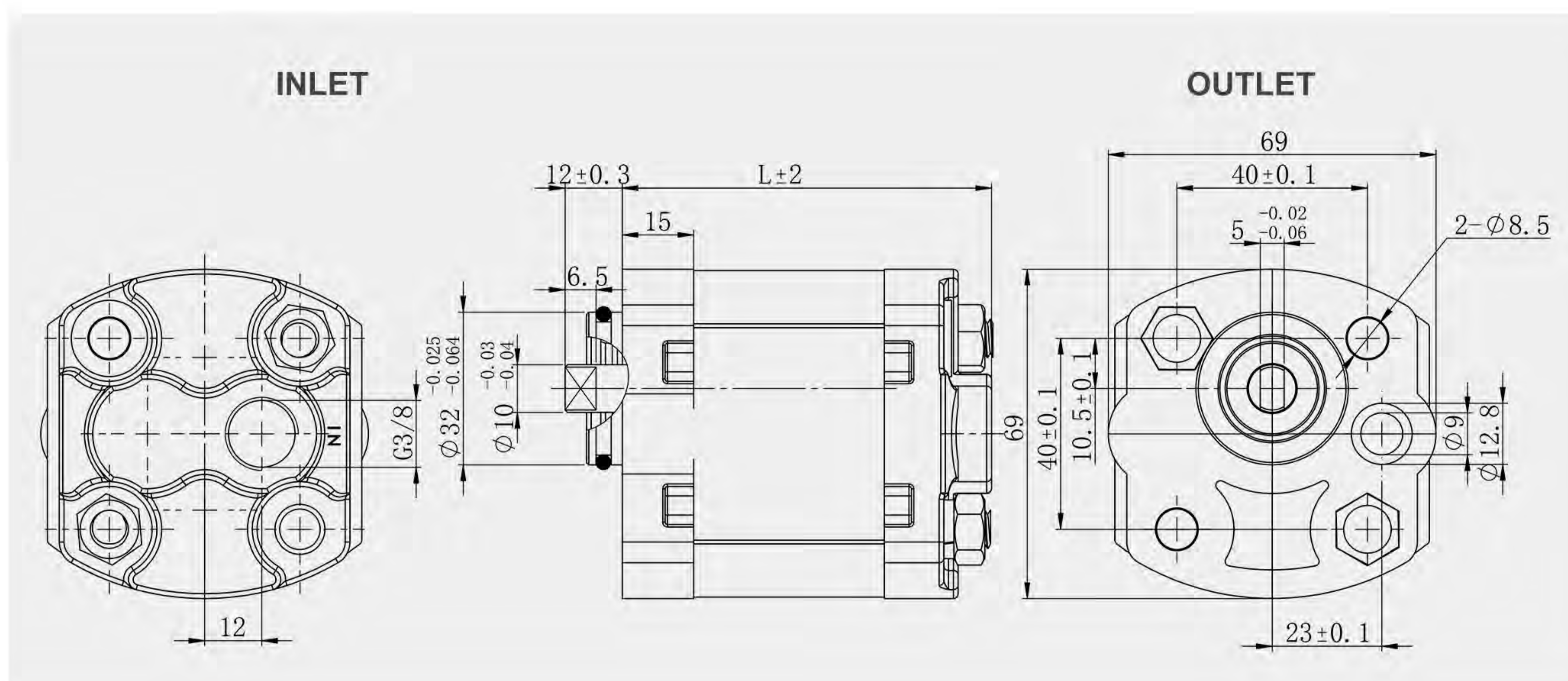


Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm
			Rated	Peak	Rated	Max	Min	L
1PFC0.75FTG4R	0.75	1.0	230	270	3000	6000	1000	75
1PFC1.2FTG4R	1.2	1.6	230	270	3000	6000	1000	77
1PFC1.6FTG4R	1.6	1.9	230	270	3000	6000	1000	79
1PFC2.1FTG4R	2.1	2.3	230	270	3000	6000	1000	81
1PFC2.6FTG4R	2.6	3.0	230	270	3000	6000	1000	83
1PFC2.8FTG4R	2.8	3.9	230	270	3000	6000	1000	85
1PFC3.2FTG4R	3.2	4.6	210	250	2500	5000	800	87
1PFC3.7FTG4R	3.7	5.3	210	250	2500	4500	800	89
1PFC4.2FTG4R	4.2	5.8	210	250	2500	4000	800	91
1PFC5.0FTG4R	5.0	7.1	190	230	2500	3500	800	95
1PFC6.0FTG4R	6.0	8.3	190	230	2000	3000	600	99
1PFC7.0FTG4R	7.0	10.0	160	200	2000	2500	600	105
1PFC8.0FTG4R	8.0	11.0	160	200	2000	2100	600	110
1PFC9.8FTG4R	9.8	14.0	160	200	1500	2000	600	119



Rear cover: G3/8 thread depth 12mm.

To mount the pump: n. 2 M8 screws, with a torque wrench setting fixed at 27 ± 3 Nm.

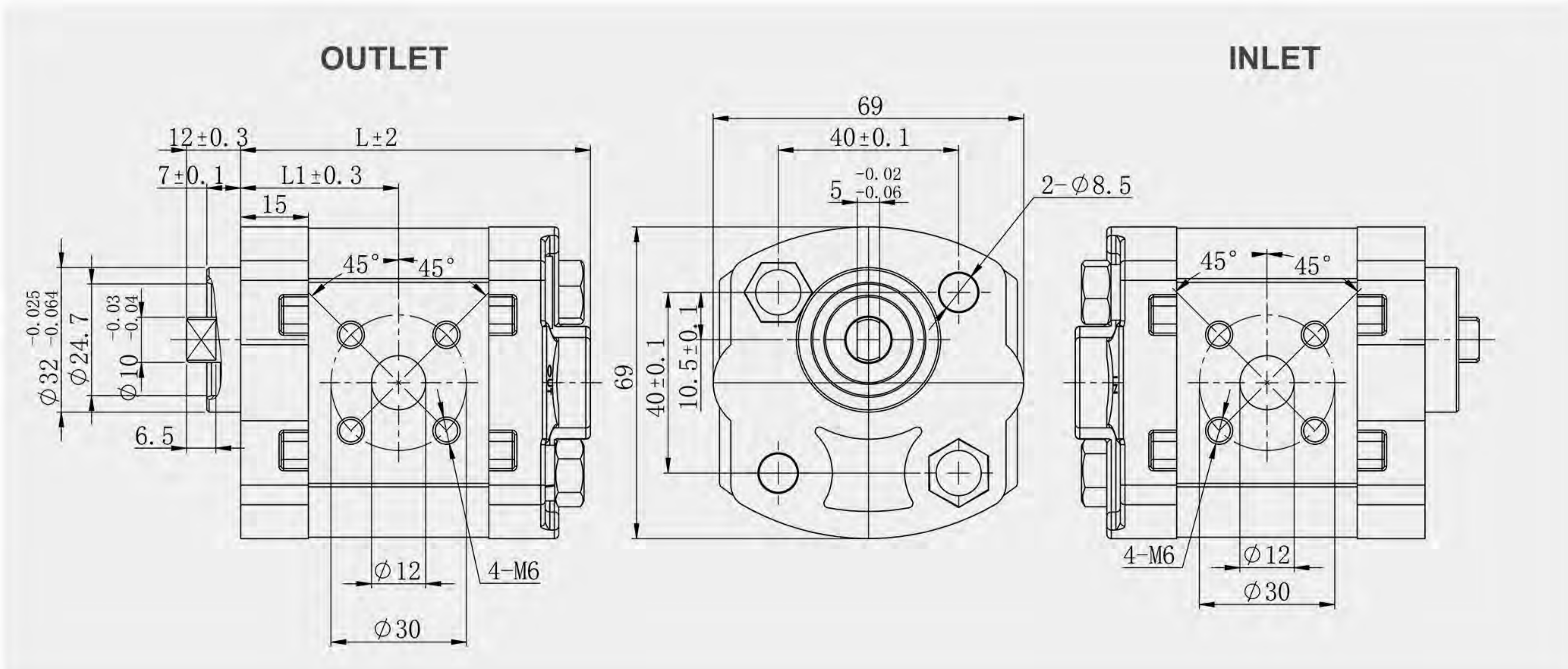


Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm
			Rated	Peak	Rated	Max	Min	L
1PFC0.75KGG8B	0.75	1.0	230	270	3000	6000	1000	74
1PFC1.2KGG8B	1.2	1.6	230	270	3000	6000	1000	76
1PFC1.6KGG8B	1.6	1.9	230	270	3000	6000	1000	78
1PFC2.1KGG8B	2.1	2.3	230	270	3000	6000	1000	80
1PFC2.6KGG8B	2.6	3.0	230	270	3000	6000	1000	82
1PFC2.8KGG8B	2.8	3.9	230	270	3000	6000	1000	84
1PFC3.2KGG8B	3.2	4.6	210	250	2500	5000	800	86
1PFC3.7KGG8B	3.7	5.3	210	250	2500	4500	800	88
1PFC4.2KGG8B	4.2	5.8	210	250	2500	4000	800	90
1PFC5.0KGG8B	5.0	7.1	190	230	2500	3500	800	94
1PFC6.0KGG8B	6.0	8.3	190	230	2000	3000	600	98
1PFC7.0KGG8B	7.0	10.0	160	200	2000	2500	600	104
1PFC8.0KGG8B	8.0	11.0	160	200	2000	2100	600	109
1PFC9.8KGG8B	9.8	14.0	160	200	1500	2000	600	118

1P Gear Pumps



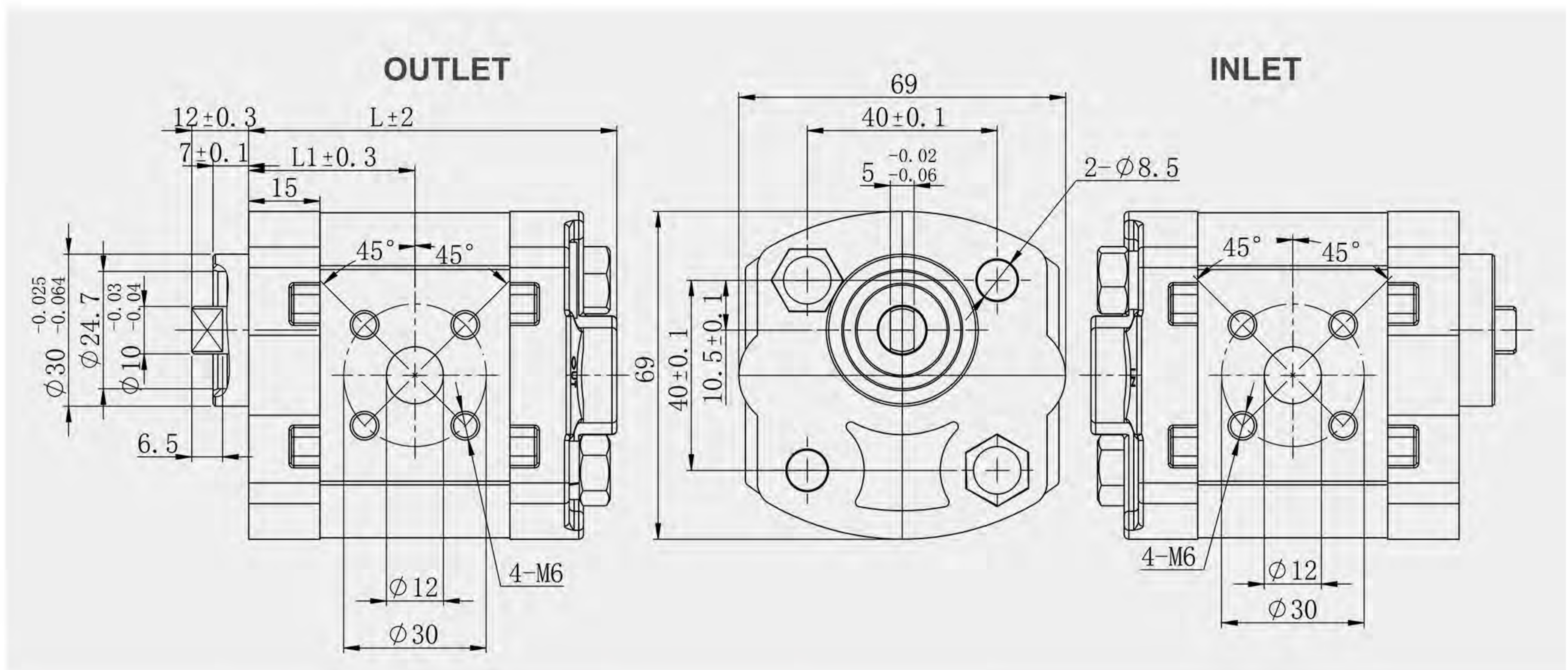
Standard ports: M6 threads depth 12 mm. To mount the pump: n. 2 M8 screws, with a torque wrench setting fixed at 27 ± 3 Nm



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	L1	L
1PFC0.75KGHD	0.75	1.0	230	270	3000	6000	1000	33	74
1PFC1.2KGHD	1.2	1.6	230	270	3000	6000	1000	34	76
1PFC1.6KGHD	1.6	1.9	230	270	3000	6000	1000	35	78
1PFC2.1KGHD	2.1	2.3	230	270	3000	6000	1000	36	80
1PFC2.6KGHD	2.6	3.0	230	270	3000	6000	1000	37	82
1PFC2.8KGHD	2.8	3.9	230	270	3000	6000	1000	38	84
1PFC3.2KGHD	3.2	4.6	210	250	2500	5000	800	39	86
1PFC3.7KGHD	3.7	5.3	210	250	2500	4500	800	40	88
1PFC4.2KGHD	4.2	5.8	210	250	2500	4000	800	41	90
1PFC5.0KGHD	5.0	7.1	190	230	2500	3500	800	43	94
1PFC6.0KGHD	6.0	8.3	190	230	2000	3000	600	45	98
1PFC7.0KGHD	7.0	10.0	160	200	2000	2500	600	48	104
1PFC8.0KGHD	8.0	11.0	160	200	2000	2100	600	50.5	109
1PFC9.8KGHD	9.8	14.0	160	200	1500	2000	600	55	118



Standard ports: M6 threads depth 12 mm. To mount the pump: n. 2 M8 screws, with a torque wrench setting fixed at 27 ± 3 Nm

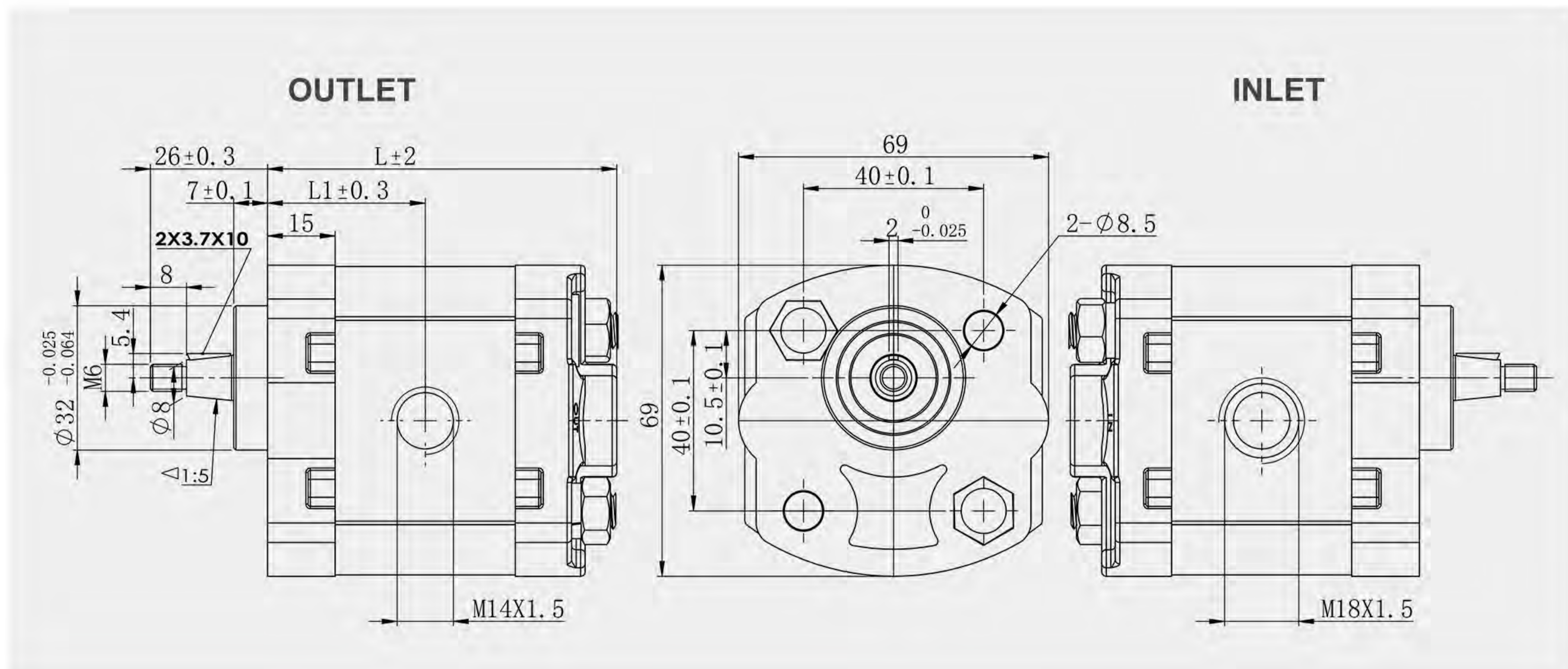


Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	L1	L
1PFC0.75K1GHD	0.75	1.0	230	270	3000	6000	1000	33	74
1PFC1.2K1GHD	1.2	1.6	230	270	3000	6000	1000	34	76
1PFC1.6K1GHD	1.6	1.9	230	270	3000	6000	1000	35	78
1PFC2.1K1GHD	2.1	2.3	230	270	3000	6000	1000	36	80
1PFC2.6K1GHD	2.6	3.0	230	270	3000	6000	1000	37	82
1PFC2.8K1GHD	2.8	3.9	230	270	3000	6000	1000	38	84
1PFC3.2K1GHD	3.2	4.6	210	250	2500	5000	800	39	86
1PFC3.7K1GHD	3.7	5.3	210	250	2500	4500	800	40	88
1PFC4.2K1GHD	4.2	5.8	210	250	2500	4000	800	41	90
1PFC5.0K1GHD	5.0	7.1	190	230	2500	3500	800	43	94
1PFC6.0K1GHD	6.0	8.3	190	230	2000	3000	600	45	98
1PFC7.0K1GHD	7.0	10.0	160	200	2000	2500	600	48	104
1PFC8.0K1GHD	8.0	11.0	160	200	2000	2100	600	50.5	109
1PFC9.8K1GHD	9.8	14.0	160	200	1500	2000	600	55	118

1P Gear Pumps



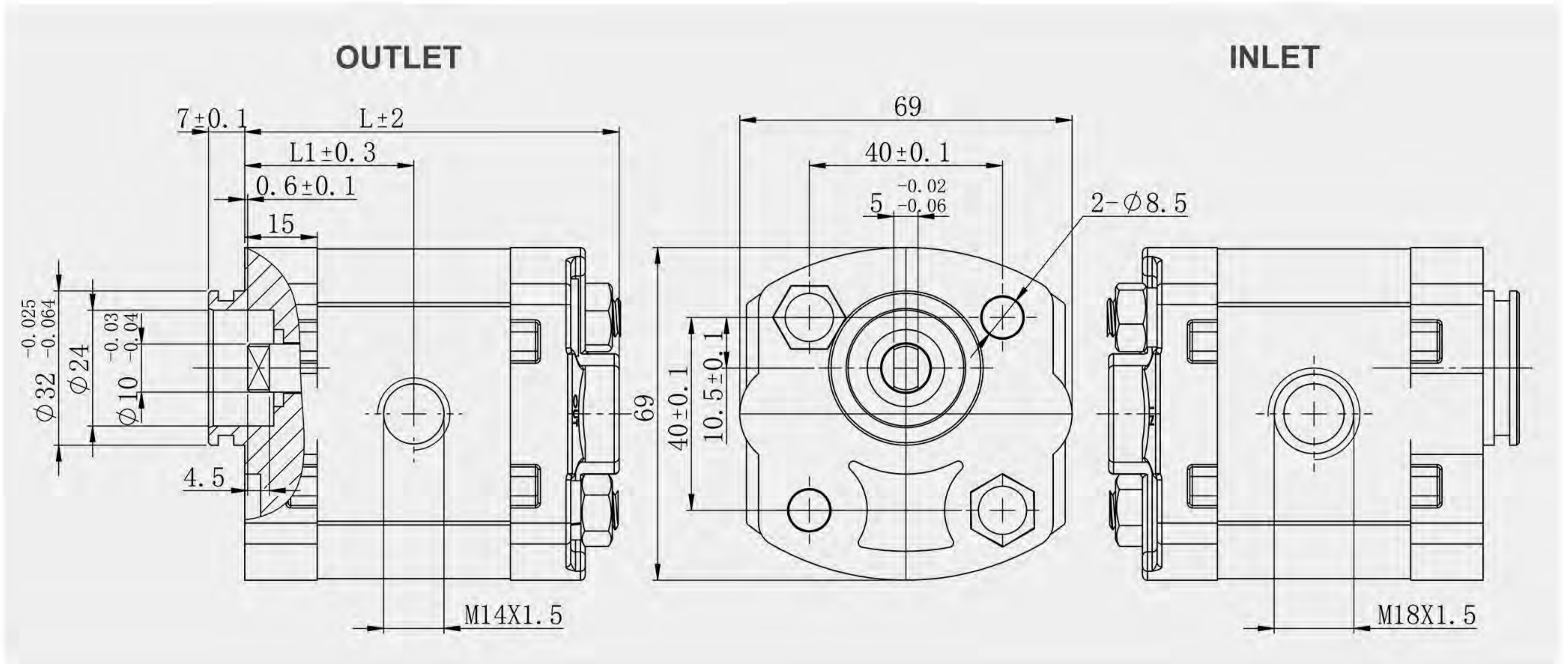
M14x1.5 thread depth 12 mm. M18x1.5 thread depth 12 mm. To mount the pump: n. 2 M8 screws, with a torque wrench setting fixed at 27 ± 3 Nm.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	L1	L
1PFC0.75KT1MD	0.75	1.0	230	270	3000	6000	1000	33	74
1PFC1.2KT1MD	1.2	1.6	230	270	3000	6000	1000	34	76
1PFC1.6KT1MD	1.6	1.9	230	270	3000	6000	1000	35	78
1PFC2.1KT1MD	2.1	2.3	230	270	3000	6000	1000	36	80
1PFC2.6KT1MD	2.6	3.0	230	270	3000	6000	1000	37	82
1PFC2.8KT1MD	2.8	3.9	230	270	3000	6000	1000	38	84
1PFC3.2KT1MD	3.2	4.6	210	250	2500	5000	800	39	86
1PFC3.7KT1MD	3.7	5.3	210	250	2500	4500	800	40	88
1PFC4.2KT1MD	4.2	5.8	210	250	2500	4000	800	41	90
1PFC5.0KT1MD	5.0	7.1	190	230	2500	3500	800	43	94
1PFC6.0KT1MD	6.0	8.3	190	230	2000	3000	600	45	98
1PFC7.0KT1MD	7.0	10.0	160	200	2000	2500	600	48	104
1PFC8.0KT1MD	8.0	11.0	160	200	2000	2100	600	50.5	109
1PFC9.8KT1MD	9.8	14.0	160	200	1500	2000	600	55	118



M14x1.5 thread depth 12 mm. M18x1.5 thread depth 12 mm. To mount the pump: n. 2 M8 screws, with a torque wrench setting fixed at 27 ± 3 Nm.



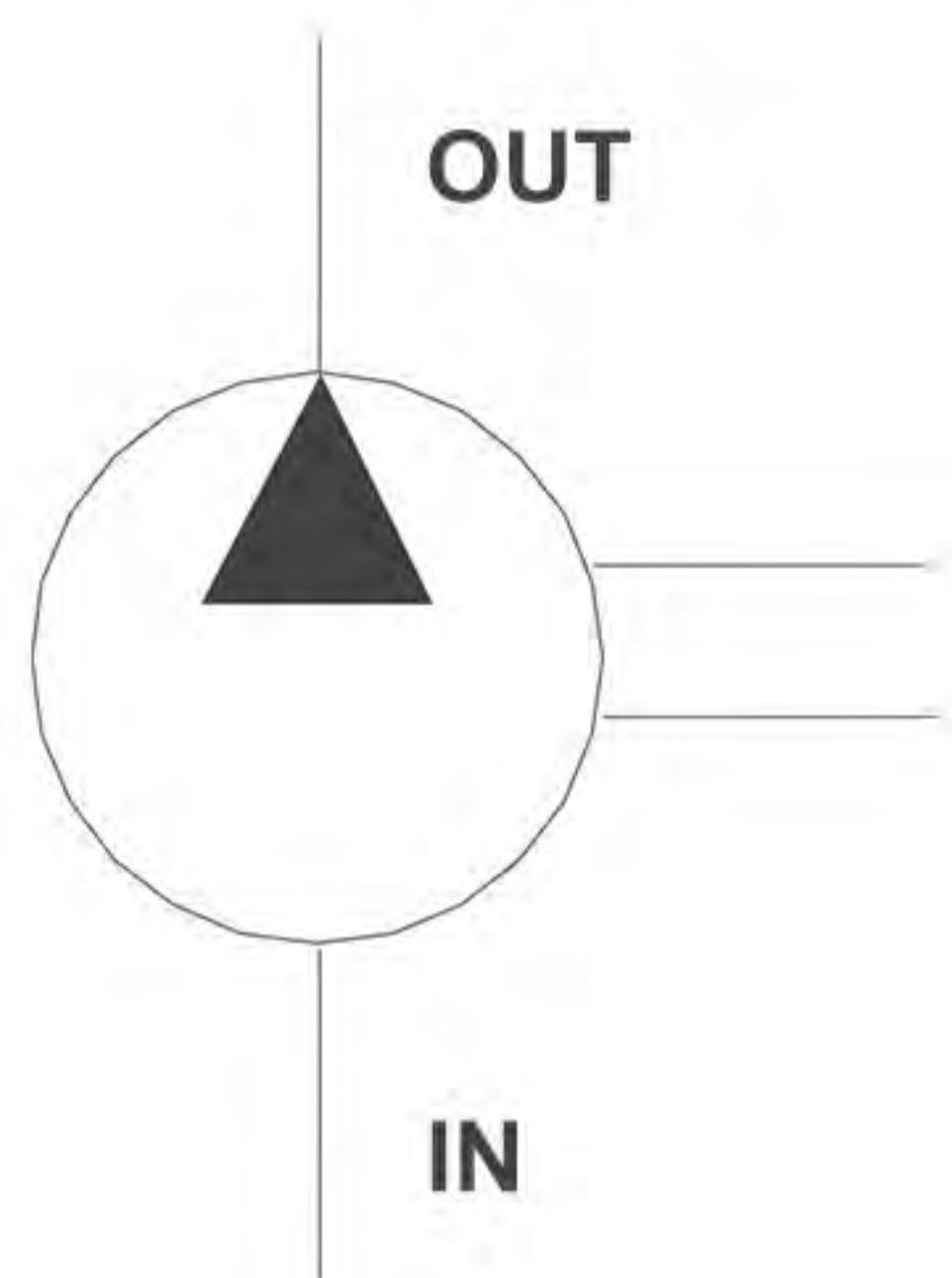
Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	L1	L
1PFC0.75KG1MD	0.75	1.0	230	270	3000	6000	1000	33	74
1PFC1.2KG1MD	1.2	1.6	230	270	3000	6000	1000	34	76
1PFC1.6KG1MD	1.6	1.9	230	270	3000	6000	1000	35	78
1PFC2.1KG1MD	2.1	2.3	230	270	3000	6000	1000	36	80
1PFC2.6KG1MD	2.6	3.0	230	270	3000	6000	1000	37	82
1PFC2.8KG1MD	2.8	3.9	230	270	3000	6000	1000	38	84
1PFC3.2KG1MD	3.2	4.6	210	250	2500	5000	800	39	86
1PFC3.7KG1MD	3.7	5.3	210	250	2500	4500	800	40	88
1PFC4.2KG1MD	4.2	5.8	210	250	2500	4000	800	41	90
1PFC5.0KG1MD	5.0	7.1	190	230	2500	3500	800	43	94
1PFC6.0KG1MD	6.0	8.3	190	230	2000	3000	600	45	98
1PFC7.0KG1MD	7.0	10.0	160	200	2000	2500	600	48	104
1PFC8.0KG1MD	8.0	11.0	160	200	2000	2100	600	50.5	109
1PFC9.8KG1MD	9.8	14.0	160	200	1500	2000	600	55	118

1A Gear Pump

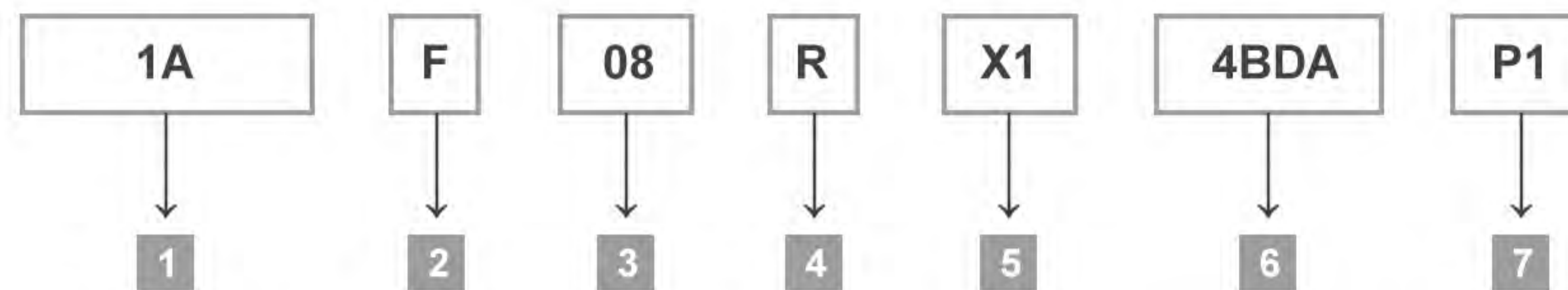
- ▶ Displacement : 0.5~7.8 cc/rev
- ▶ Max. Pressure : 250 kgf/cm² (3500psi)
- ▶ Flange : SAE 2-bolt, DIN 4-bolt, European 4-bolt



SCHEMATIC SYMBOL



ORDER CODES



1	Model Name	1A
2	Mounting	F L
3	Delivery Capacity	05, 08, 1, 2, 26, 3, 4, 5, 6, 8
4	Rotation Direction	R L M
5	Shaft Type	X: straight shaft Y: spline shaft Z: taper shaft
6	Flange Mounting Type	2B SAE 2-bolt 4BDA DIN 4-bolt (Type A) 4BDB DIN 4-bolt (Type B) 4BE European 4-bolt
7	Inlet and Outlet	F: flange type(F1~F2) G: G, BSP, PF(G1~G2) P: PT(P1~P2) U: UNF(U1~U2)

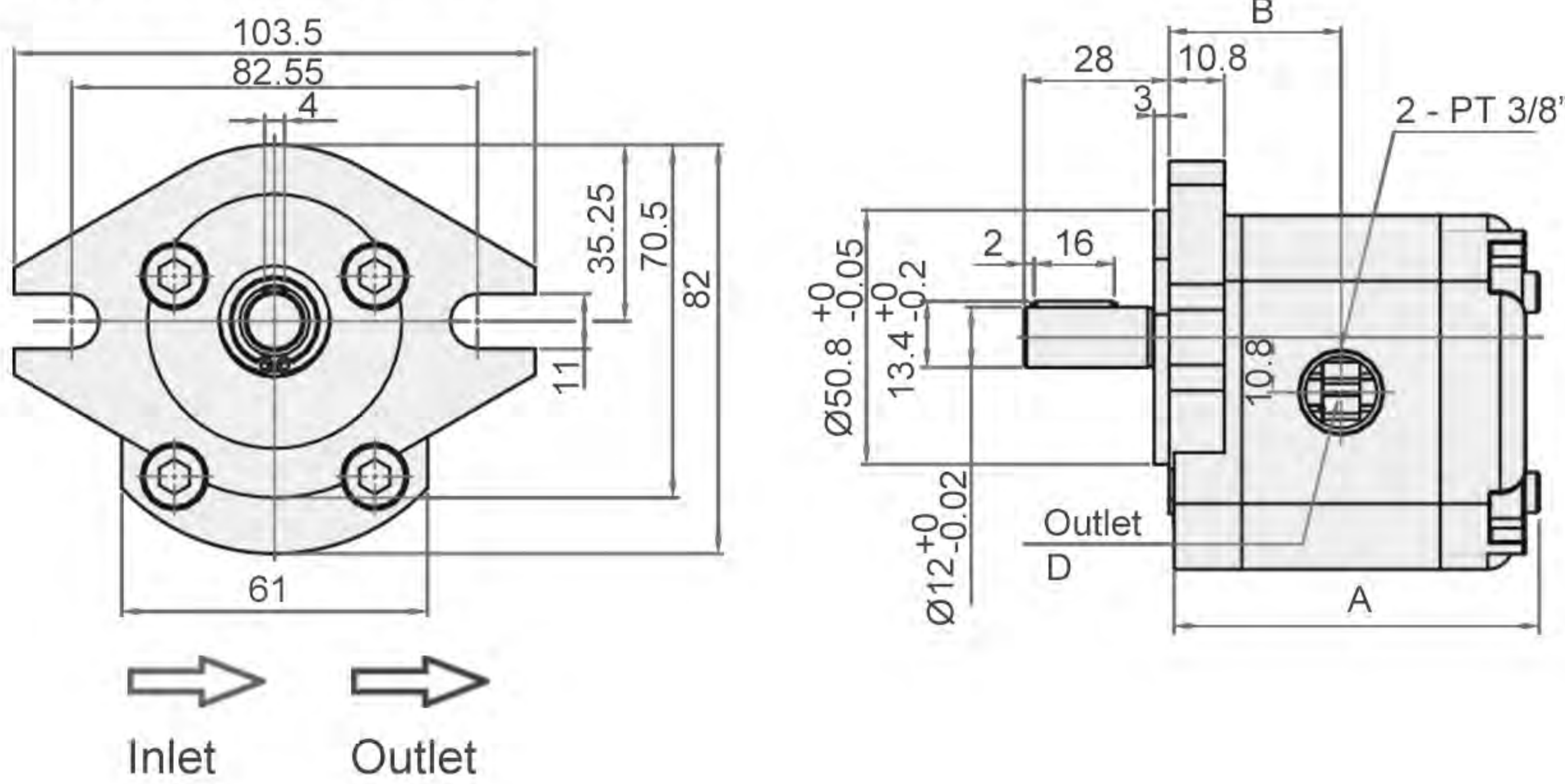
Model	Accurate Displacement Capacity (cc/rev)	Operational Pressure (kgf/cm ²)	Max. Pressure (kgf/cm ²)	Speed (r.p.m.)			Dimensions mm
				Rated	Max	Min	
1A-05	0.5	210	250	1800	4500	1000	1.0
1A-08	0.8	210	250	1800	4500	1000	1.0
1A-1	1	210	250	1800	4500	1000	1.0
1A-2	2	210	250	1800	4500	600	1.05
1A-26	2.6	210	250	1800	4500	600	1.15
1A-3	3	210	250	1800	4500	600	1.15
1A-4	4	210	250	1800	4000	600	1.18
1A-5	5	210	250	1800	3200	600	1.2
1A-6	6	210	250	1800	3200	600	1.3
1A-8	7.8	170	210	1800	3200	600	1.4

* 1A-05 and 1A-26 do not belong to regular products. Customized service can be provided.

DIMENSIONS (UNIT : MM)

1A-2B

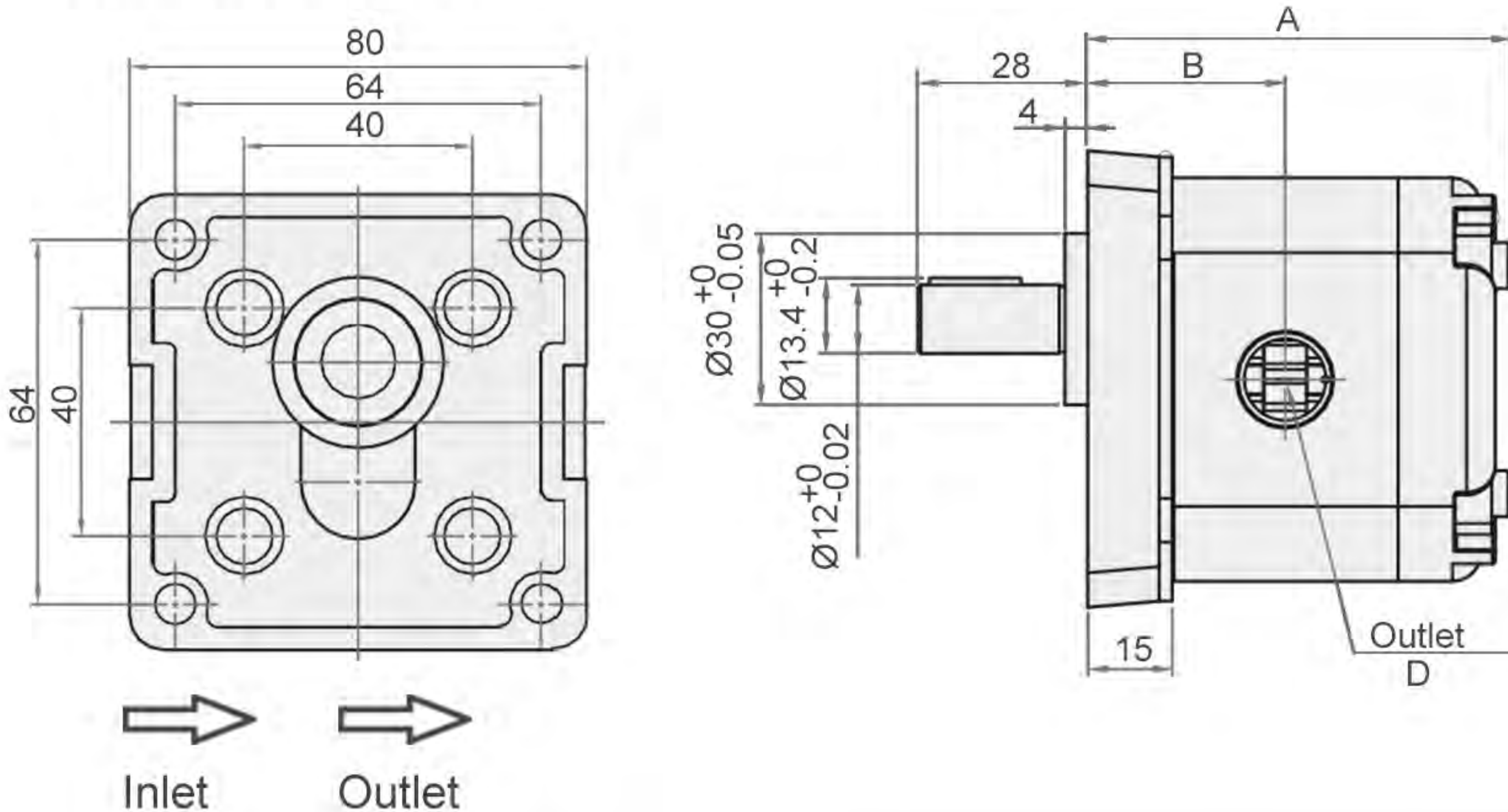
CW Rotation / Clockwise



Type	A	B	C Inlet	D Outlet
1A-08	67.5	32.5	PT 3/8"	PT 3/8"
1A-1	69.5	33.5	PT 3/8"	PT 3/8"
1A-2	72	34.8	PT 3/8"	PT 3/8"
1A-3	77.5	37.5	PT 3/8"	PT 3/8"
1A-4	79.5	38.5	PT 3/8"	PT 3/8"
1A-5	83.5	40.5	PT 3/8"	PT 3/8"
1A-6	87.5	42.5	PT 3/8"	PT 3/8"
1A-8	93.5	45.5	PT 1/2"	PT 3/8"

*Thread: NPT or PT is optional.
*If you want to order 1A-05 or 1A-26, please email us to get further information.

CW Rotation / Clockwise



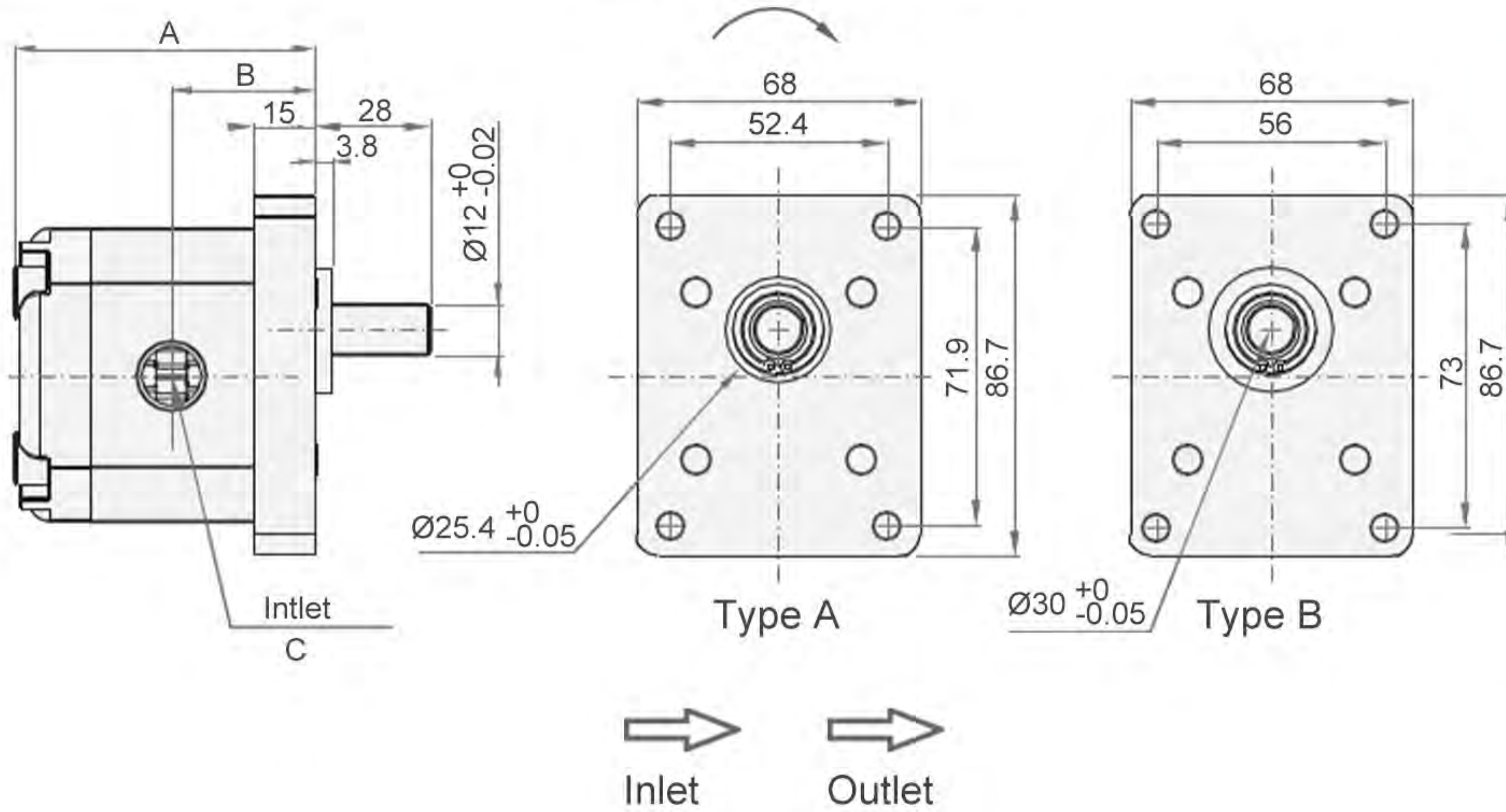
Type	A	B	C Inlet	D Outlet
1A-08	75.5	32.5	PT 3/8"	PT 3/8"
1A-1	77.5	33.5	PT 3/8"	PT 3/8"
1A-2	80.1	34.8	PT 3/8"	PT 3/8"
1A-3	85.5	37.5	PT 3/8"	PT 3/8"
1A-4	87.5	38.5	PT 3/8"	PT 3/8"
1A-5	91.5	40.5	PT 3/8"	PT 3/8"
1A-6	95.5	42.5	PT 3/8"	PT 3/8"
1A-8	101.5	45.5	PT 1/2"	PT 3/8"

*Thread: NPT or PT is optional.
*If you want to order 1A-05 or 1A-26, please email us to get further information.

1A Gear Pump

1A-4BD

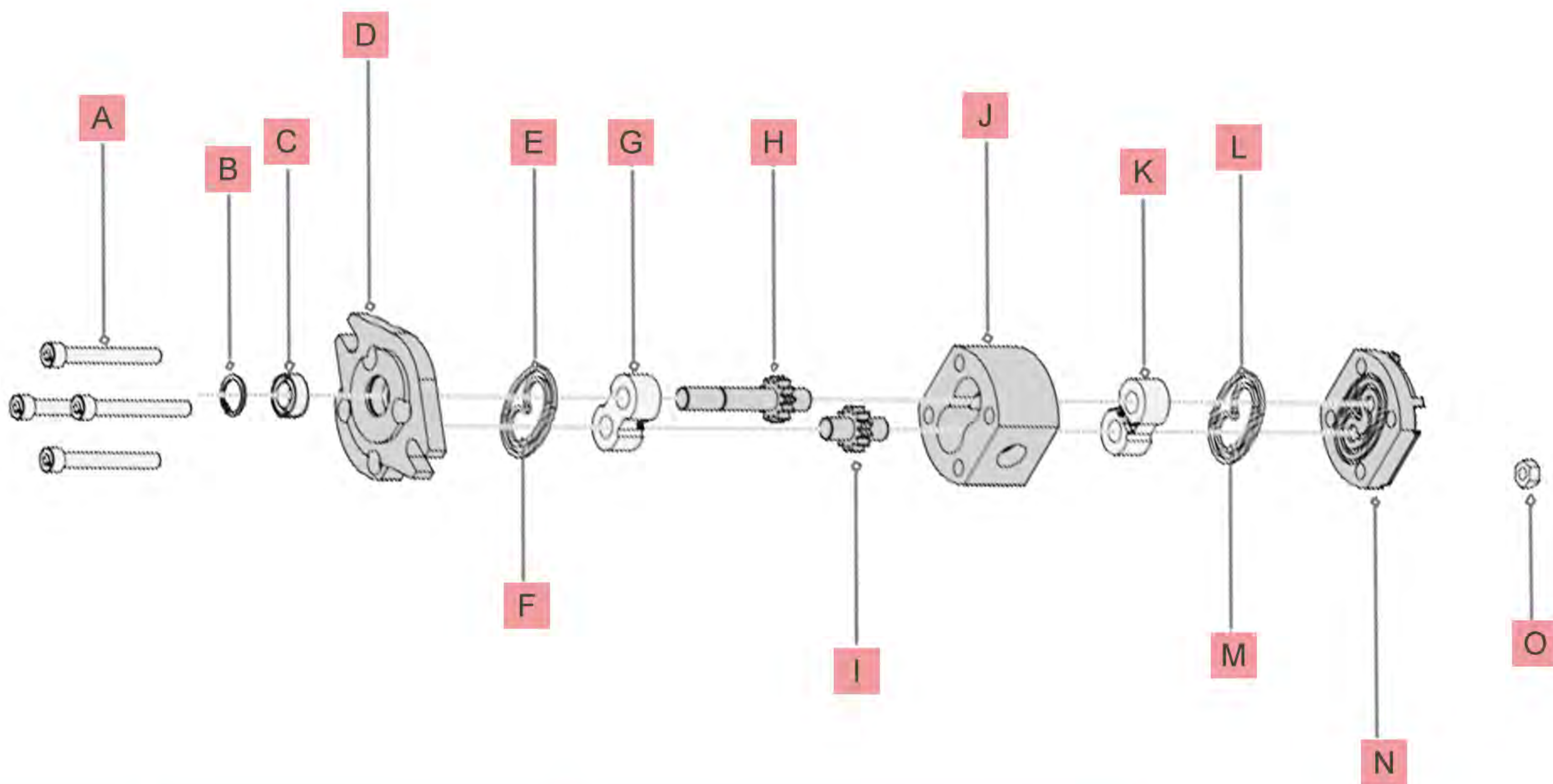
CW Rotation / Clockwise



Type	A	B	C Inlet	D Outlet
1A-08	67.5	32.5	PT 3/8"	PT 3/8"
1A-1	69.5	33.5	PT 3/8"	PT 3/8"
1A-2	72	34.8	PT 3/8"	PT 3/8"
1A-3	77.5	37.5	PT 3/8"	PT 3/8"
1A-4	79.5	38.5	PT 3/8"	PT 3/8"
1A-5	82.5	40.5	PT 3/8"	PT 3/8"
1A-6	87.5	42.5	PT 3/8"	PT 3/8"
1A-8	93.5	45.5	PT 1/2"	PT 3/8"

Thread: NPT or PT is optional.
*If you want to order 1A-05 or 1A-26, please email us to get further information.

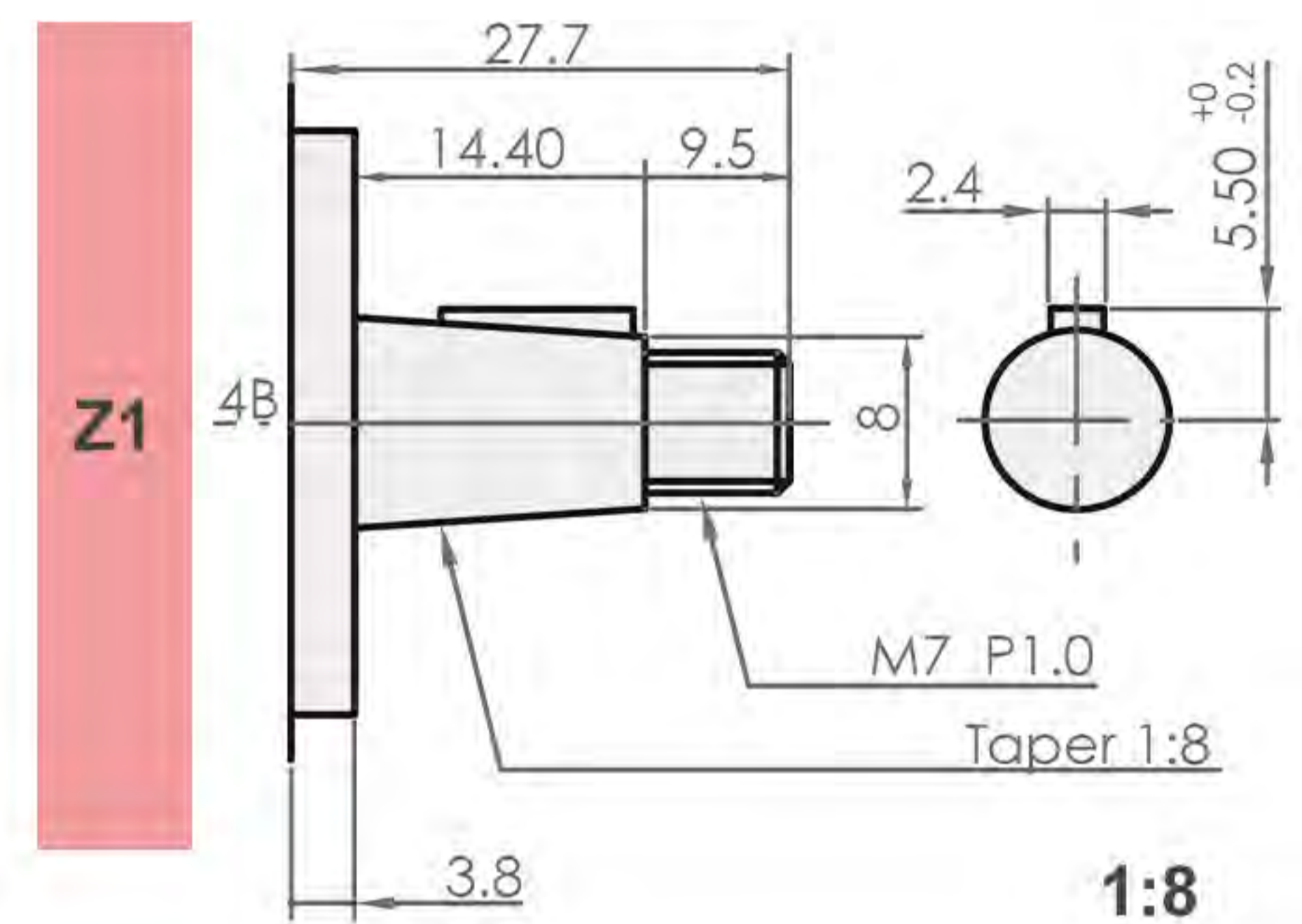
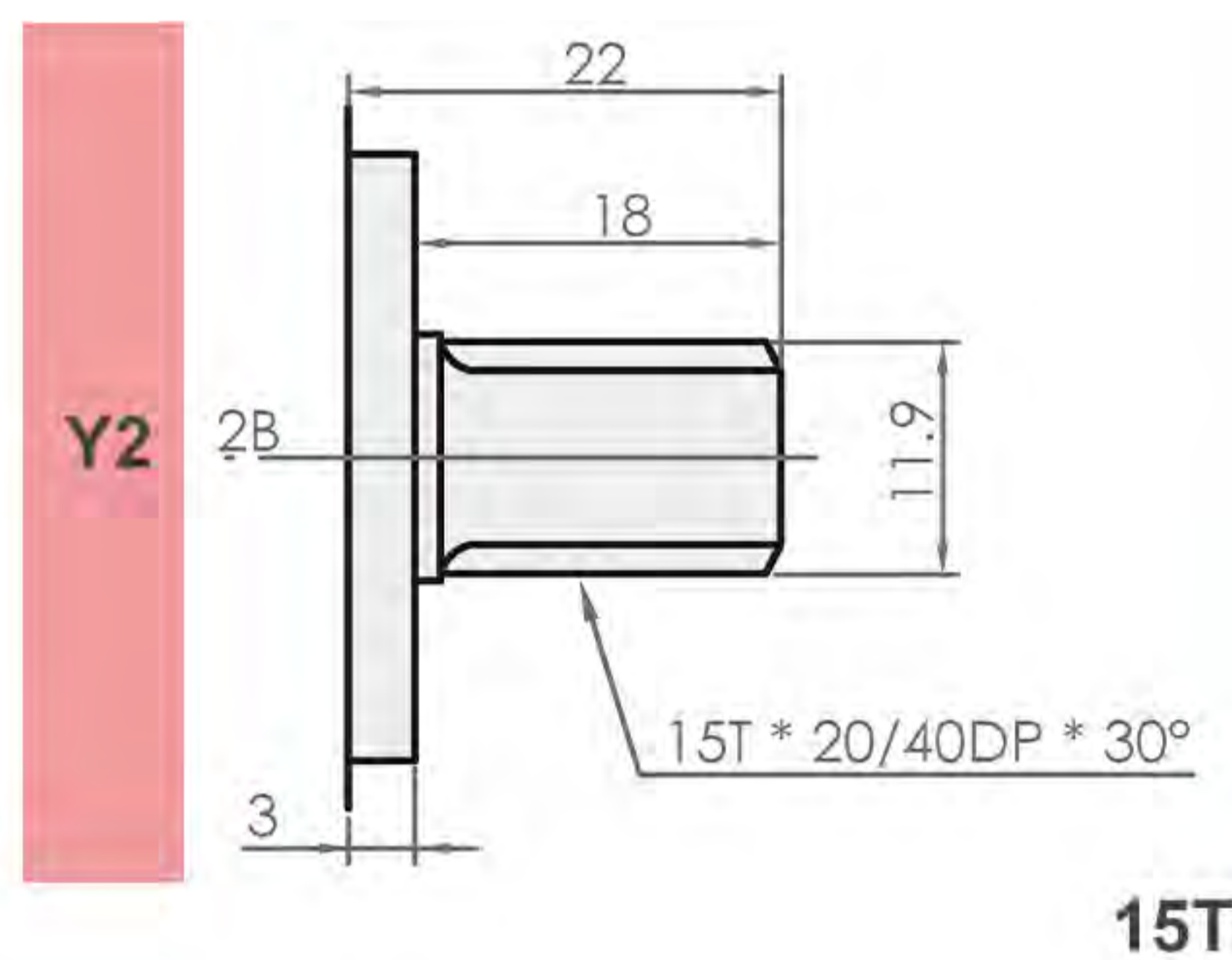
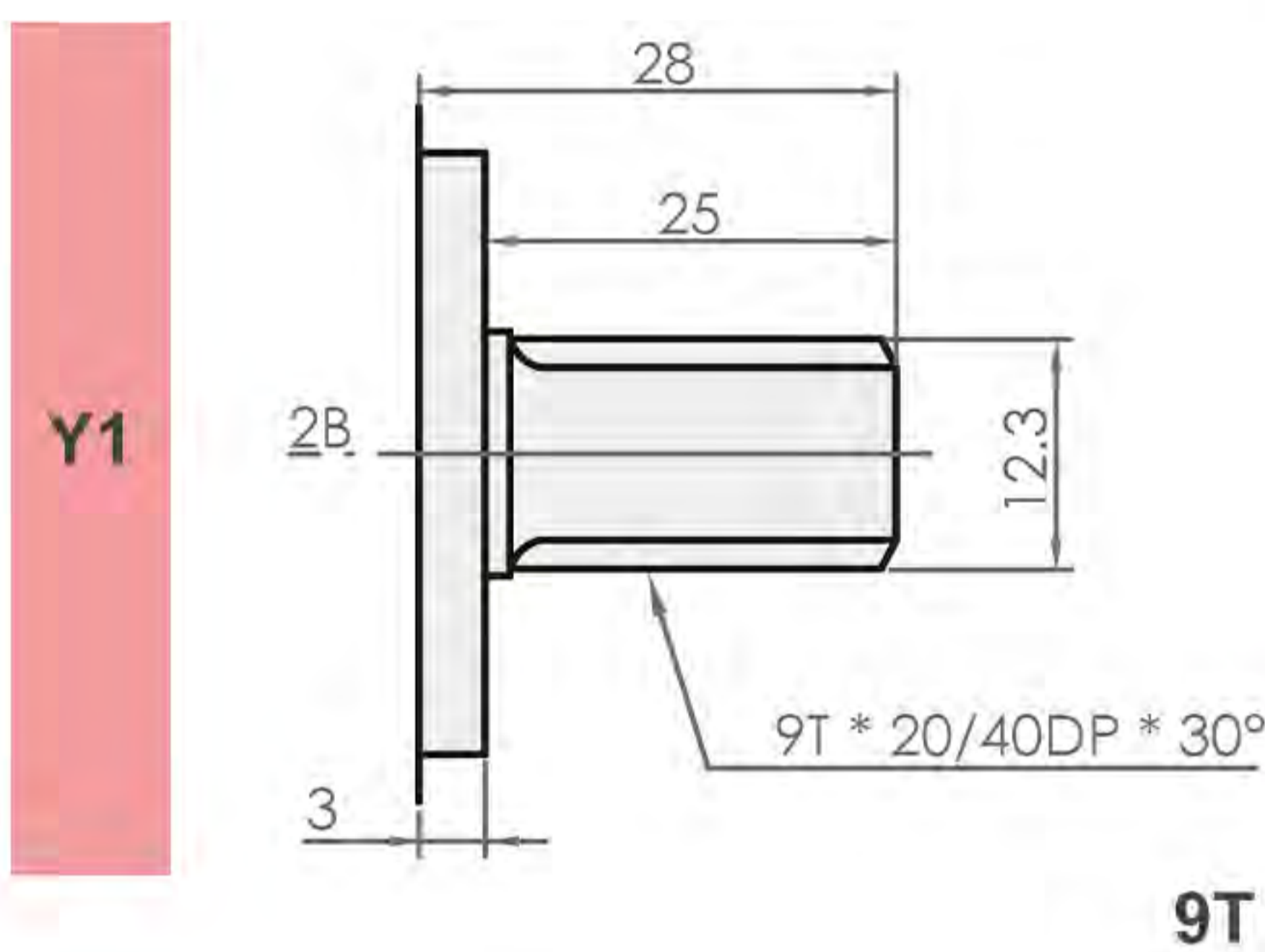
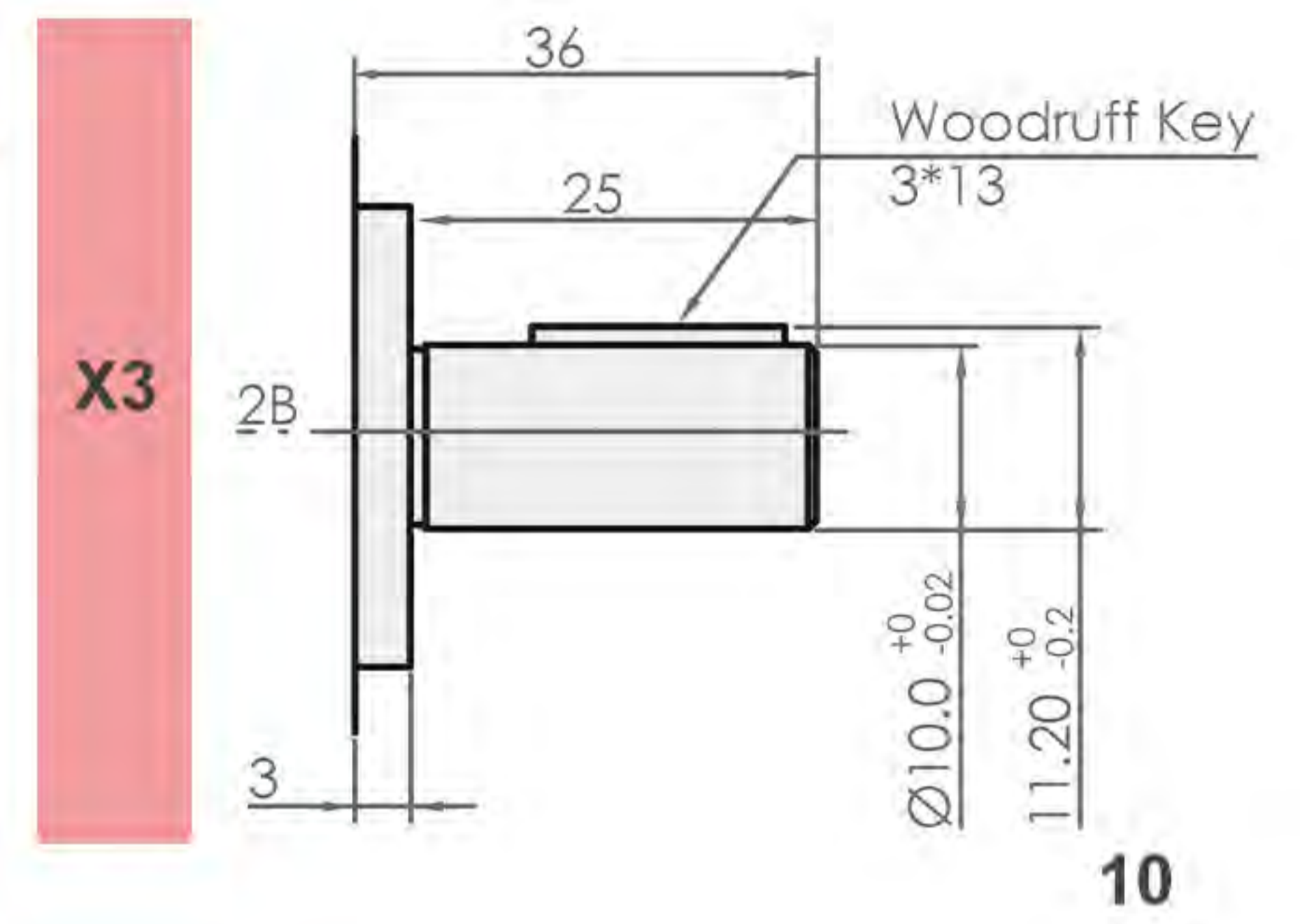
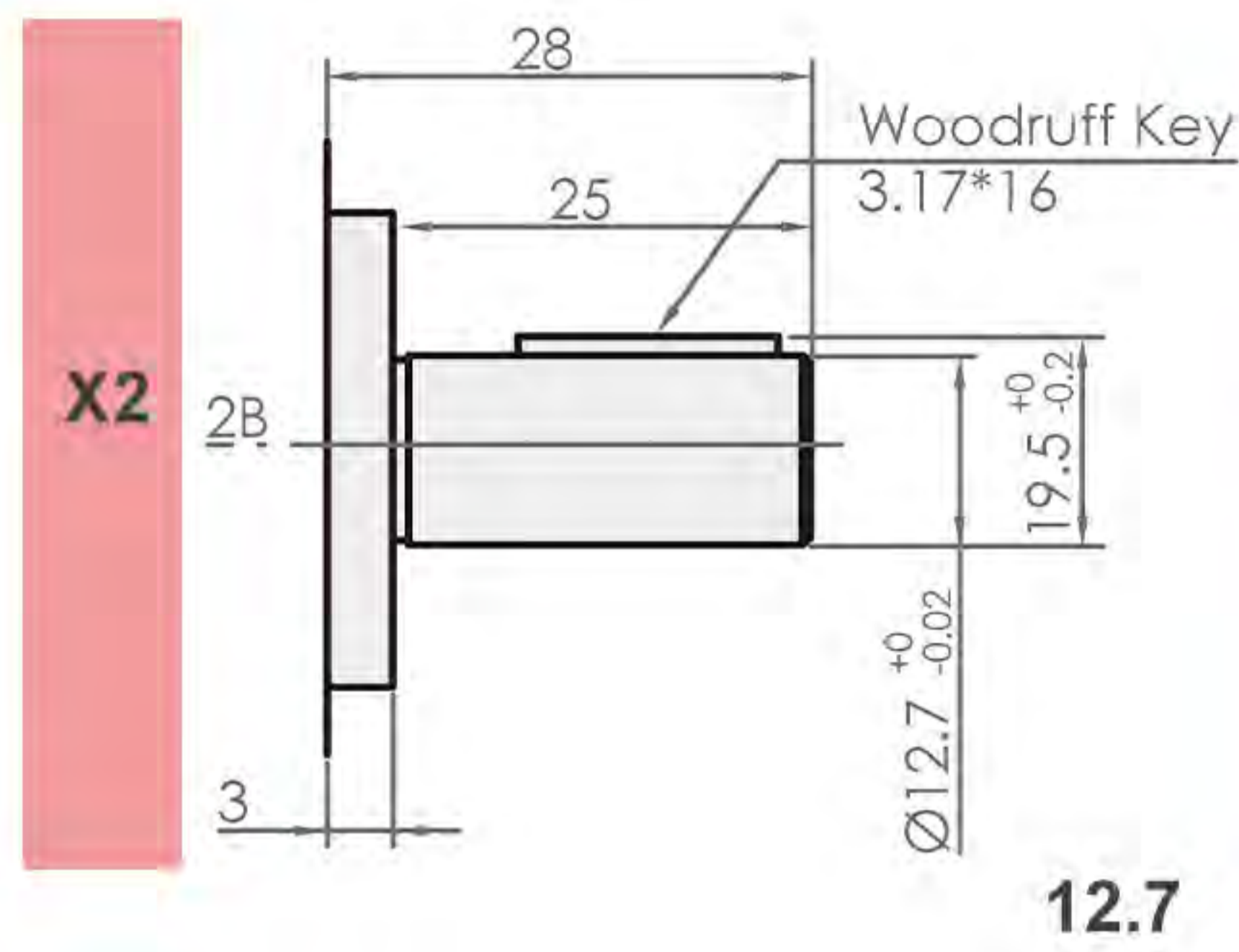
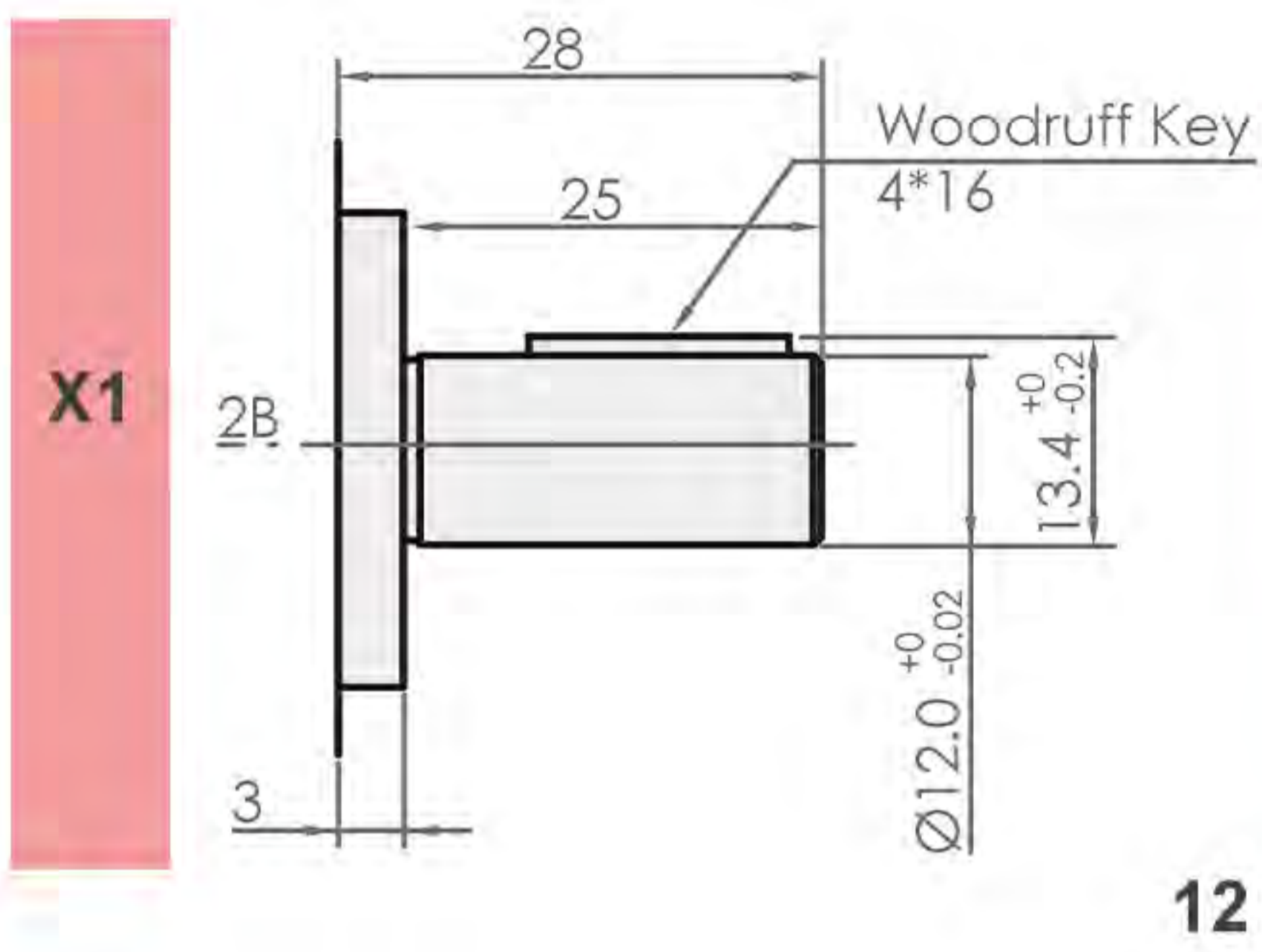
DECOMPOSITION CHARTS



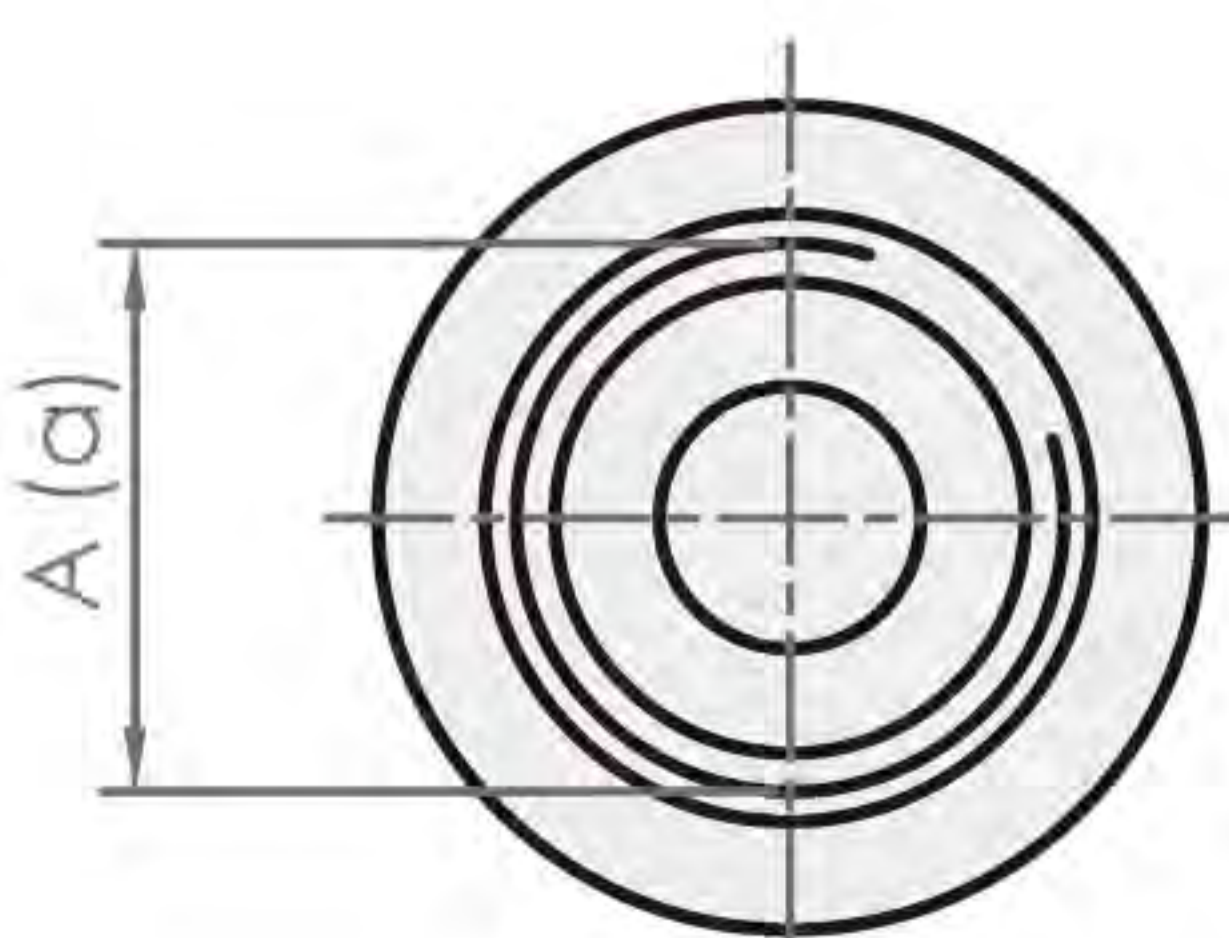
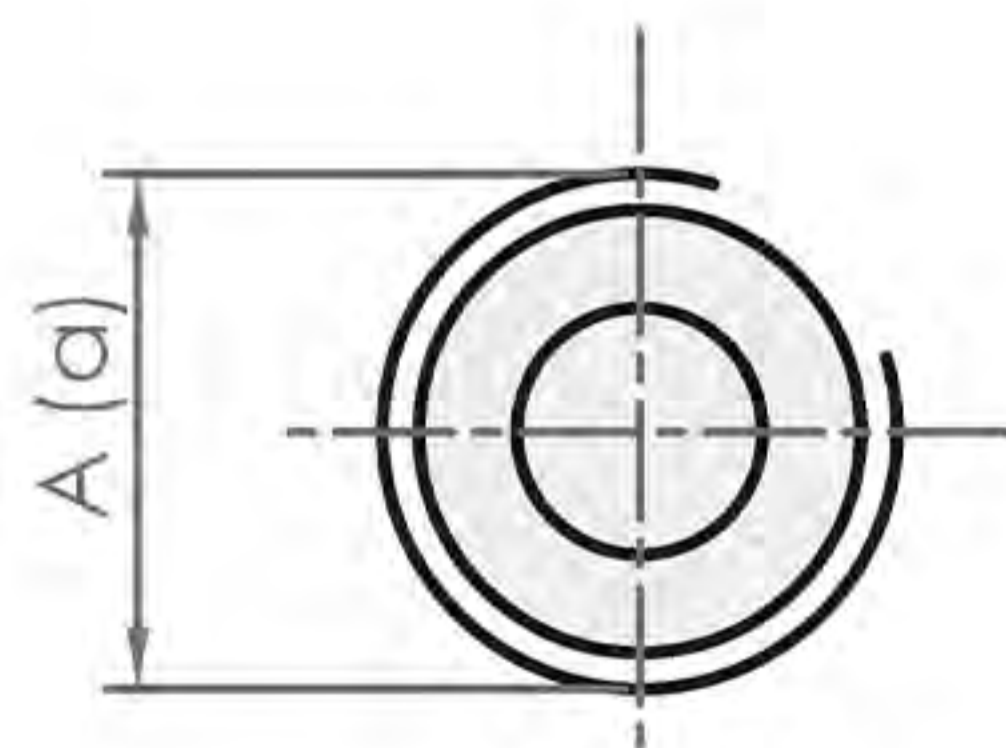
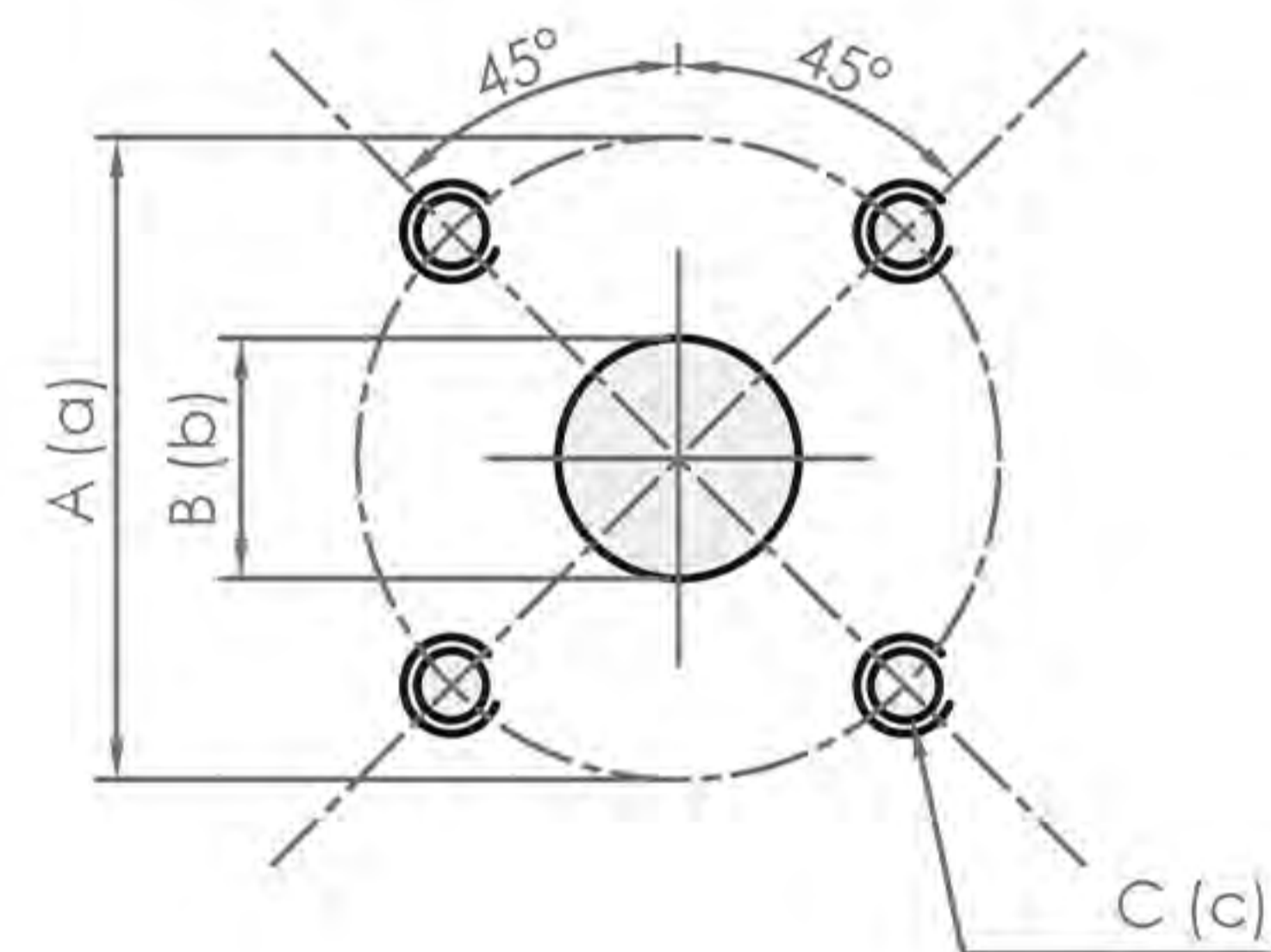
Item No.	Part Descriptions	Q'ty	Item No.	Part Descriptions	Q'ty
A	Bolt	4	I	Drive gear	1
B	C-ring	1	J	Housing	1
C	Shaft seal	1	K	Matching bearing	1
D	Front cover	1	L	Bush lobe seal	1
E	O-ring	1	M	O-ring	1
F	Bush lobe seal	1	N	Rear cover	1
G	Matching bearing	1	O	Nut	4
H	Drive gear	1			

ADDITIONAL DIMENSION

Dimension of Shaft



Inlet and Outlet Size



Flange Type

Code	Inlet			Outlet		
	A	B	C	a	b	c
F1	30	14.5	M6	30	14.5	M6
F2	35	14.5	M6	35	14.5	M6

G, BSP, PF

Code	Inlet	Outlet
	A	a
G1	G 3/8"	G 3/8"
G2	G 1/2"	G 3/8"

PT

Code	Inlet	Outlet	Applicable Model
	A	a	
P1	3/8" PT	3/8"PT	1A-08 ~ 6
P2	1/2" PT	3/8" PT	1A-8

UNF

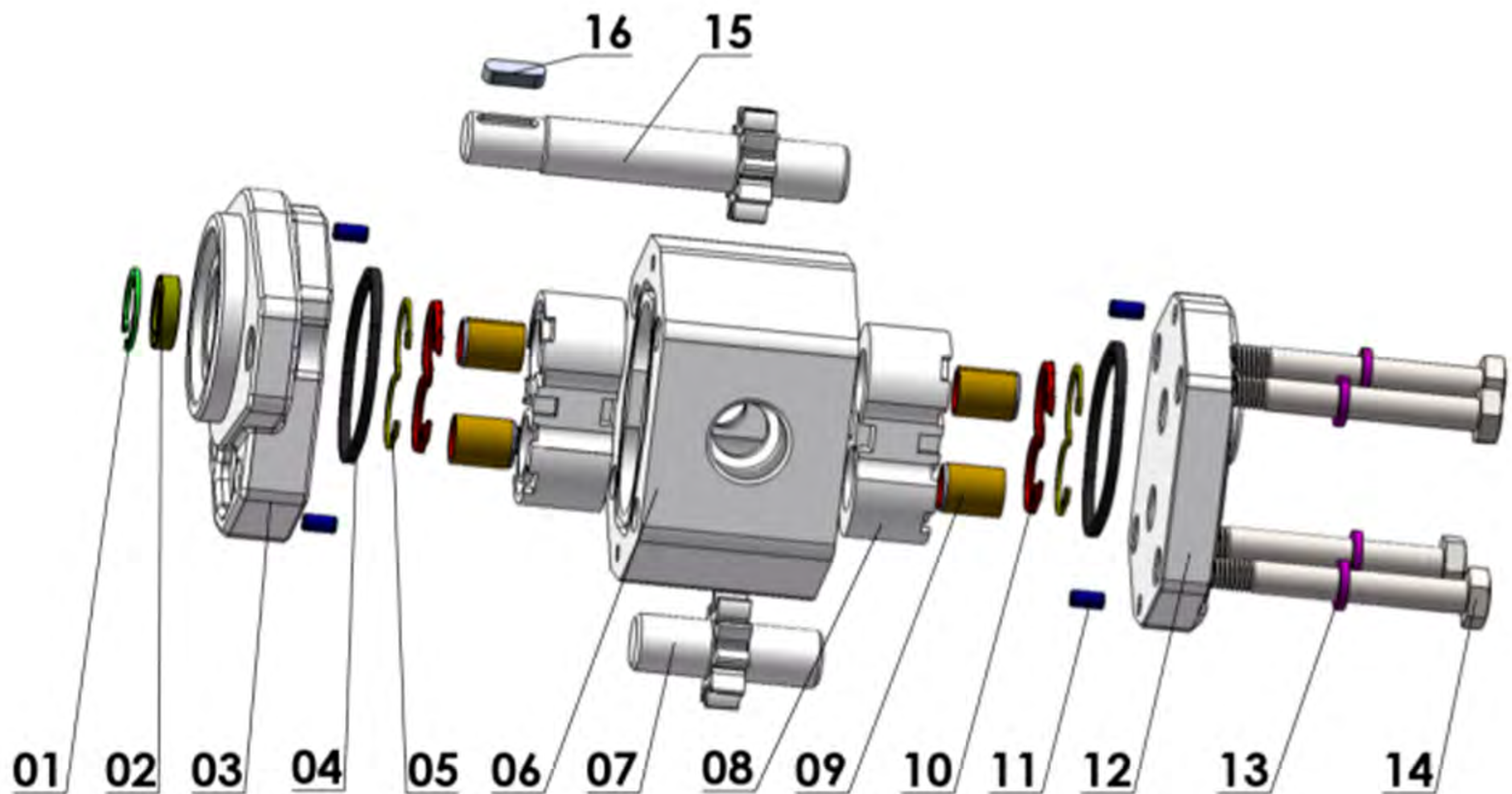
Code	Inlet	Outlet
	A	a
U1	9/16"-18UNF	9/16"-18UNF
U2	3/4"-16UNF	9/16"-18UN

How To Order GPM1.0



GPM1	F	C	1.4	F	S	01				
Pump Series GPM1	Pressure (bar)	Rotation	Displacement (ml/r)	Mounting flange type	Drive Shaft	Port Type	Supported Bearing	Rear cover with valves		Seals
	F:200	A: Anticlockwise	1.4	F	T	X	Omit: Not Required	Code	Valve Type	Omit: Range=-10°C +80°C
	G:250	C: Clockwise	2.1	F1	T1	G	O: Required	-	Omit (standard rear cover)	V: Range=-10°C +120°C
			2.8	S	T2	Z		V	Relief Valve	H: Range=-40°C +80°C
			3.5	S1	G	S		Z	Flow Control Valve	
			4.1	K	G1	H		Y	Priority Valve	
			5.2	K4	S			L	Loading Sensing Valve	
			6.2	W	S1			P	Rear Cover with outlet	
			7.6	R	S2			R	Rear Cover with inlet and outlet	
			9.3		K					
			11		K1					
			13.8		K2					
					K3					

MODEL	Displacement cm ³ /rev	Max Pressure bar	Min Speed rpm	Max Speed rpm
GPM1FC1.4	1.4	310	1000	6000
GPM1FC2.1	2.1	310	1000	6000
GPM1FC2.8	2.8	310	800	5000
GPM1FC3.5	3.5	310	800	5000
GPM1FC4.1	4.1	310	800	4000
GPM1FC5.2	5.2	310	800	4000
GPM1FC6.2	6.2	290	600	3200
GPM1FC7.6	7.6	260	600	2600
GMP1FC9.3	9.3	240	600	2200
GMP1FC11.0	11	230	600	2200
GMP1FC13.8	13.8	210	600	1800



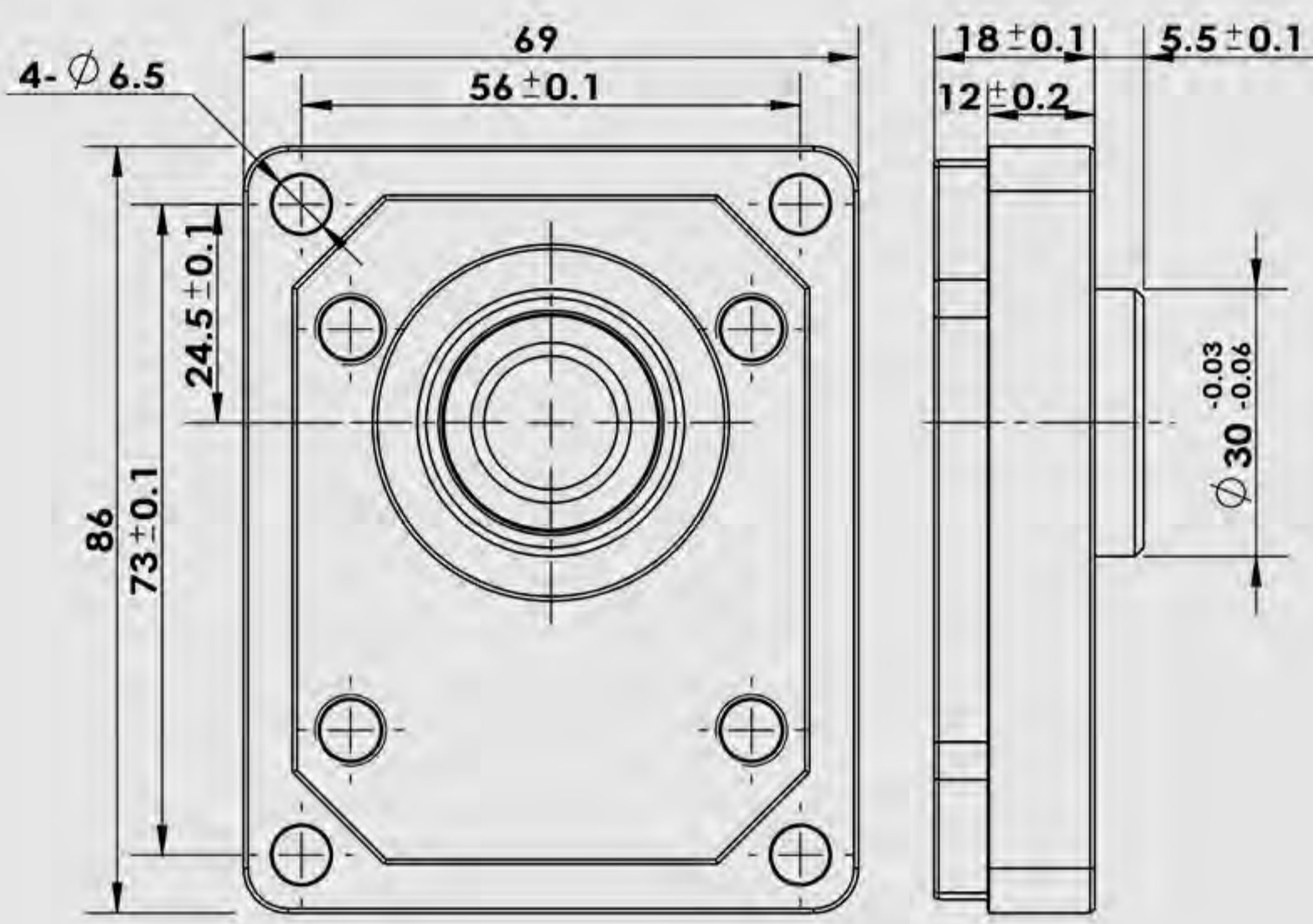
BASIC PUMP'S PARTS

- | | | | | | |
|----|---------------------|----|------------------|----|----------------------|
| 01 | Stop Ring | 07 | Gear | 12 | Rear Cover |
| 02 | Rotary Shaft Seal | 08 | Bearing | 13 | Washers |
| 03 | Front Flange | 09 | Sliding Bearings | 14 | Bolts |
| 04 | Housing Seals | 10 | Axial zone sea | 15 | Driving Gear |
| 05 | Anti-Extrusion Seal | 11 | Pins | 16 | Pin of the key shaft |
| 06 | Pump Housing | | | | |

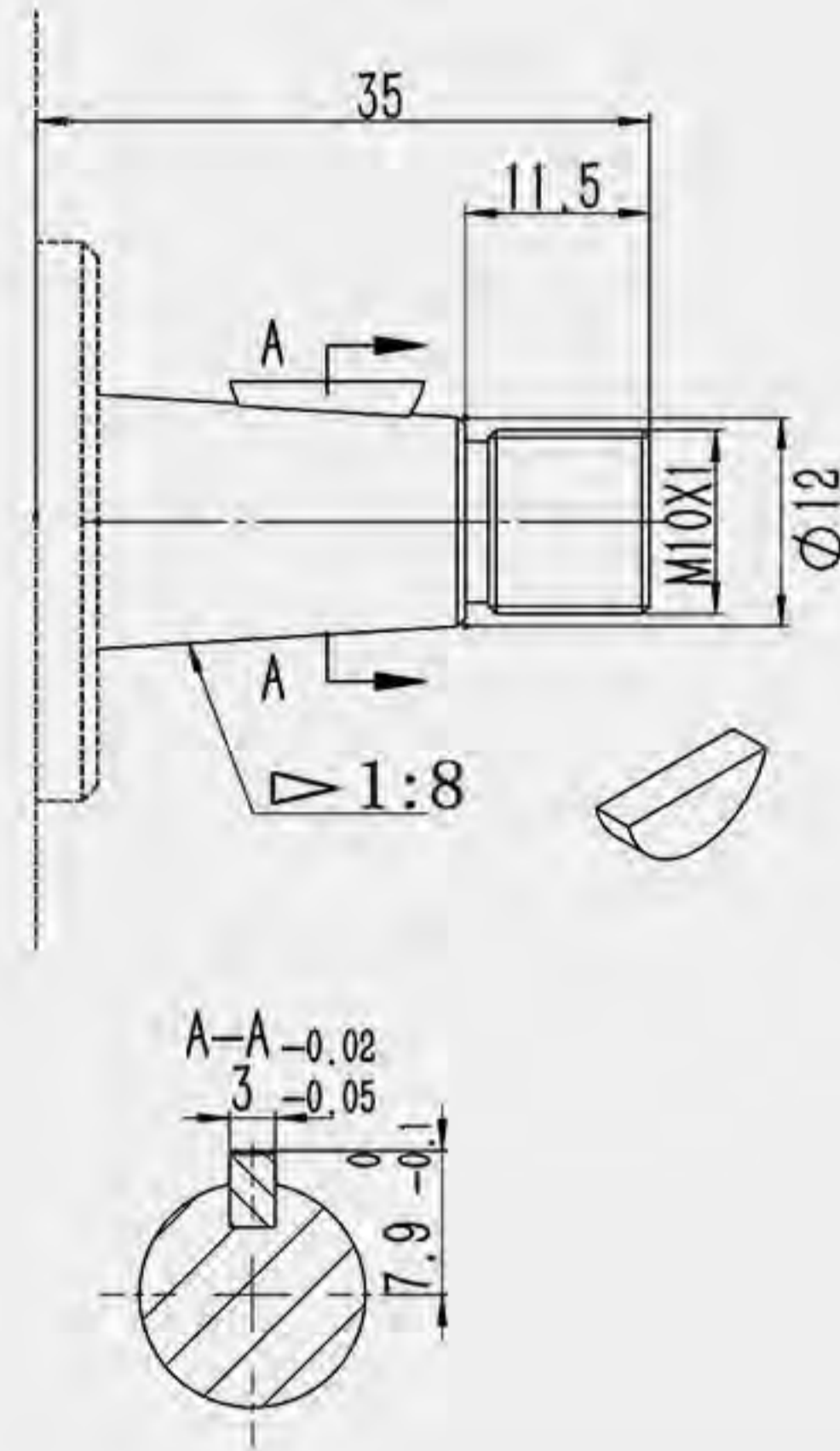
FRONT COVER

SHAFTS

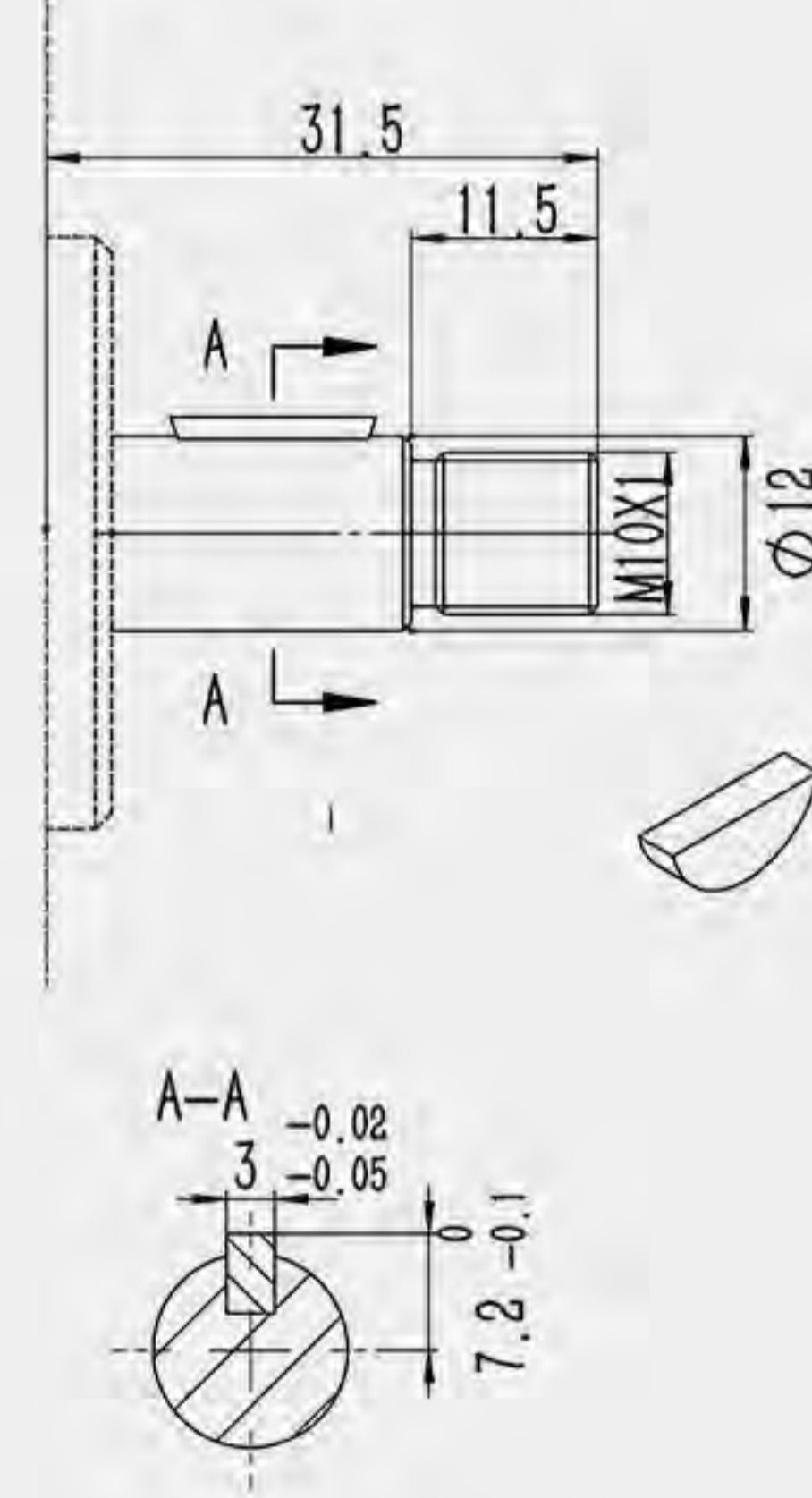
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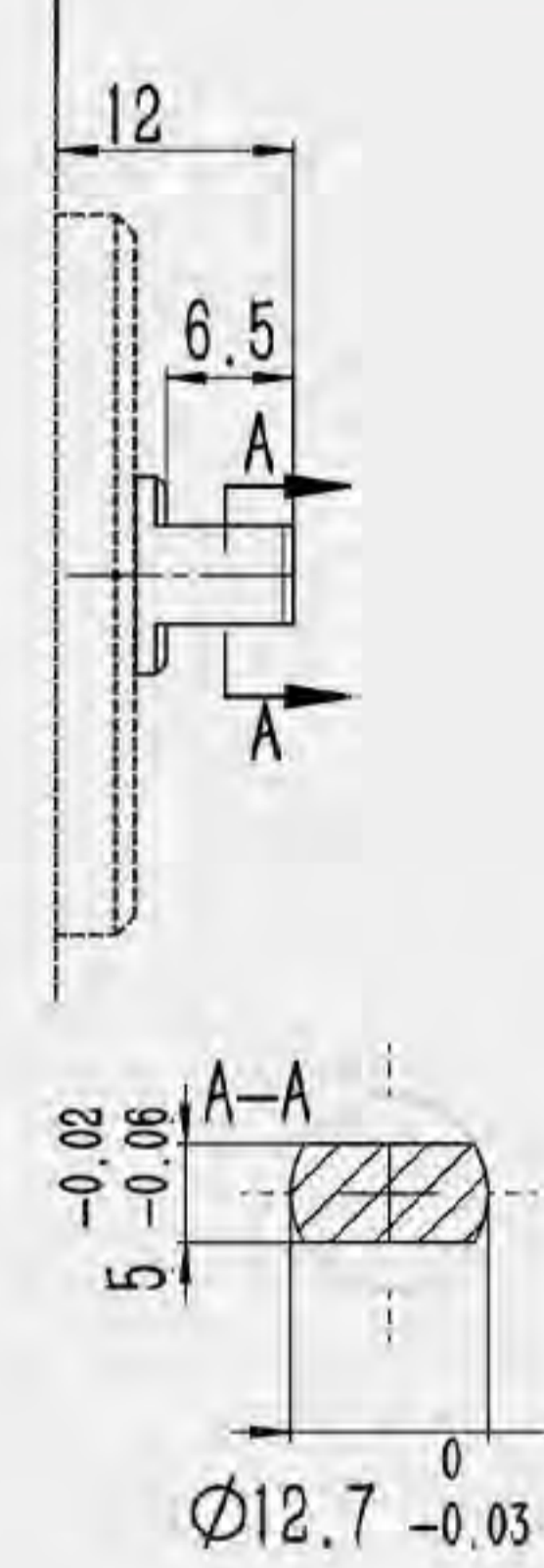
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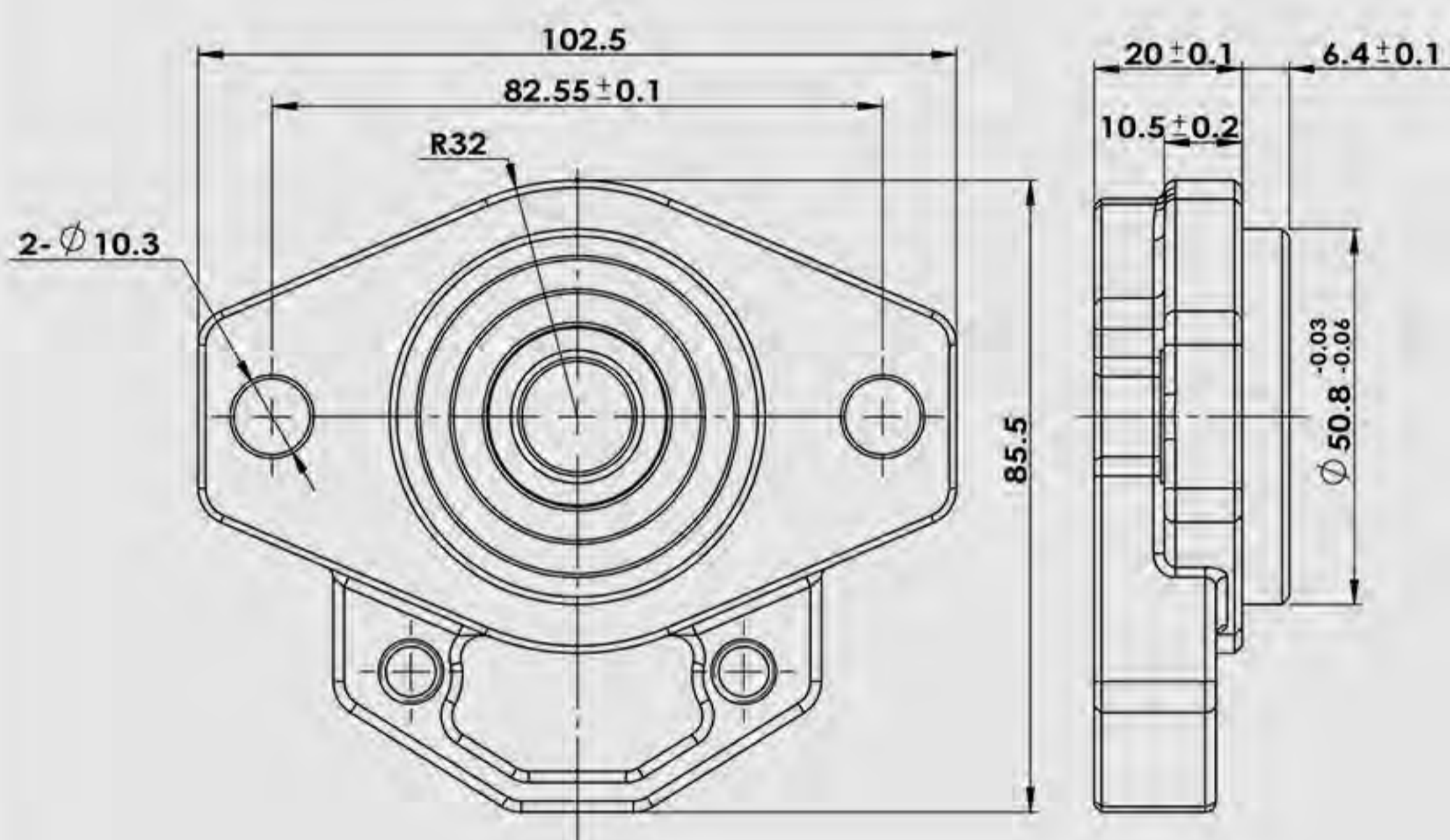
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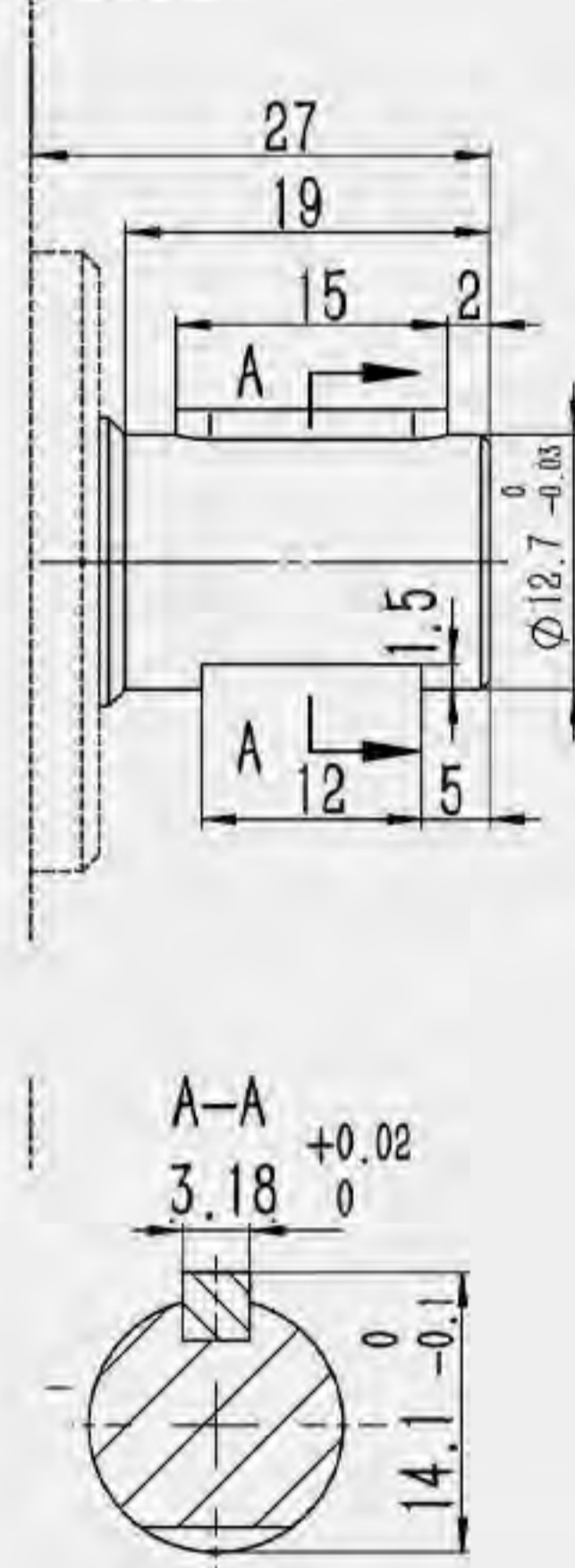
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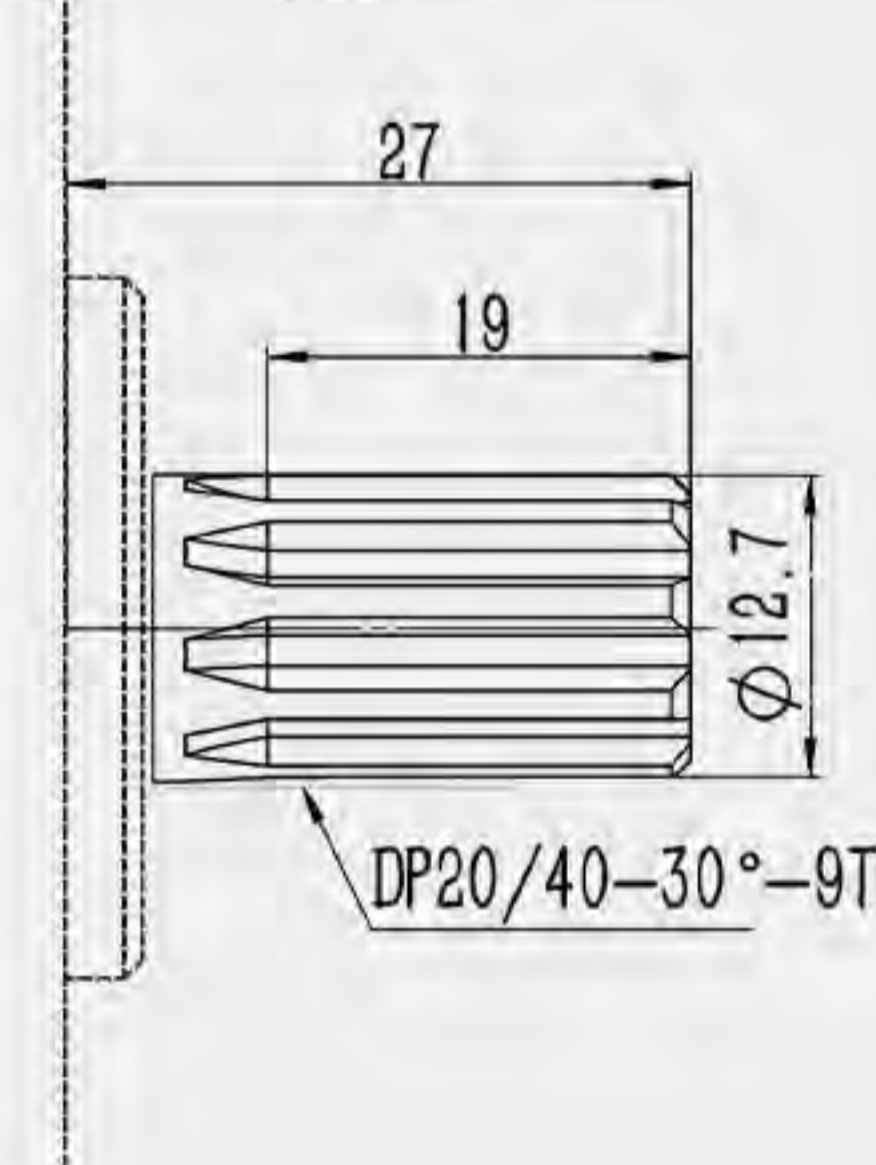
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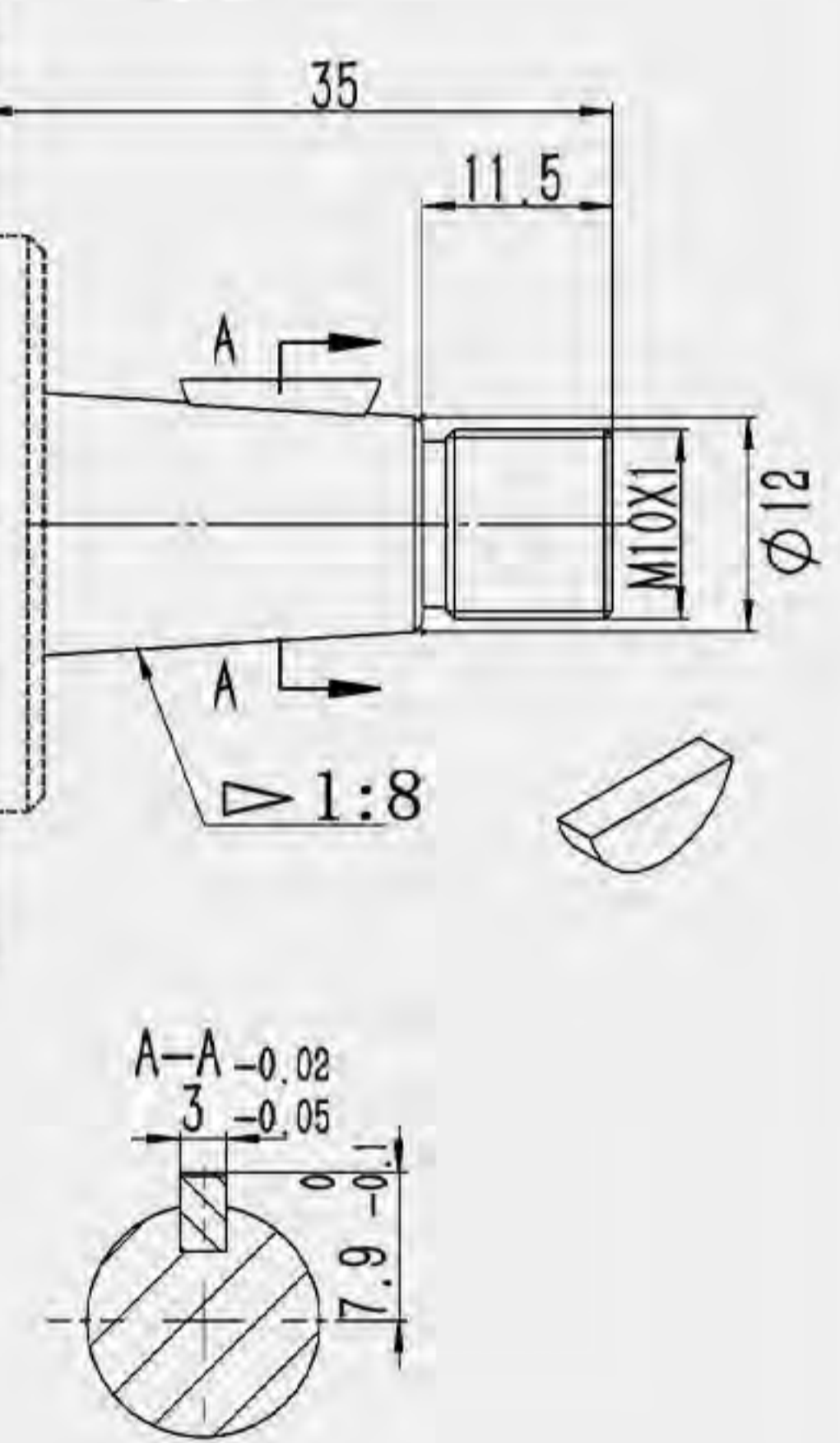
K



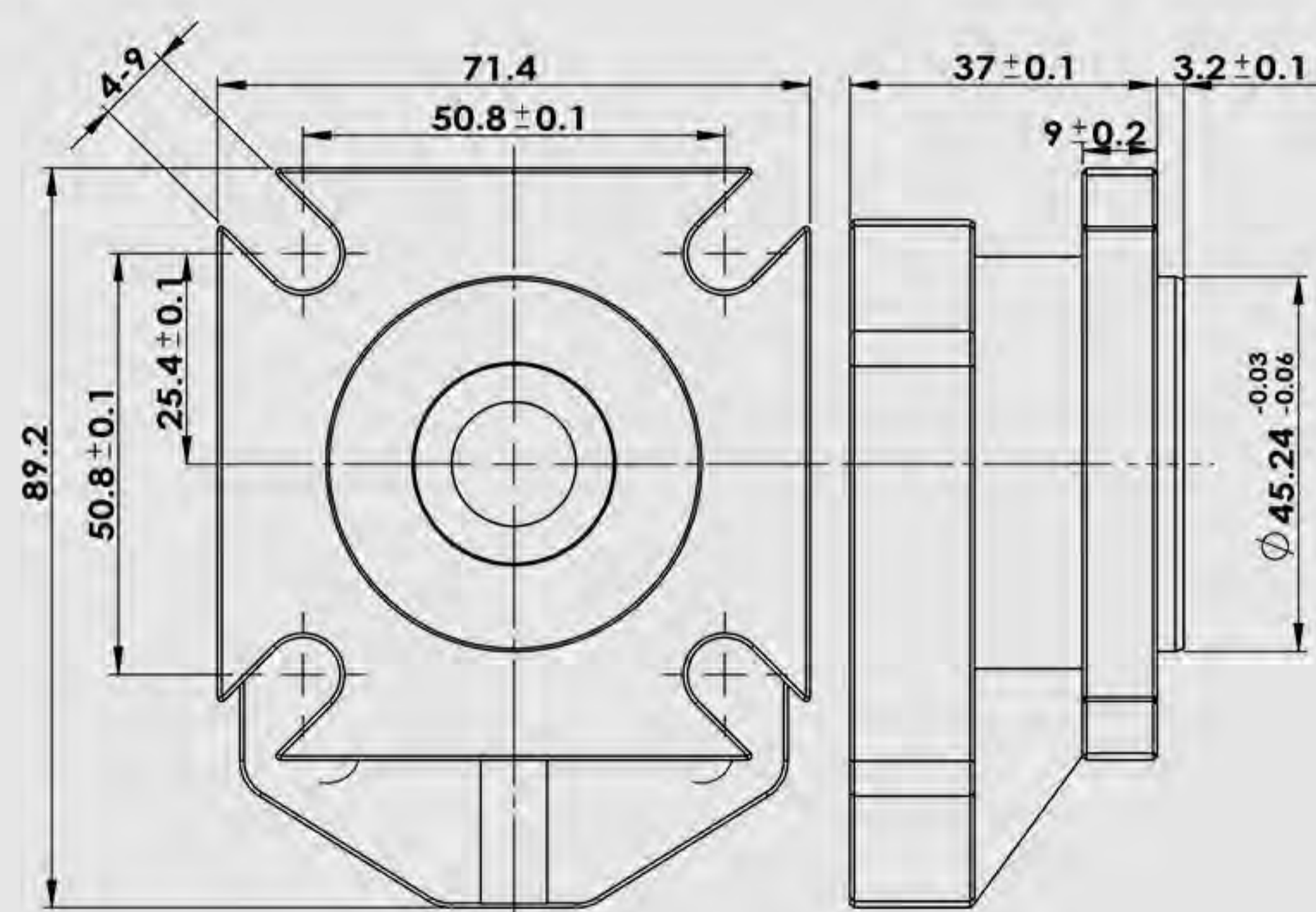
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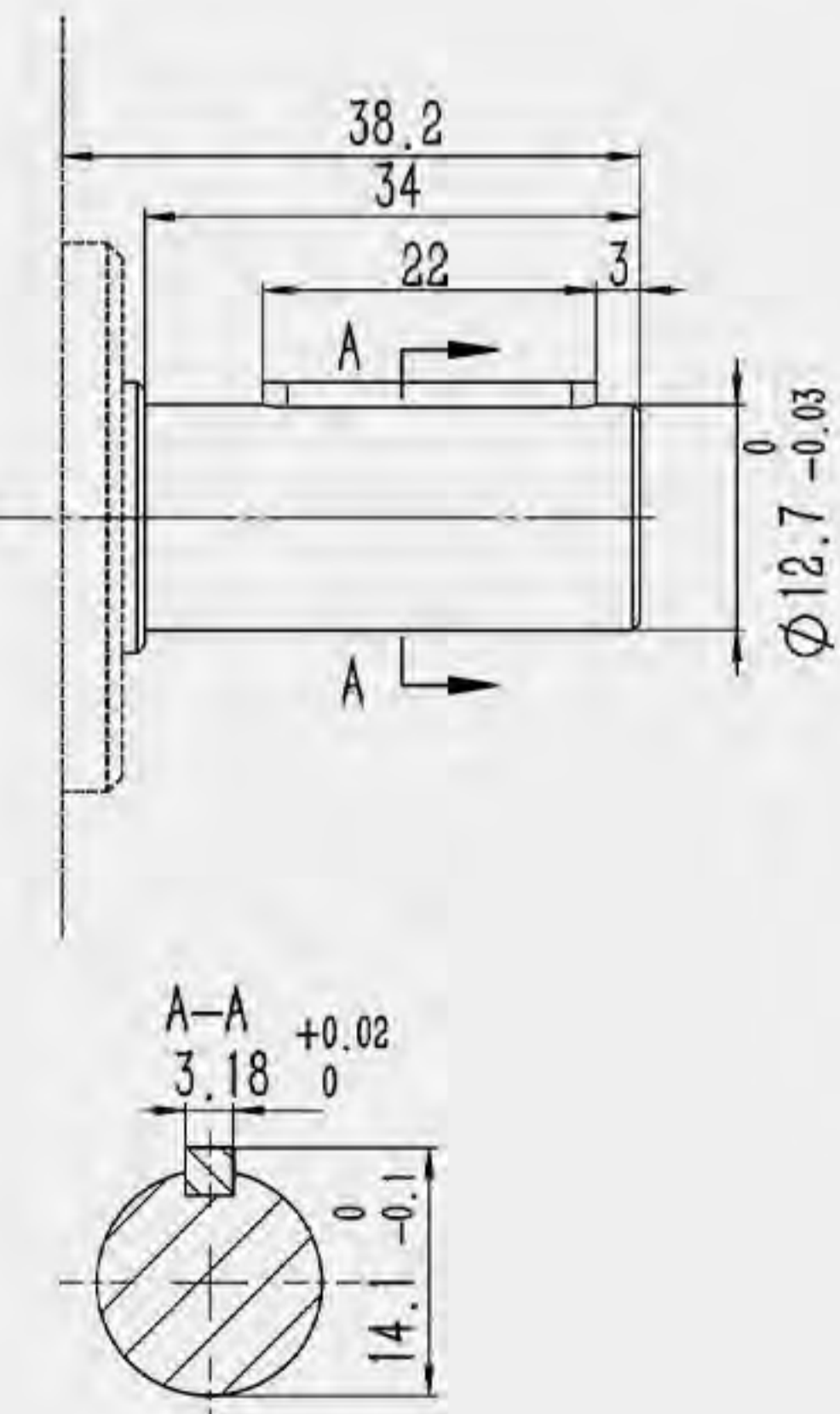
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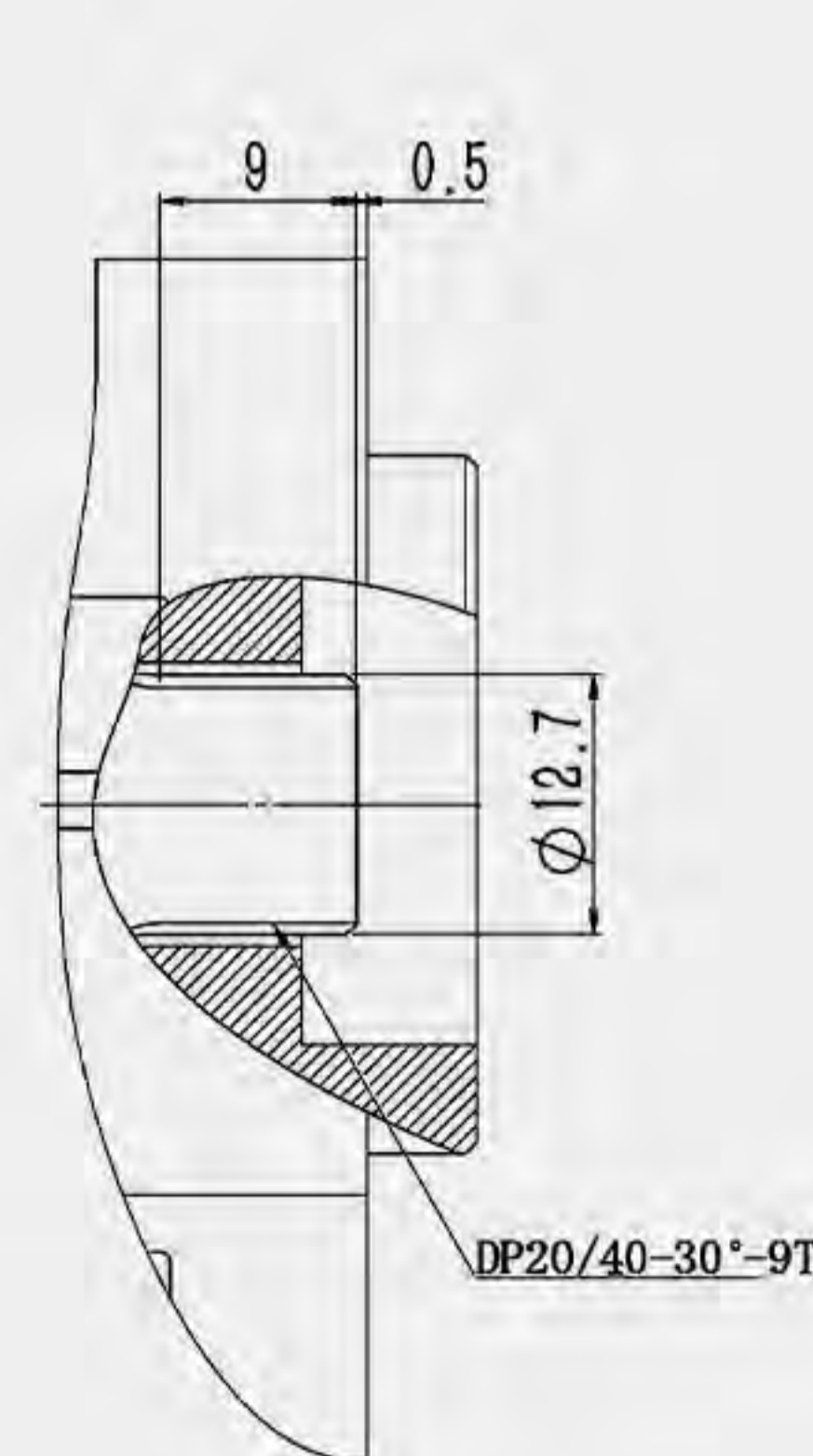
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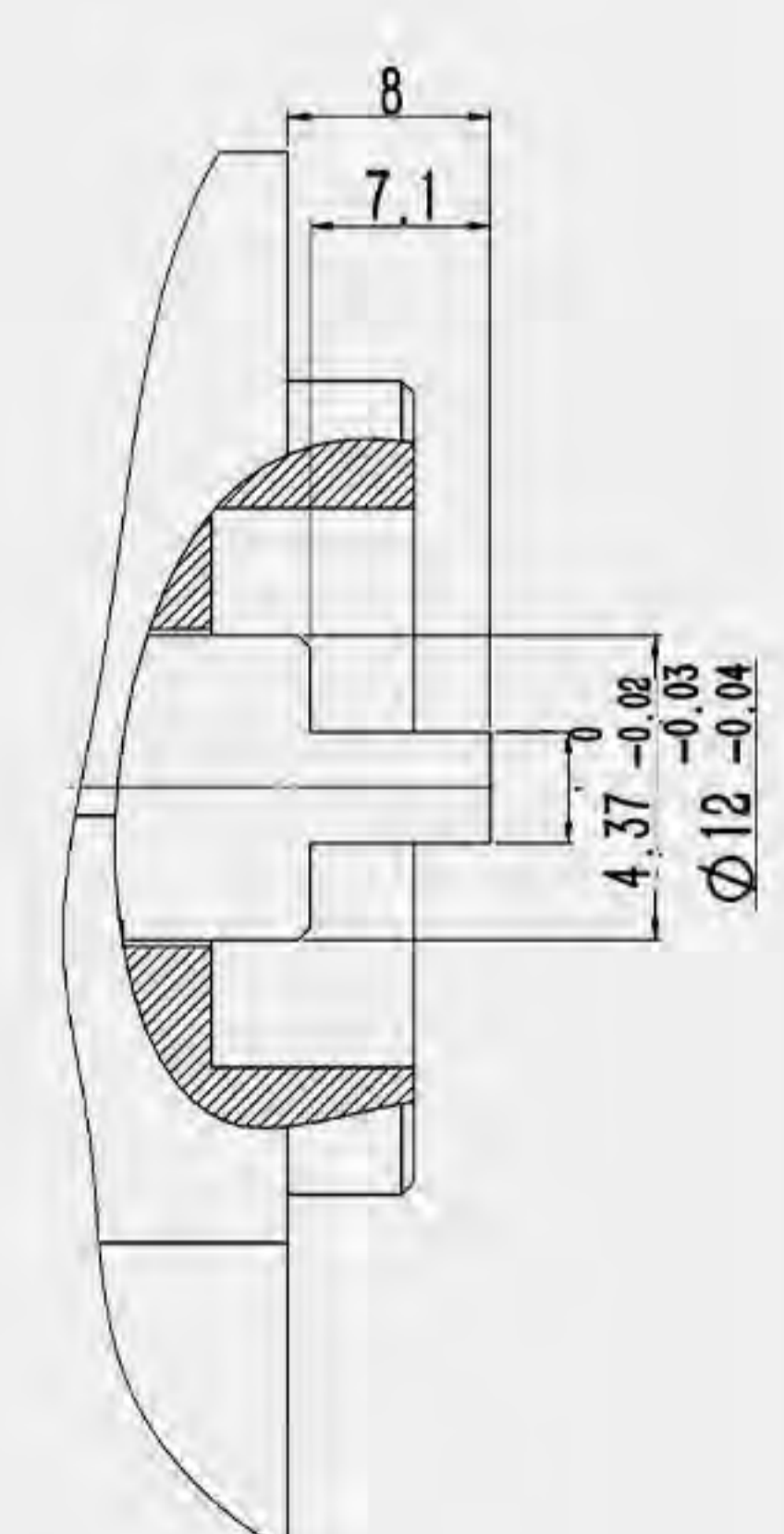
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S1



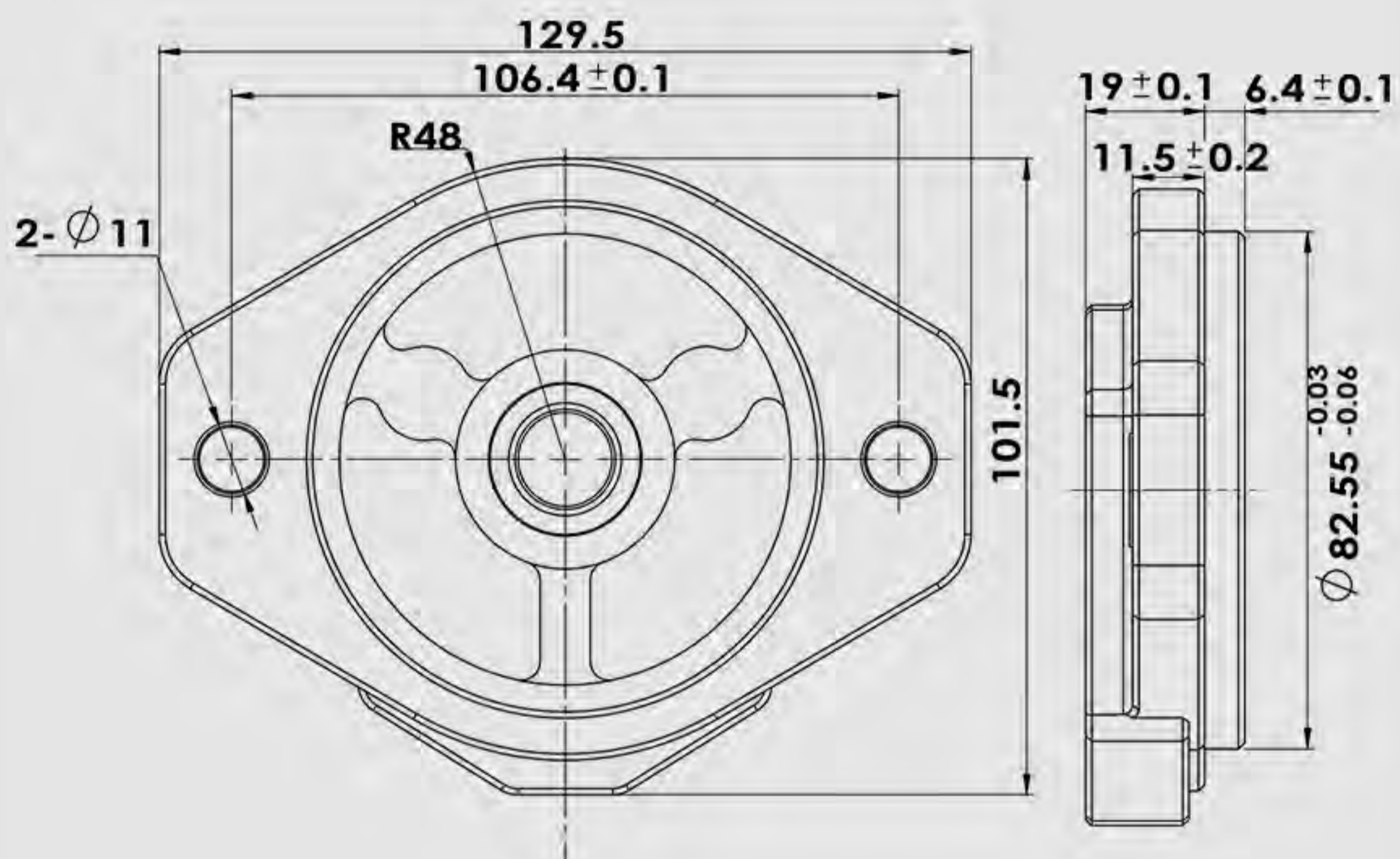
G1



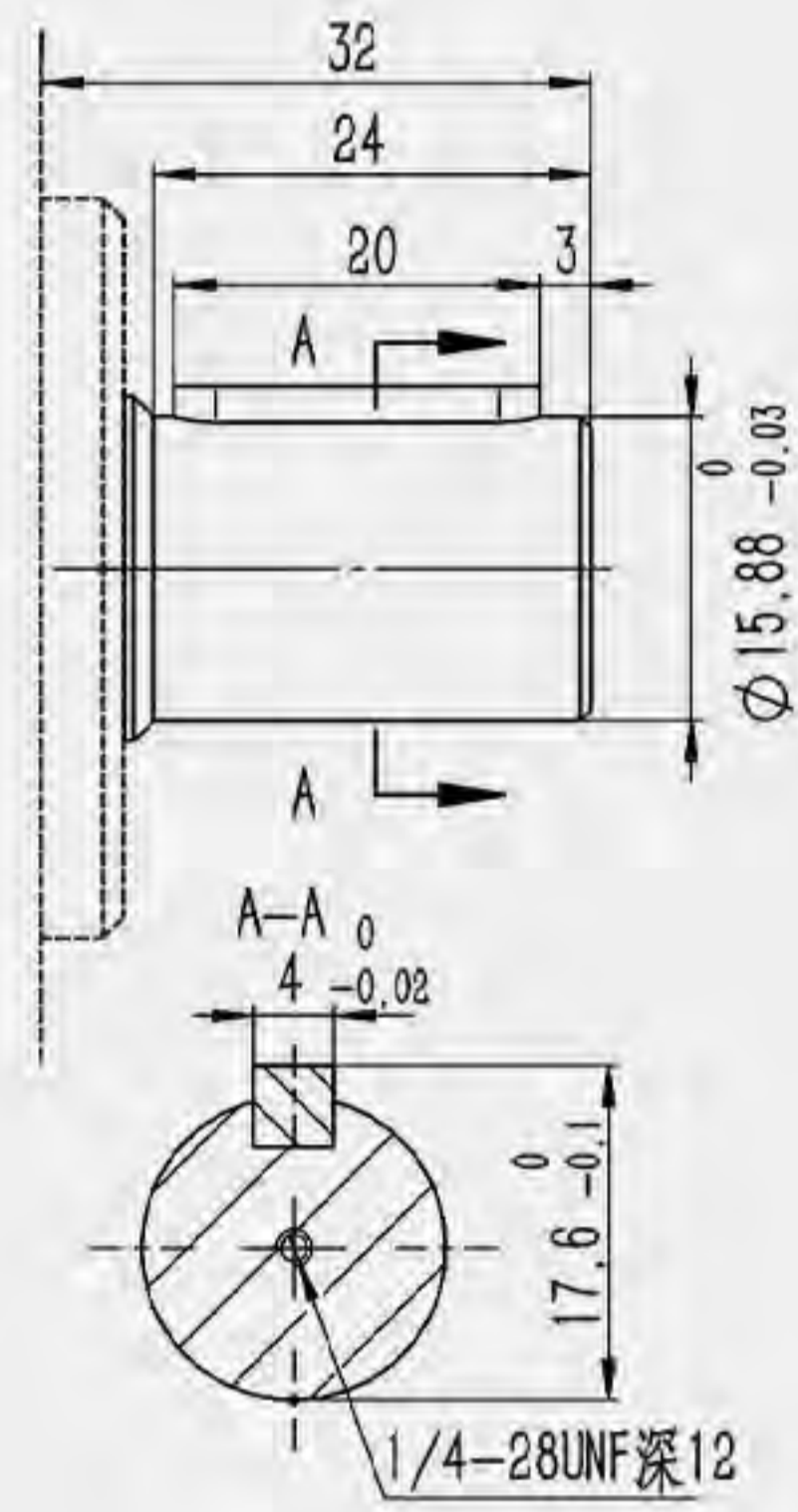
FRONT COVER

SHAFTS

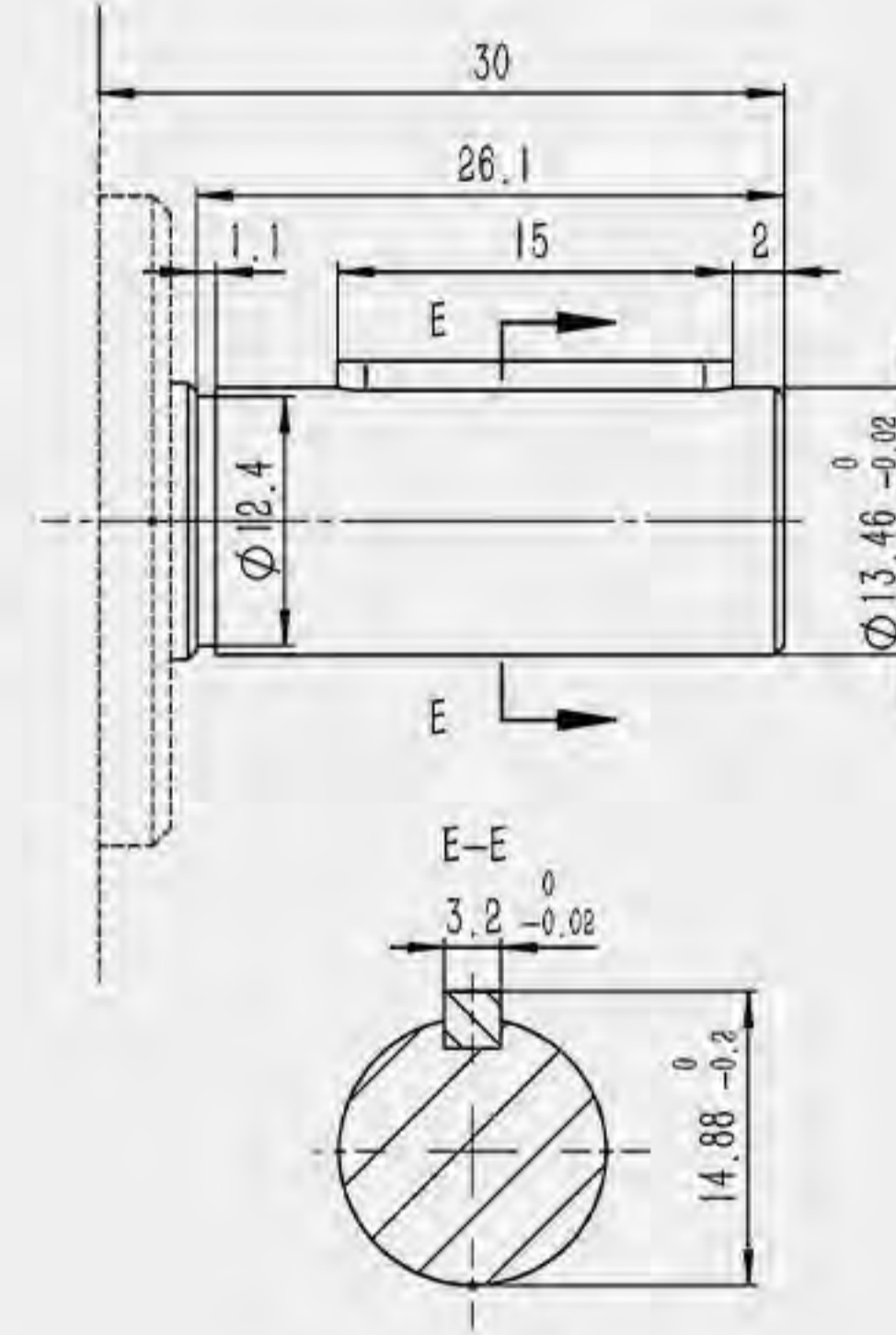
S1



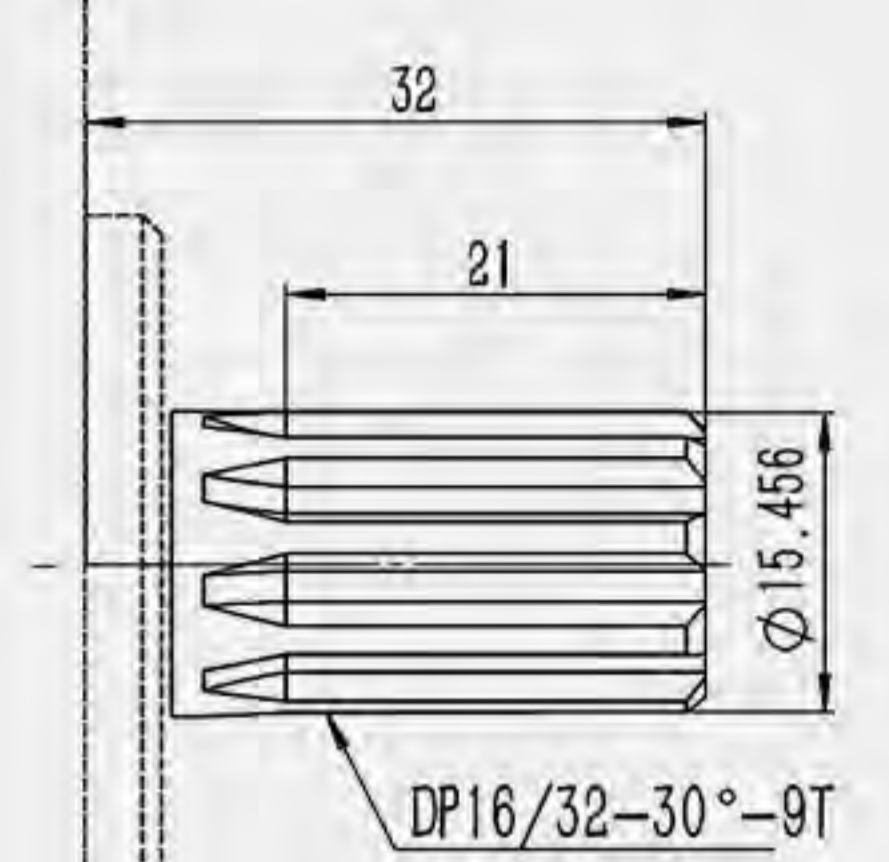
K2



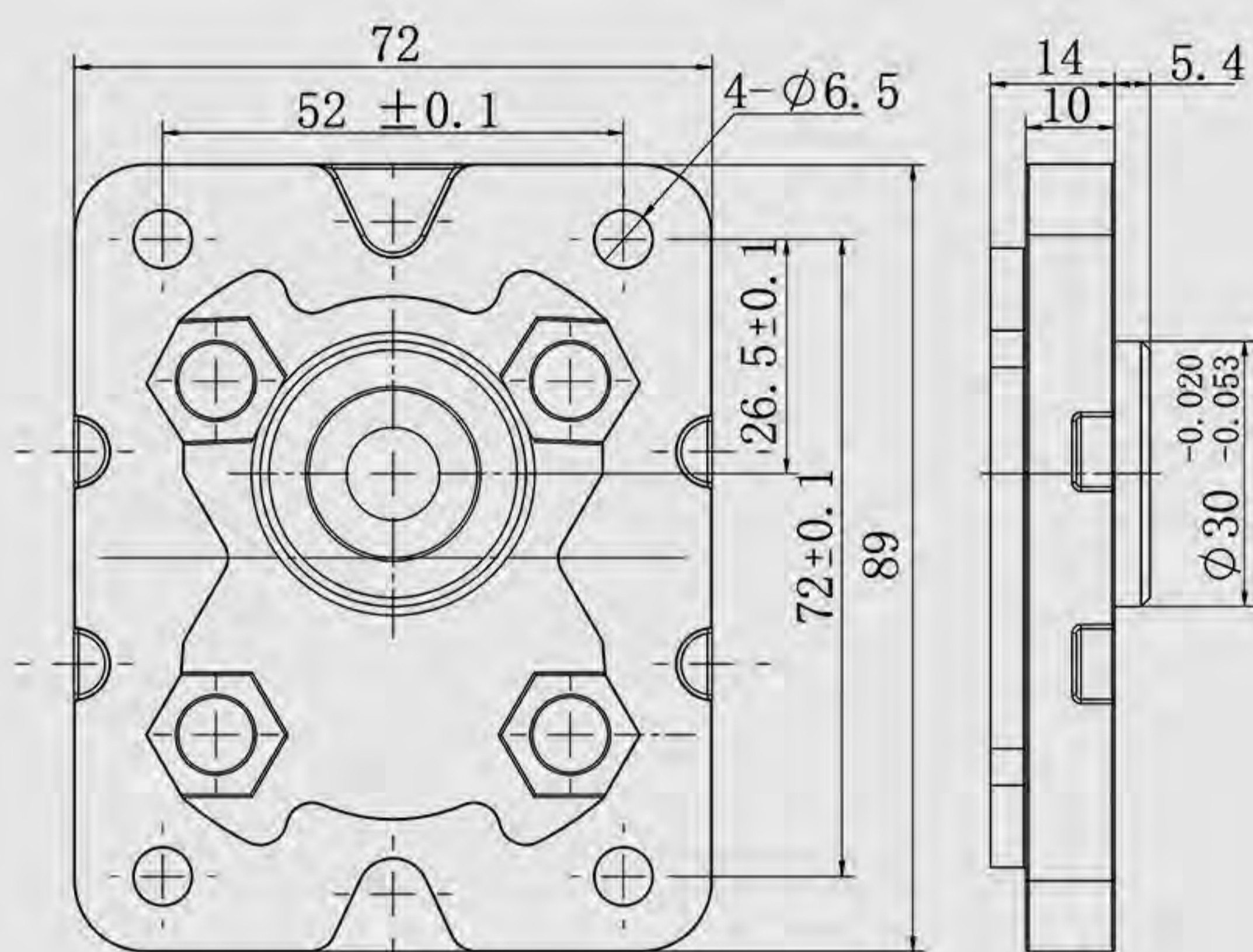
K3



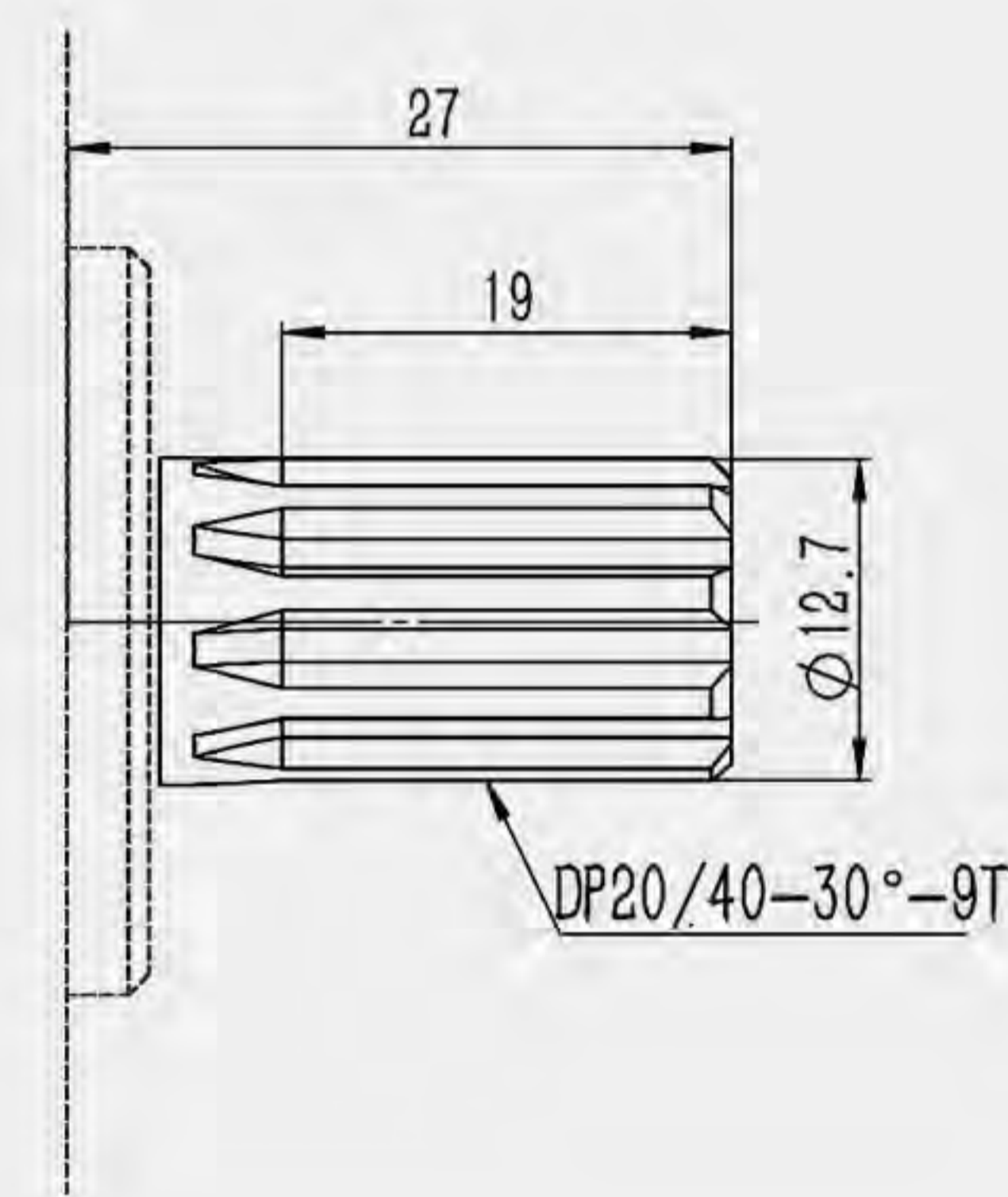
S2



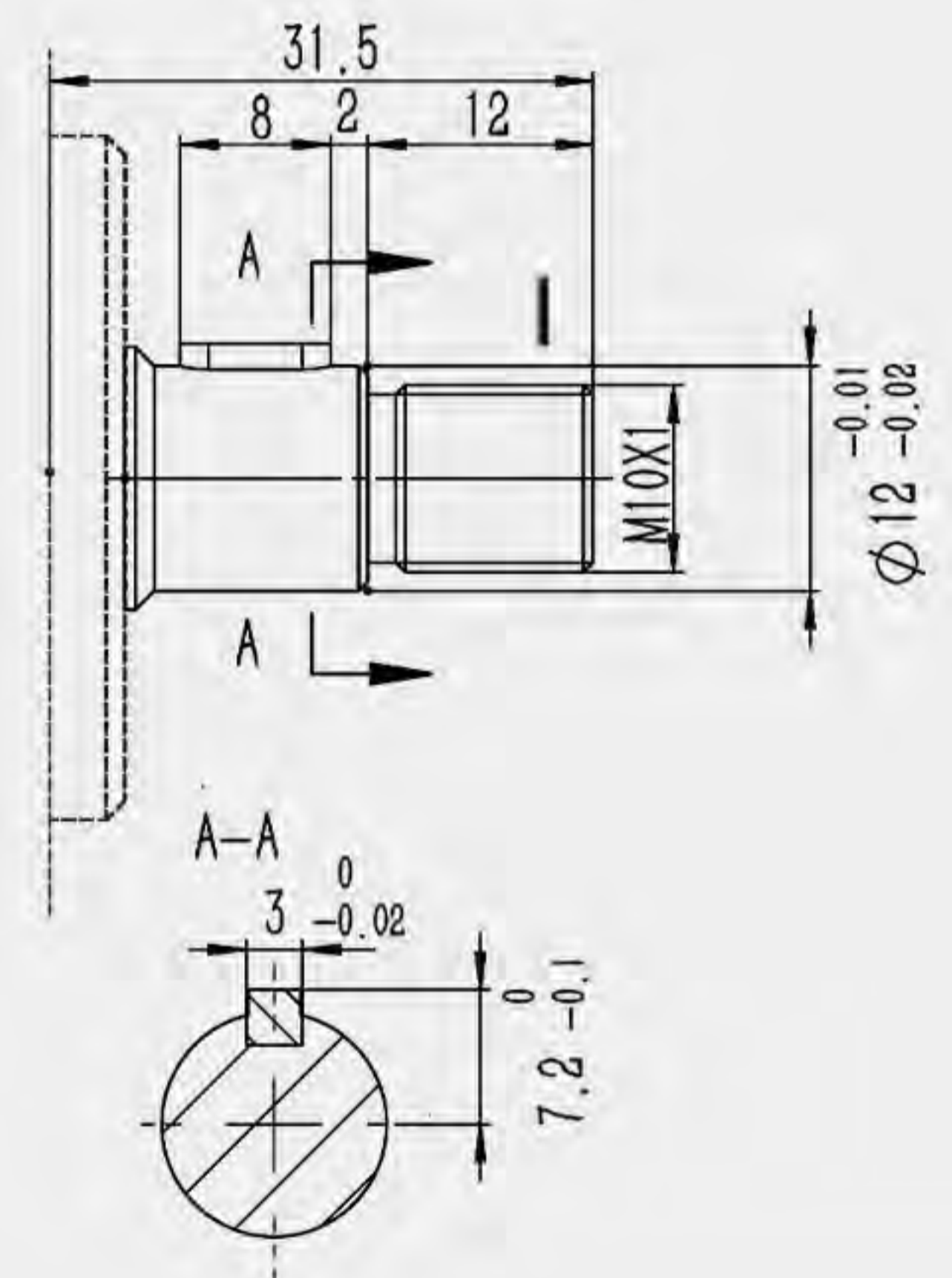
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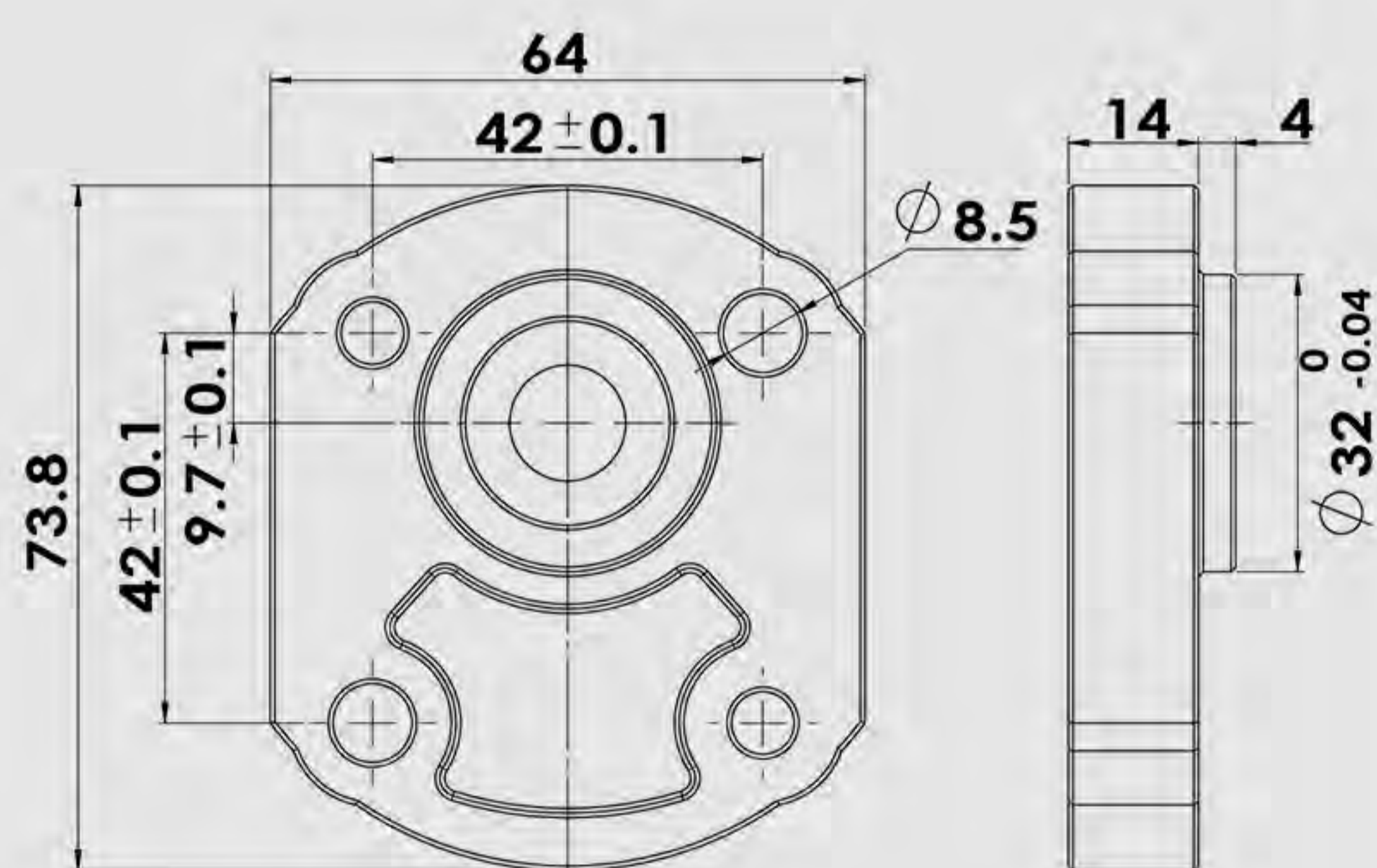
S (SAE 9 teeth)



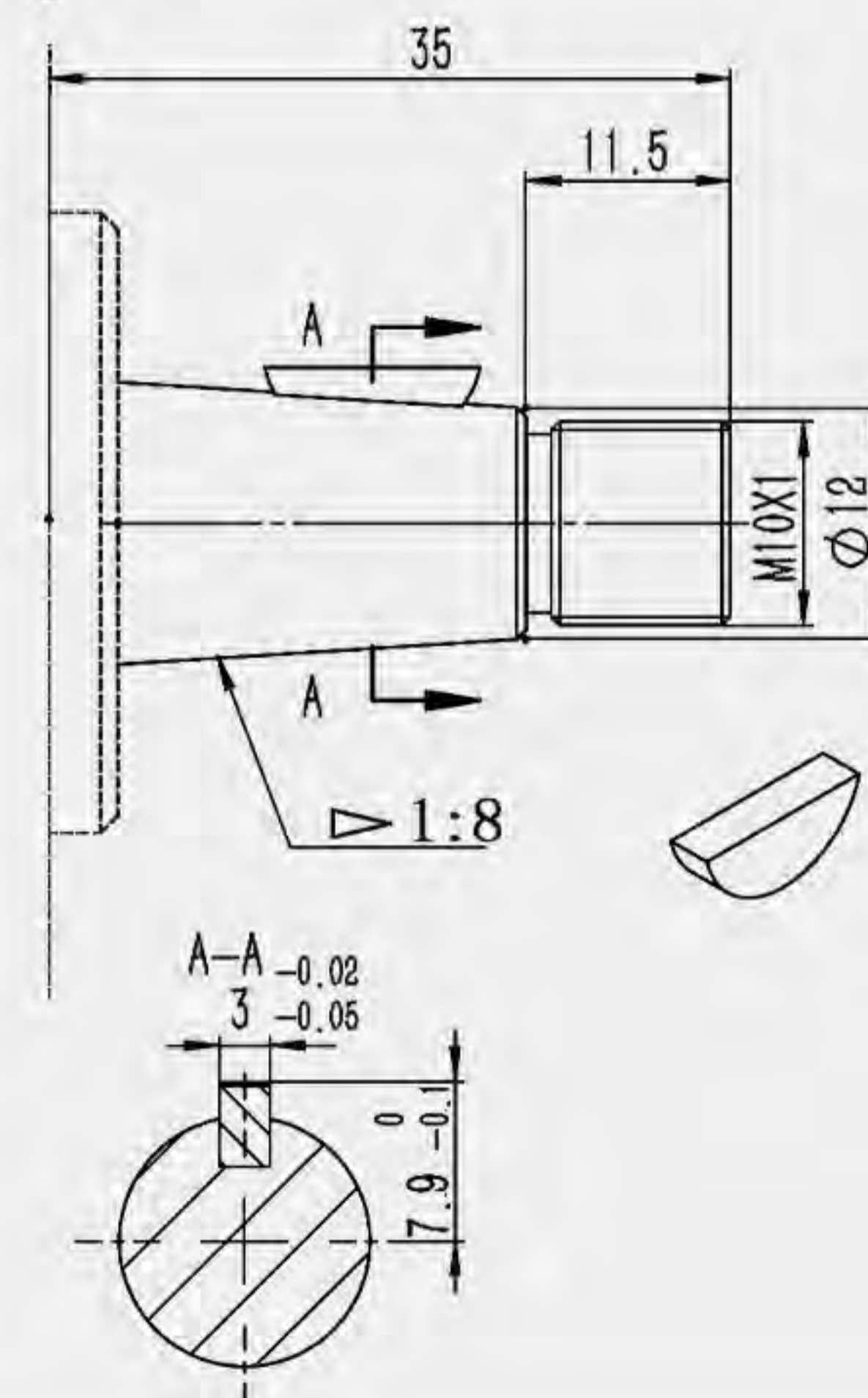
T2



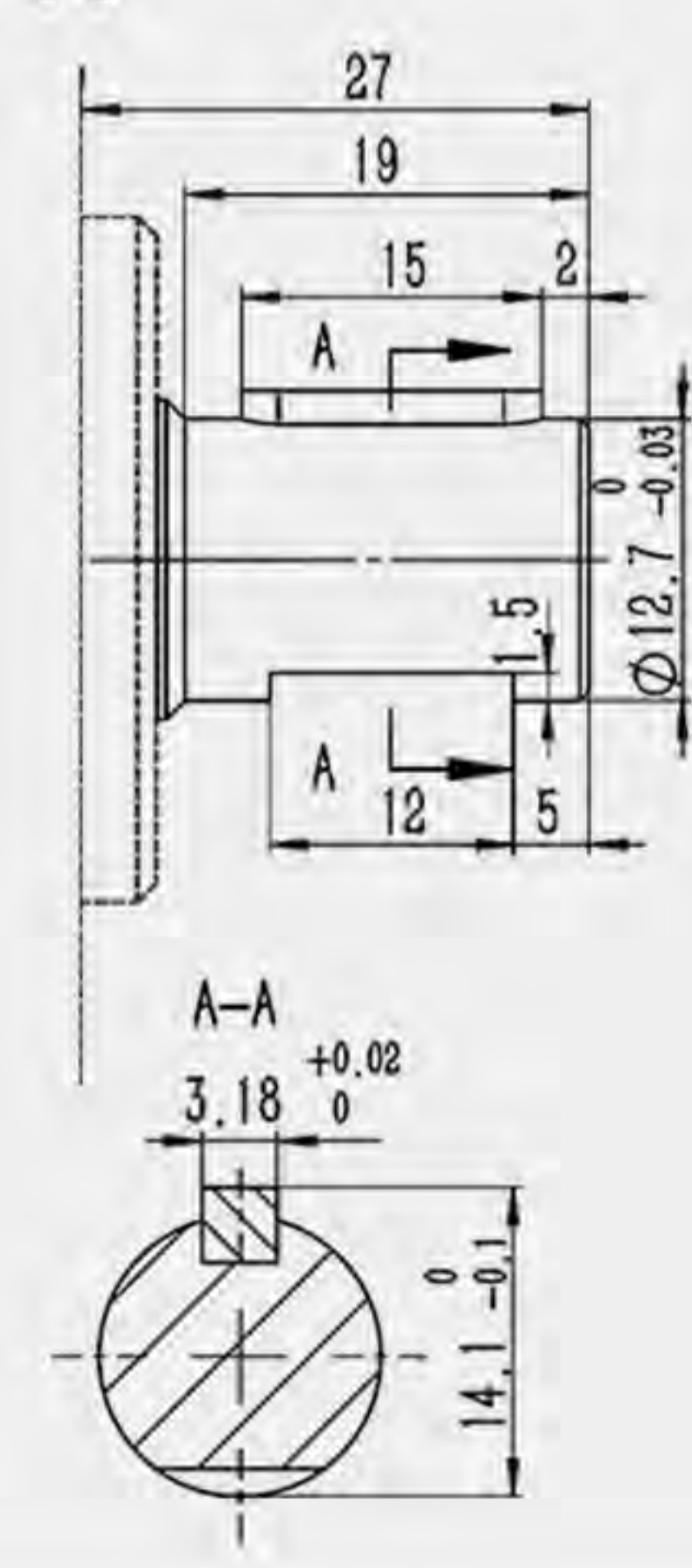
K



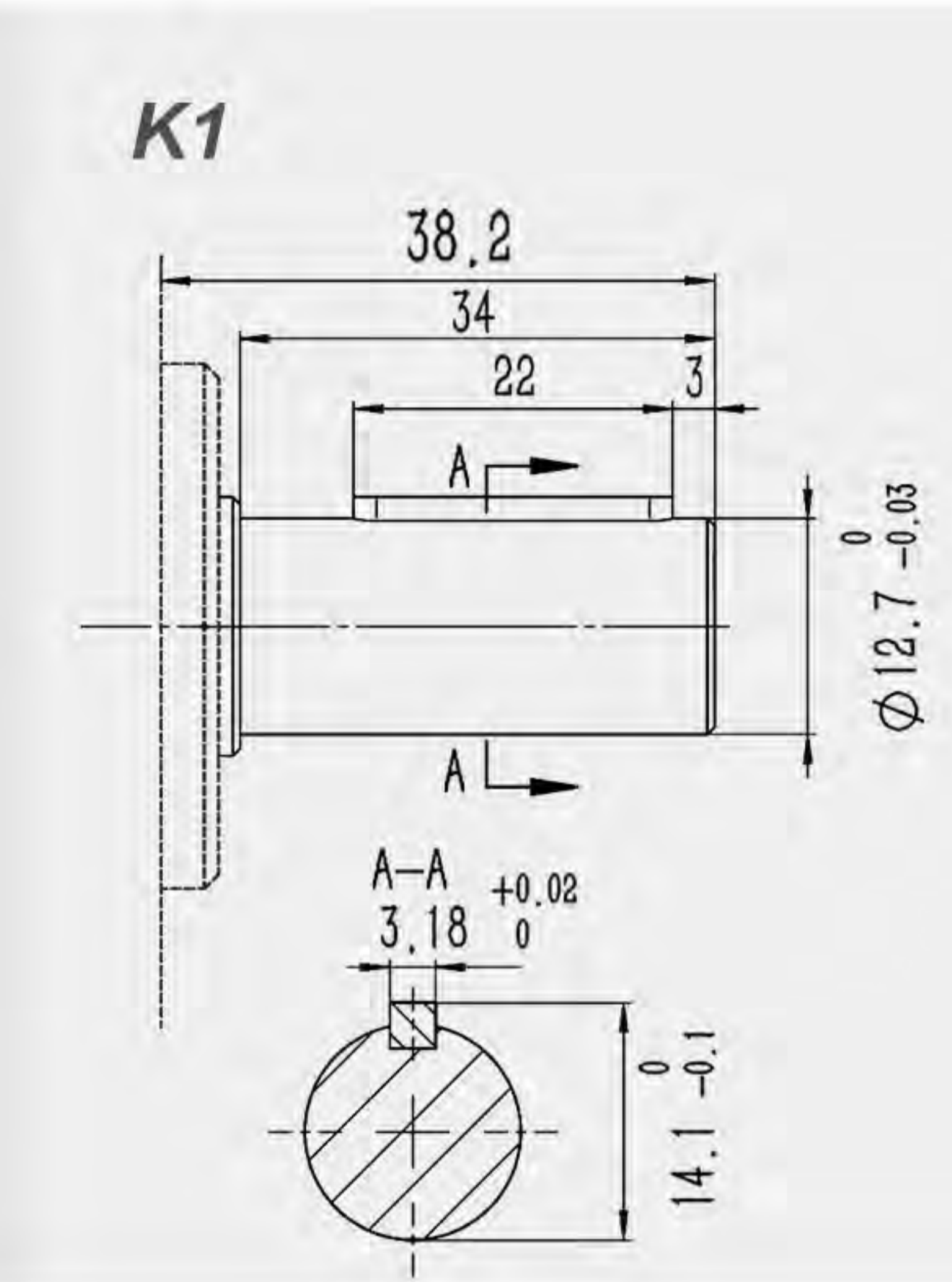
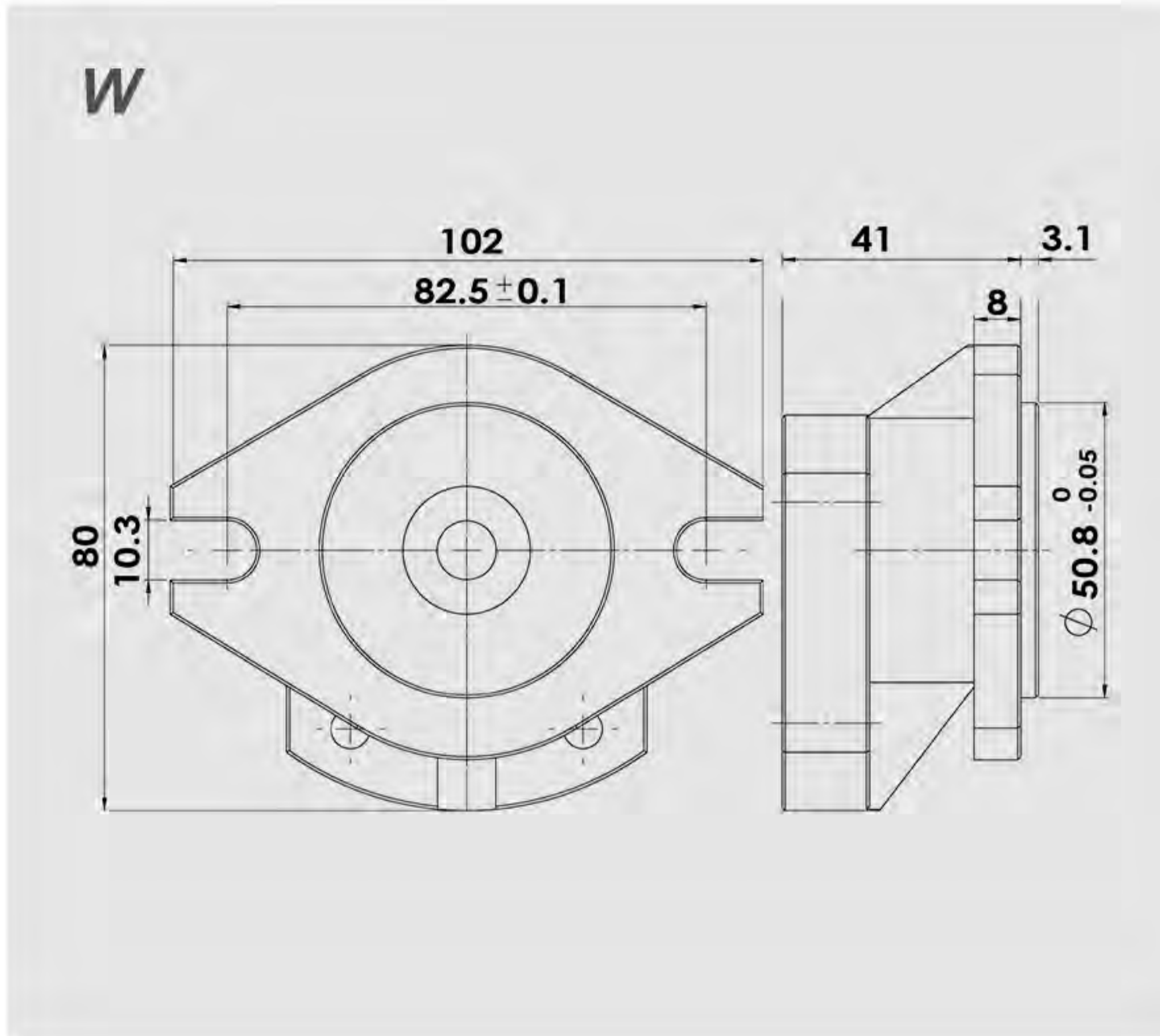
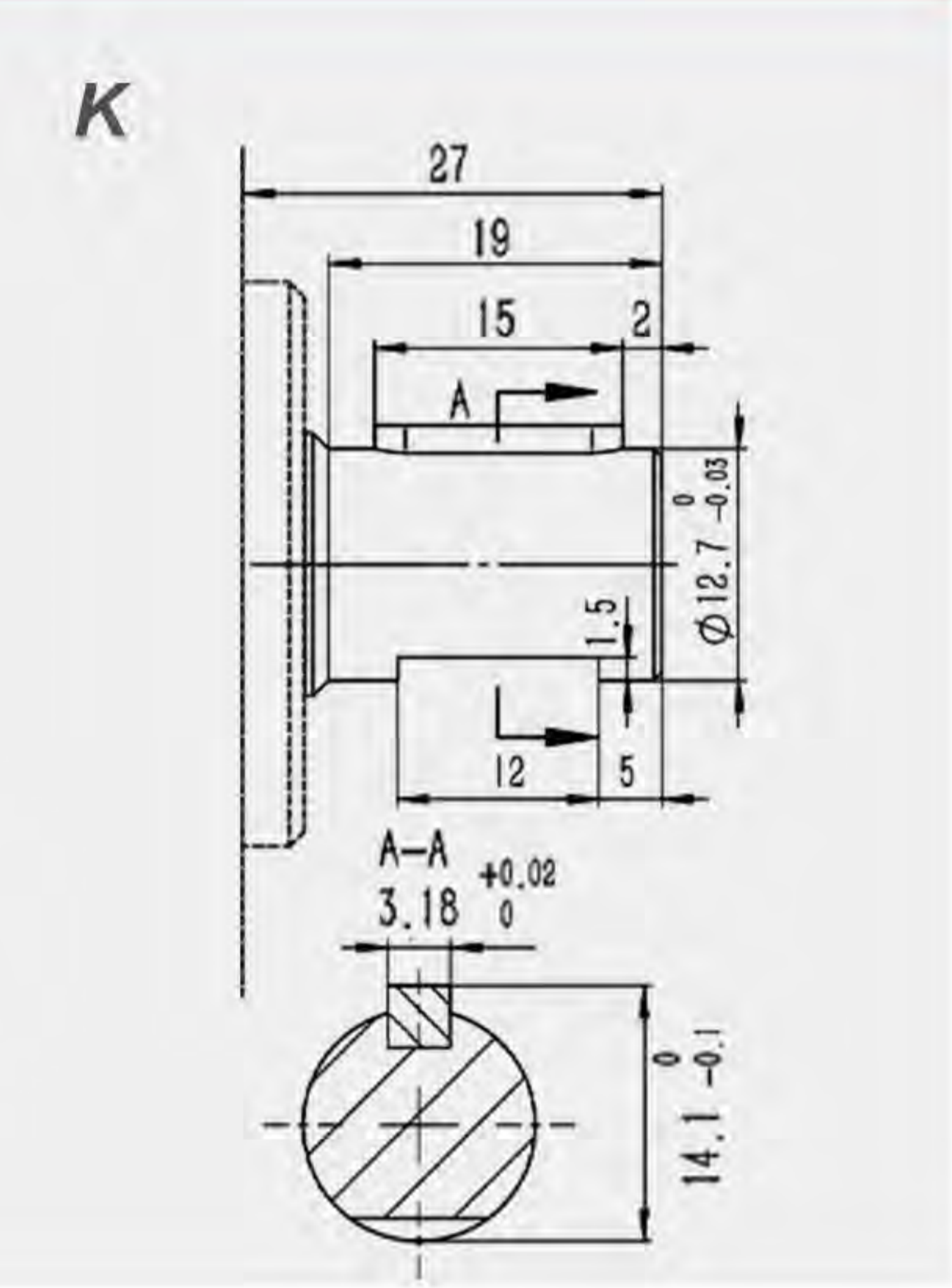
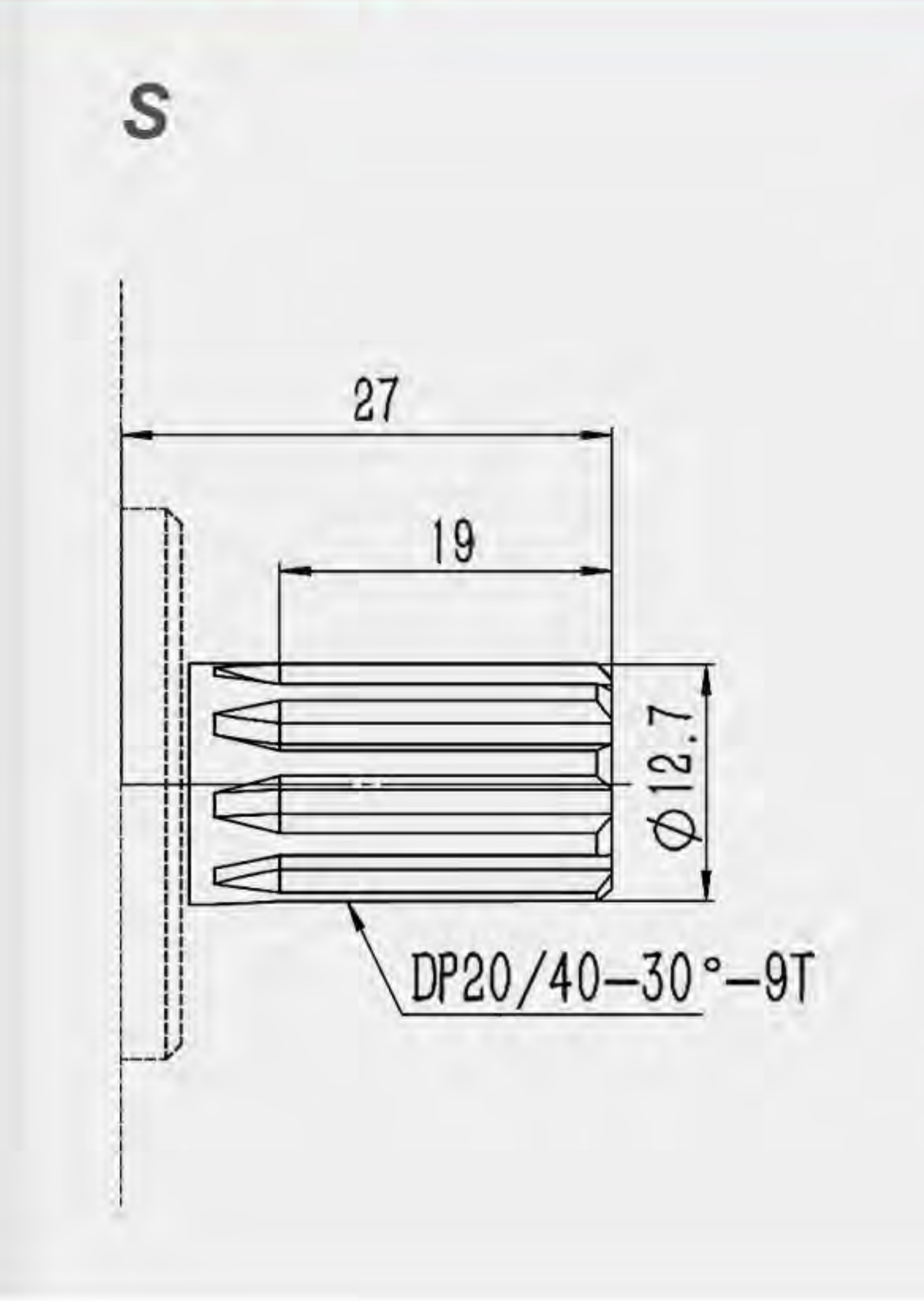
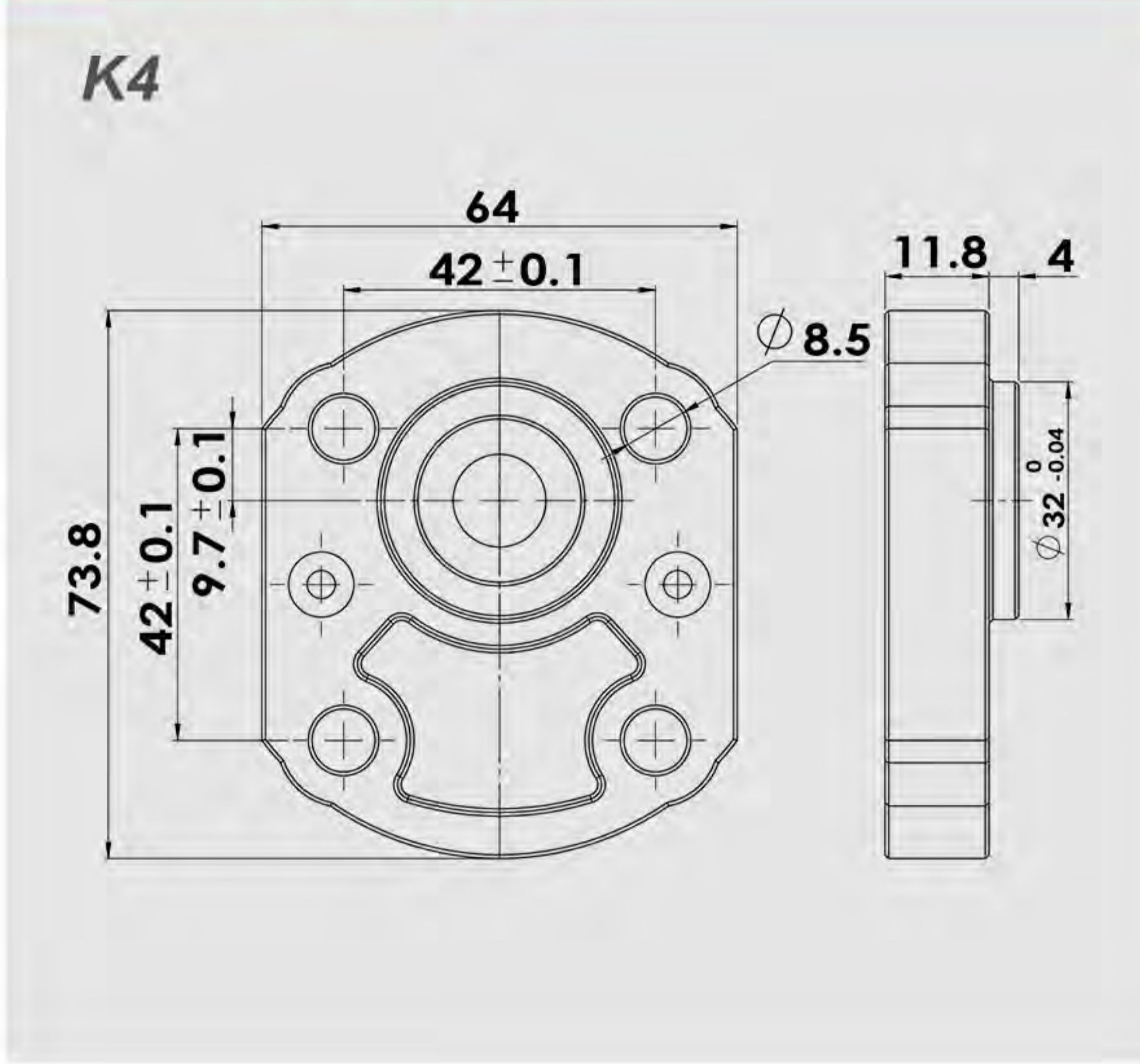
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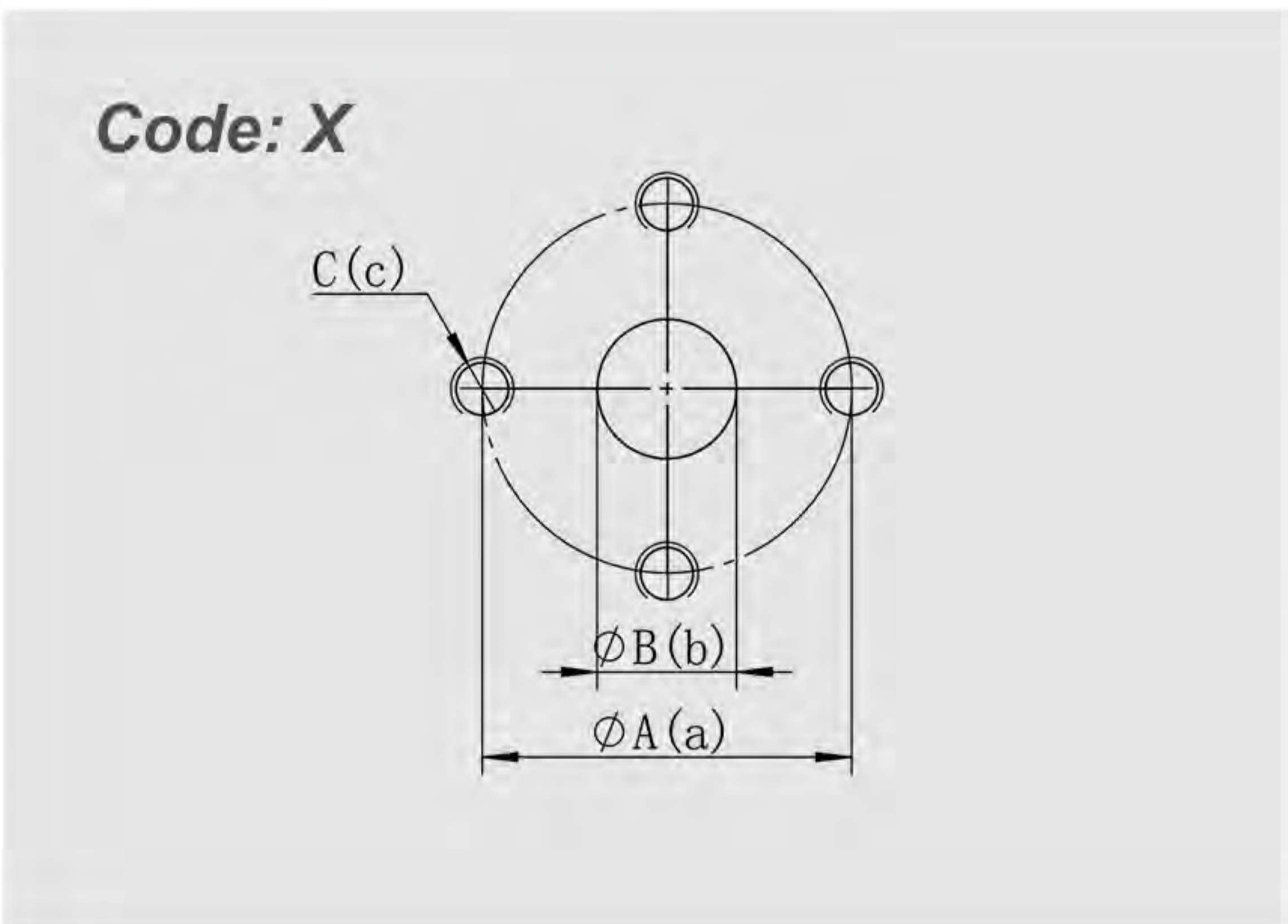
K



FRONT COVER SHAFTS

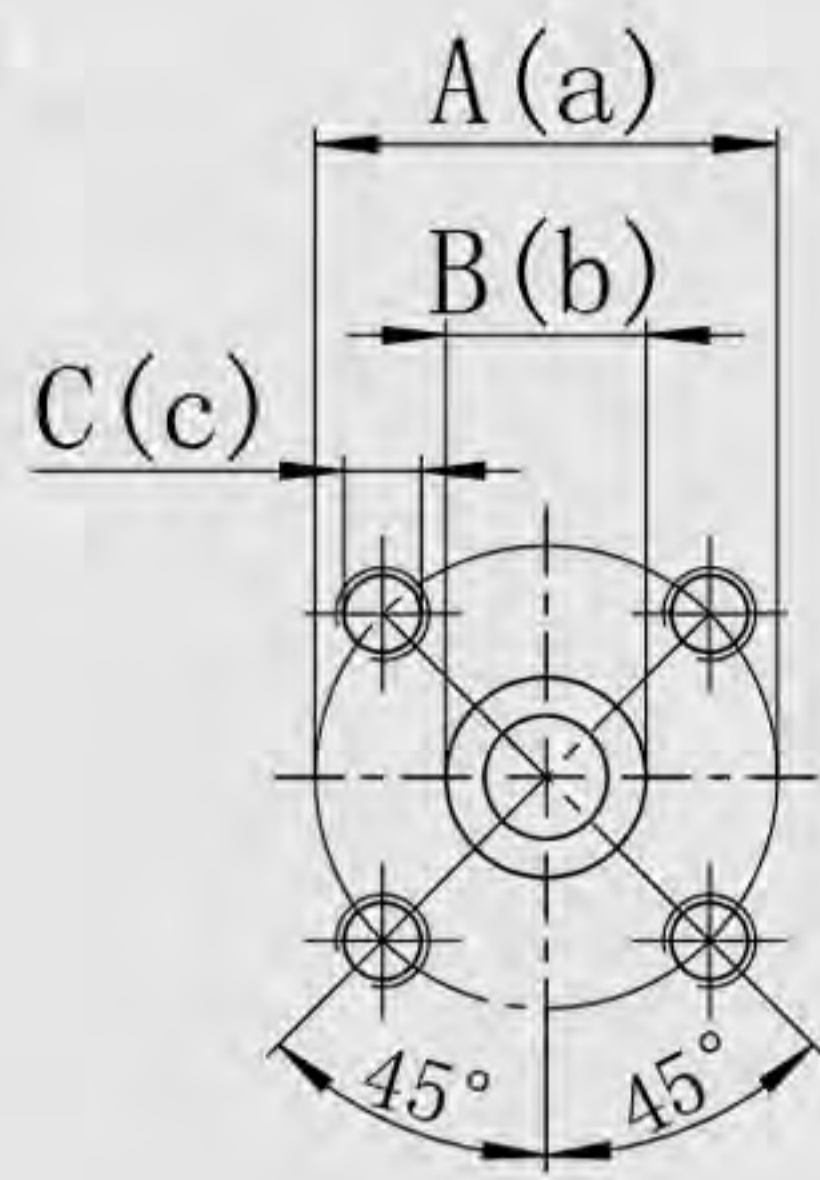


PORT SIZE



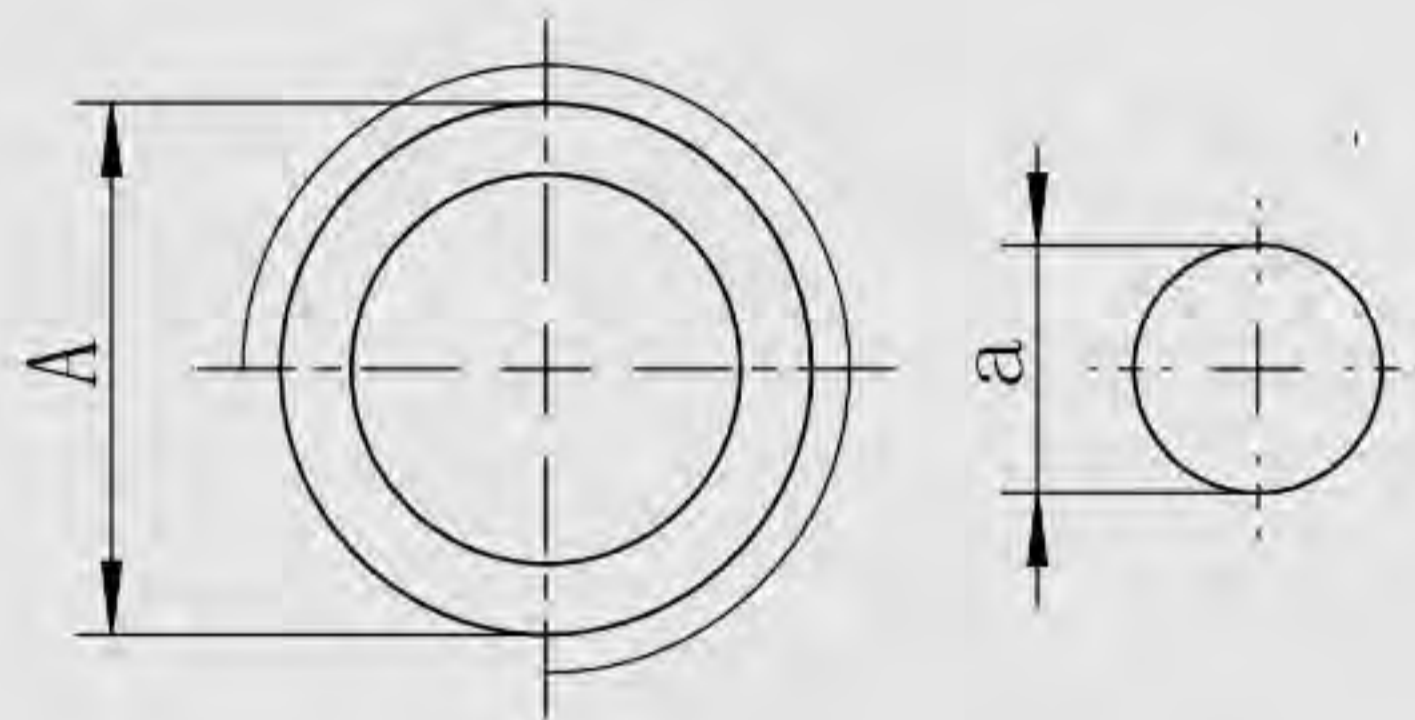
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM1FC1.4--GPM1FC13.8	30	13	M6	30	13	M6

Code: H



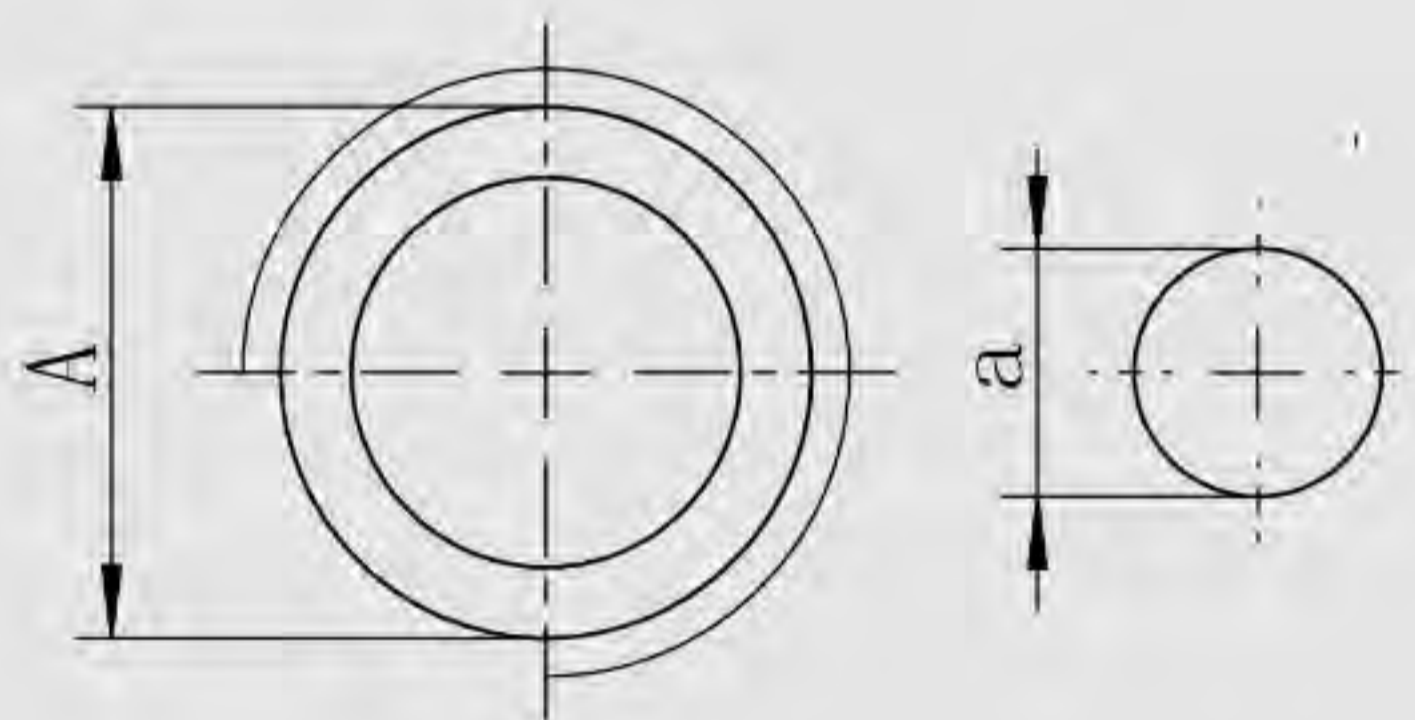
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM1.4--GPM13.8	30	13	M6	30	8	M6

Code: G/G0/G1/G2



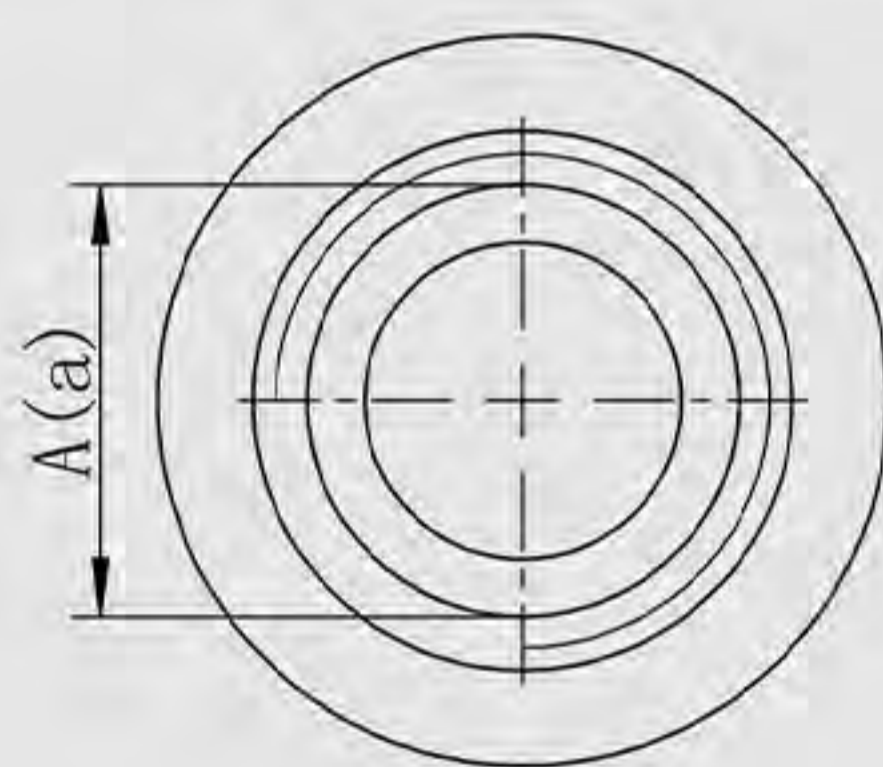
Type	Code	Inlet	Outlet
		A	a
GPM1FC1.4--GPM1FC3.5	G	G1/2	G3/8
GPM1FC4.1--GPM1FC13.8	G0	G1/2	G1/2
GPM1FC1.4--GPM1FC3.5	G1	G3/8	G3/8
GPM1FC4.1--GPM1FC13.8	G2	G3/4	G1/2

Code: Z/Z0/Z1/Z2



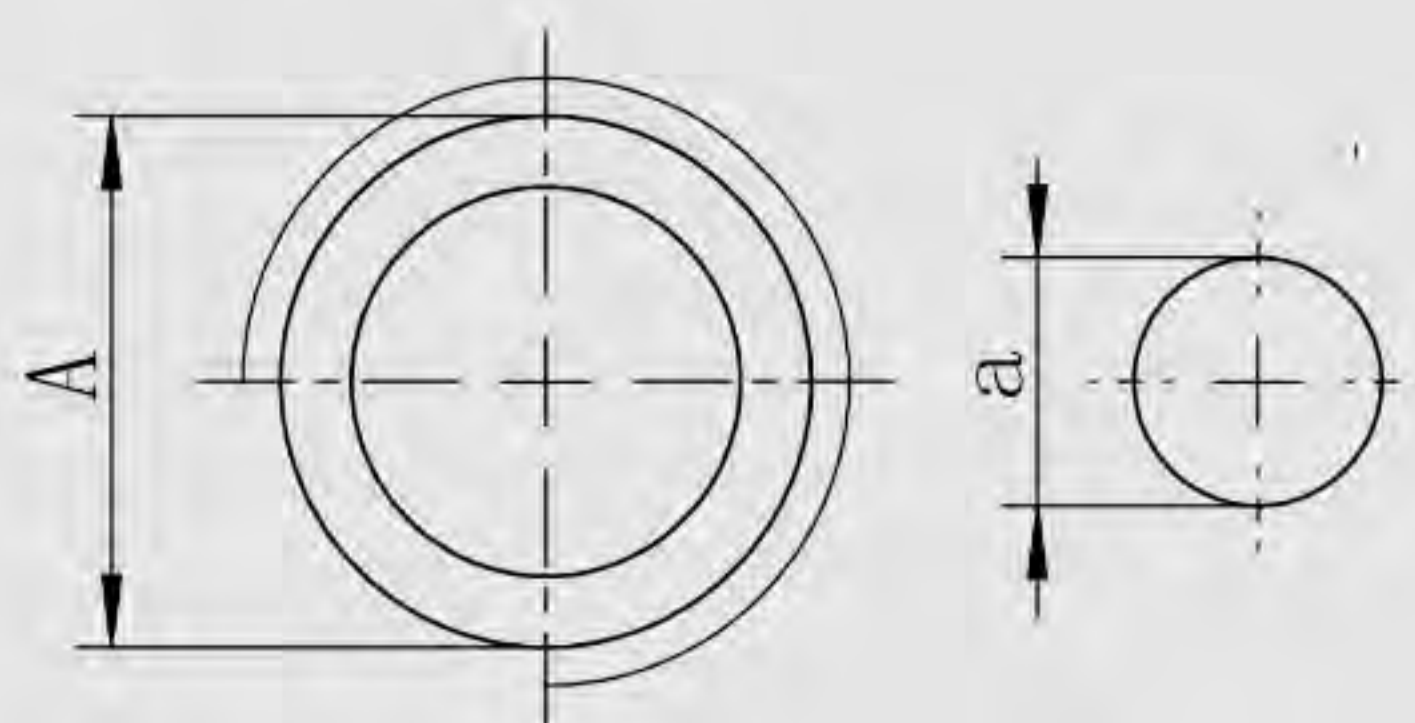
Type	Code	Inlet	Outlet
		A	a
GPM1FC1.4--GPM1FC6.2	Z	PT1/2	PT3/8
GPM1FC7.6--GPM1FC13.8	Z0	PT3/4	PT1/2
GPM1FC1.4--GPM1FC6.2	Z1	PT1/2	PT1/2
GPM1FC7.6--GPM1FC13.8	Z2	PT3/8	PT3/8

Code: S/S0/S1/S2



Type	Code	Inlet	Outlet
		A	a
GPM1FC1.4--GPM1FC6.2	S	3/4-16UNF	9/16-18UNF
GPM1FC7.7--GPM1FC13.8	S0	7/8-14UNF	3/4-16UNF
GPM1FC1.4--GPM1FC6.2	S1	3/4-16UNF	3/4-16UNF
GPM1FC7.7--GPM1FC13.8	S2	7/8-14UNF	7/8-14UNF

Code: N/N0/N1/N2



Type	Code	Inlet	Outlet
		A	a
GPM1FC1.4--GPM1FC6.2	N	NPT1/2	NPT3/8
GPM1FC7.6--GPM1FC13.8	N0	NPT1/2	NPT1/2
GPM1FC1.4--GPM1FC6.2	N1	NPT3/8	NPT3/8
GPM1FC7.6--GPM1FC13.8	N2	NPT3/4	NPT1/2

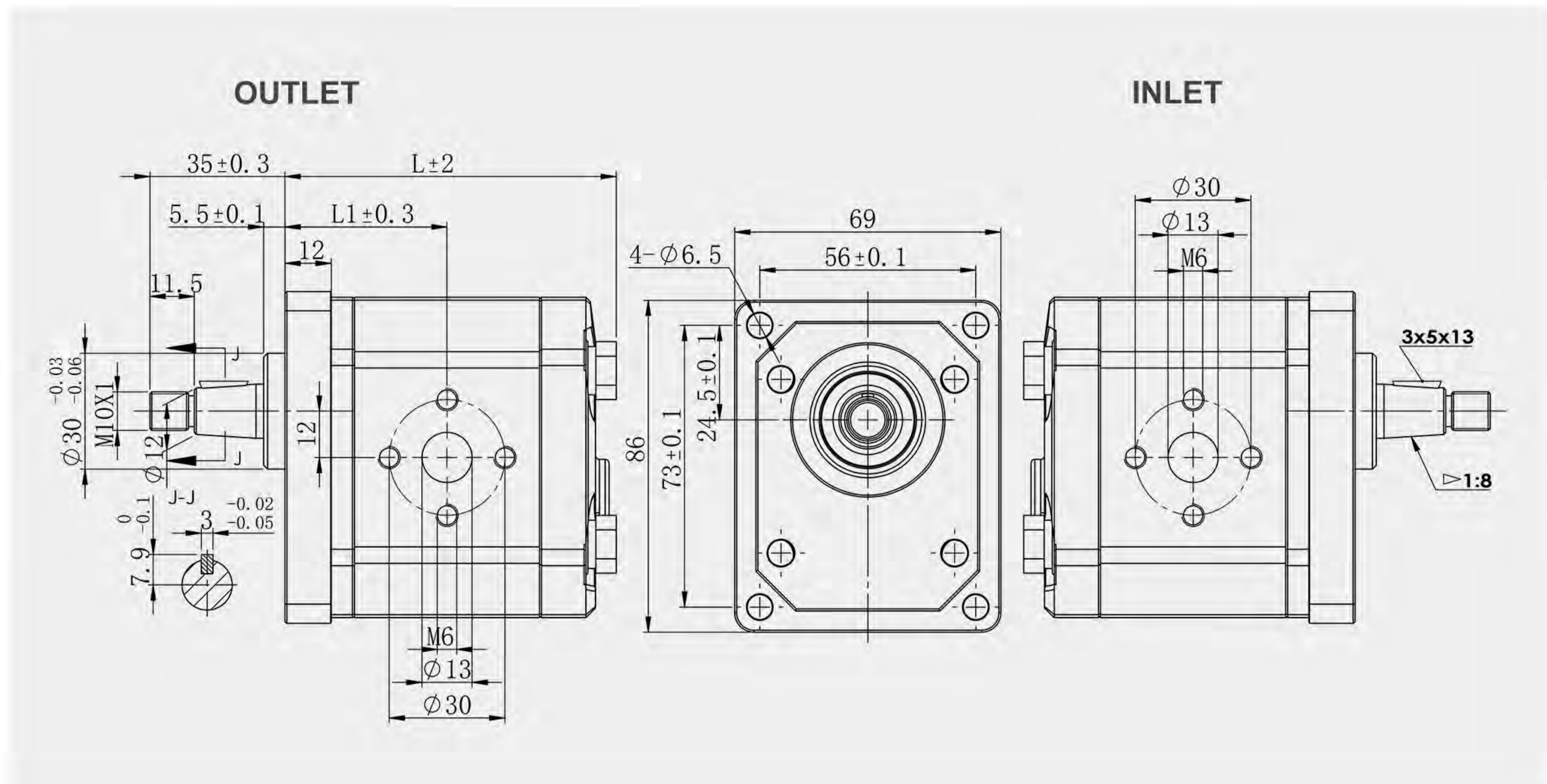
GPM1 Gear Pumps

M6 thread depth 13mm.

To mount the pump, n.4 M8 screws,

With a torque wrench setting fixed at $27 \pm 3 \text{Nm}$.

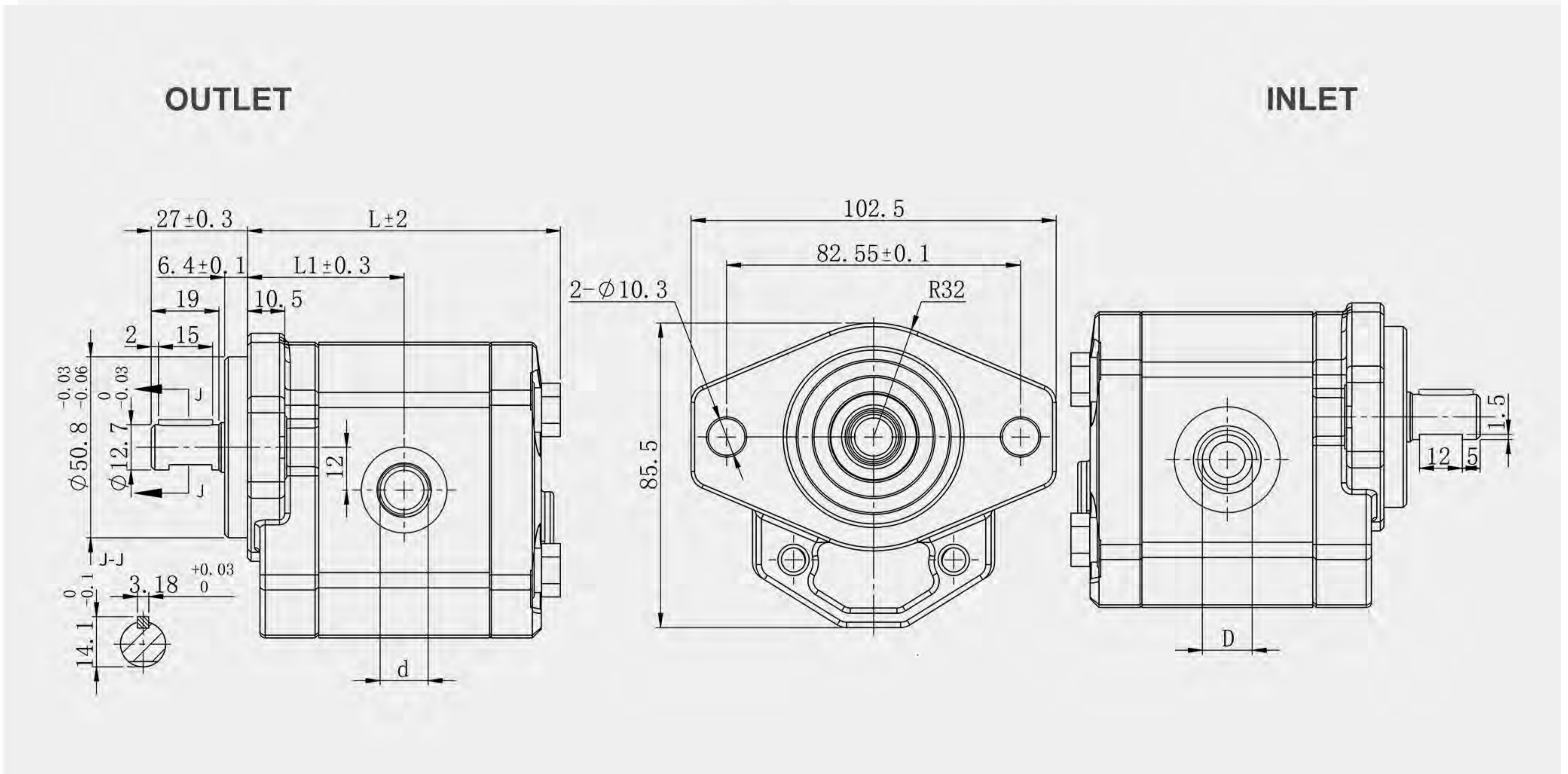
Shaft M10 nuts, with a torque wrench setting fixed at 40Nm.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	L1	L
GPM1FC1.4FTX	1.4	2.0	230	310	3000	6000	1000	40	82
GPM1FC2.1FTX	2.1	3.0	230	310	3000	6000	1000	41	84
GPM1FC2.8FTX	2.8	3.9	230	310	3000	5000	800	42	86
GPM1FC3.5FTX	3.5	4.6	230	310	3000	5000	800	43	88
GPM1FC4.1FTX	4.1	5.3	230	310	3000	4000	800	44	90
GPM1FC5.2FTX	5.2	6.0	230	310	3000	4000	800	45.5	93
GPM1FC6.2FTX	6.2	7.1	210	290	2500	3800	600	47	96
GPM1FC7.6FTX	7.6	8.6	210	290	2500	3200	600	49	100
GMP1FC9.3FTX	9.3	10.0	210	260	2500	2600	600	51.5	105
GMP1FC11.0FTX	11	11.4	190	260	2500	2600	600	54	110
GMP1FC13.8FTX	13.8	14.0	190	240	2000	2200	600	58	118

“D” and “d” ports are machined in compliance with thread port with O-ring seal in truncated housing SAE J1926/1 (ISO J1926-1).

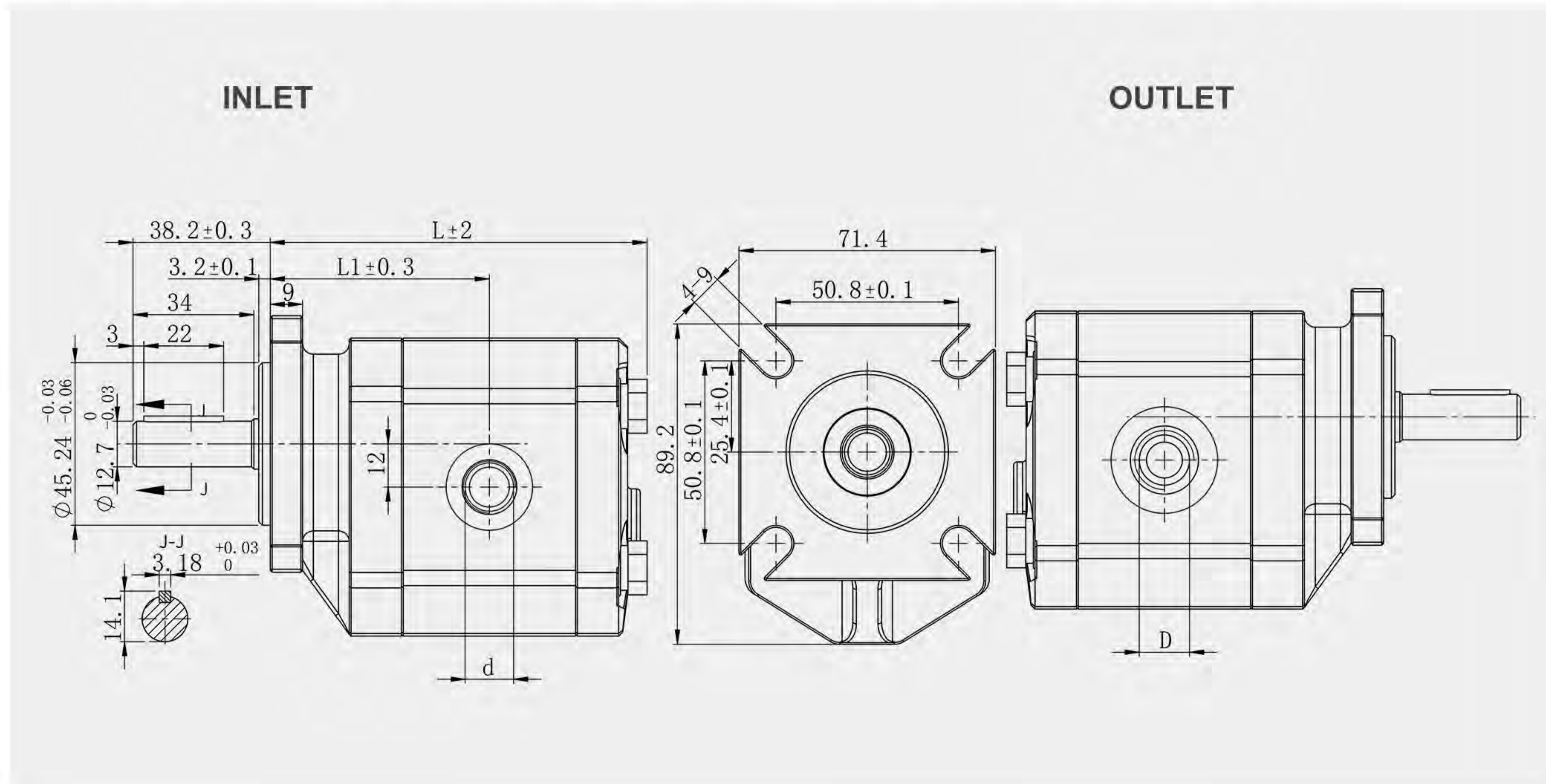
To mount the pump, n4 M8 screws, with a torque wrench setting fixed at 27±3Nm.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	D	d
GPM1FC1.4SKS	1.4	2.0	230	310	3000	6000	1000	3/4-16UNF	9/16-18UNF
GPM1FC2.1SKS	2.1	3.0	230	310	3000	6000	1000	3/4-16UNF	9/16-18UNF
GPM1FC2.8SKS	2.8	3.9	230	310	3000	5000	800	3/4-16UNF	9/16-18UNF
GPM1FC3.5SKS	3.5	4.6	230	310	3000	5000	800	3/4-16UNF	9/16-18UNF
GPM1FC4.1SKS	4.1	5.3	230	310	3000	4000	800	3/4-16UNF	9/16-18UNF
GPM1FC5.2SKS	5.2	6.0	230	310	3000	4000	800	3/4-16UNF	9/16-18UNF
GPM1FC6.2SKS	6.2	7.1	210	290	2500	3800	600	3/4-16UNF	9/16-18UNF
GPM1FC7.6SKS	7.6	8.6	210	290	2500	3200	600	7/8-14UNF	3/4-16UNF
GMP1FC9.3SKS	9.3	10.0	210	260	2500	2600	600	7/8-14UNF	3/4-16UNF
GMP1FC11.0SKS	11	11.4	190	260	2500	2600	600	7/8-14UNF	3/4-16UNF
GMP1FC13.8SKS	13.8	14.0	190	240	2000	2200	600	7/8-14UNF	3/4-16UNF

“D” and “d” ports are machined in compliance with thread port with O-ring seal in truncated housing SAE J1926/1 (ISO J1926-1).

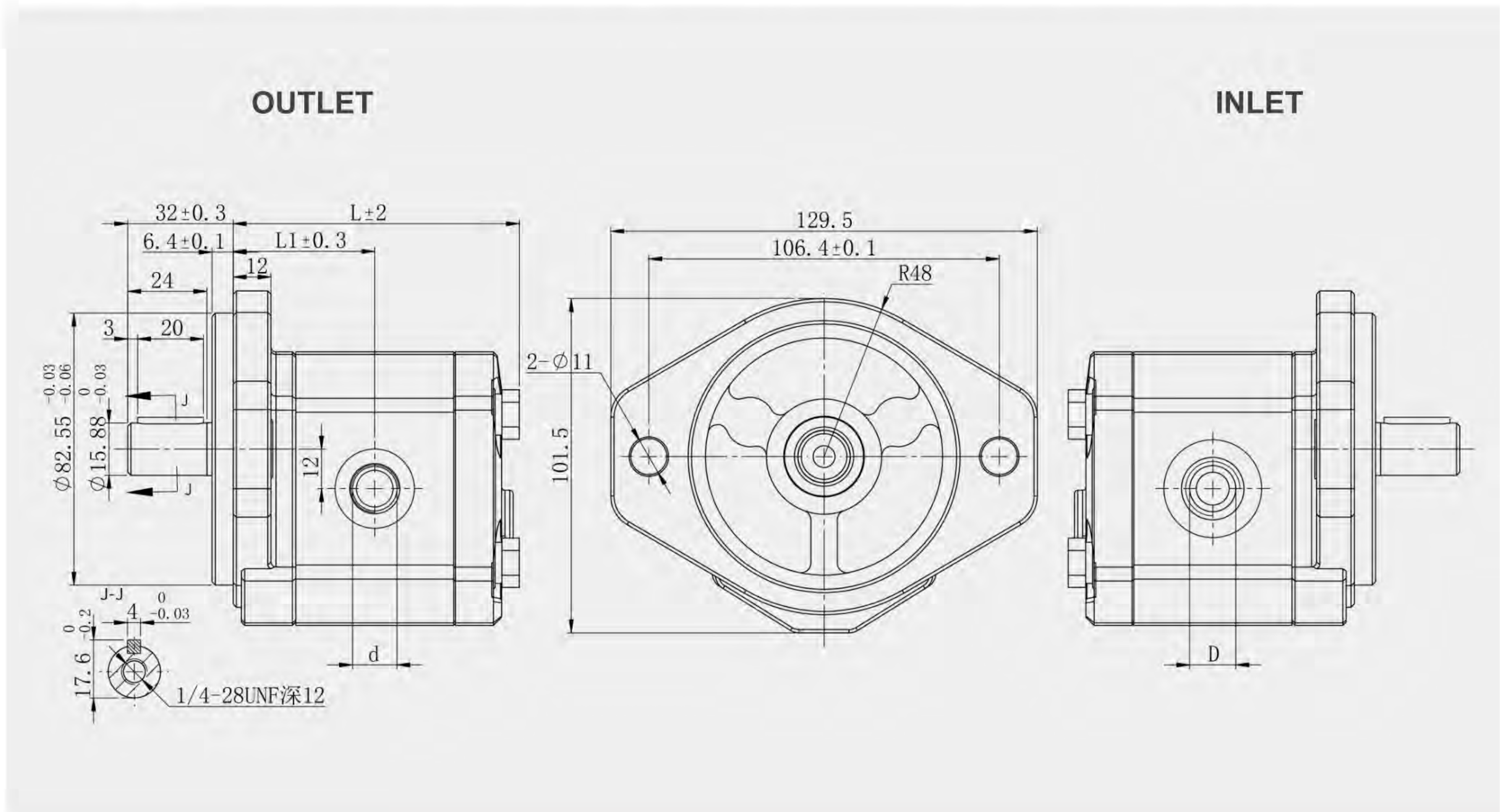
To mount the pump, n4 M8 screws, with a torque wrench setting fixed at $27 \pm 3 \text{Nm}$.



Model	Displacement cm^3/rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	D	d
GPM1FC1.4RK1S	1.4	2.0	230	310	3000	6000	1000	3/4-16UNF	9/16-18UNF
GPM1FC2.1RK1S	2.1	3.0	230	310	3000	6000	1000	3/4-16UNF	9/16-18UNF
GPM1FC2.8RK1S	2.8	3.9	230	310	3000	5000	800	3/4-16UNF	9/16-18UNF
GPM1FC3.5RK1S	3.5	4.6	230	310	3000	5000	800	3/4-16UNF	9/16-18UNF
GPM1FC4.1RK1S	4.1	5.3	230	310	3000	4000	800	3/4-16UNF	9/16-18UNF
GPM1FC5.2RK1S	5.2	6.0	230	310	3000	4000	800	3/4-16UNF	9/16-18UNF
GPM1FC6.2RK1S	6.2	7.1	210	290	2500	3800	600	3/4-16UNF	9/16-18UNF
GPM1FC7.6RK1S	7.6	8.6	210	290	2500	3200	600	7/8-14UNF	3/4-16UNF
GMP1FC9.3RK1S	9.3	10.0	210	260	2500	2600	600	7/8-14UNF	3/4-16UNF
GMP1FC11.0RK1S	11	11.4	190	260	2500	2600	600	7/8-14UNF	3/4-16UNF
GMP1FC13.8RK1S	13.8	14.0	190	240	2000	2200	600	7/8-14UNF	3/4-16UNF

“D” and “d” ports are machined in compliance with thread port with O-ring seal in truncated housing SAE J1926/1 (ISO J1926-1).

To mount the pump, n4 M8 screws, with a torque wrench setting fixed at $30 \pm 3 \text{Nm}$.



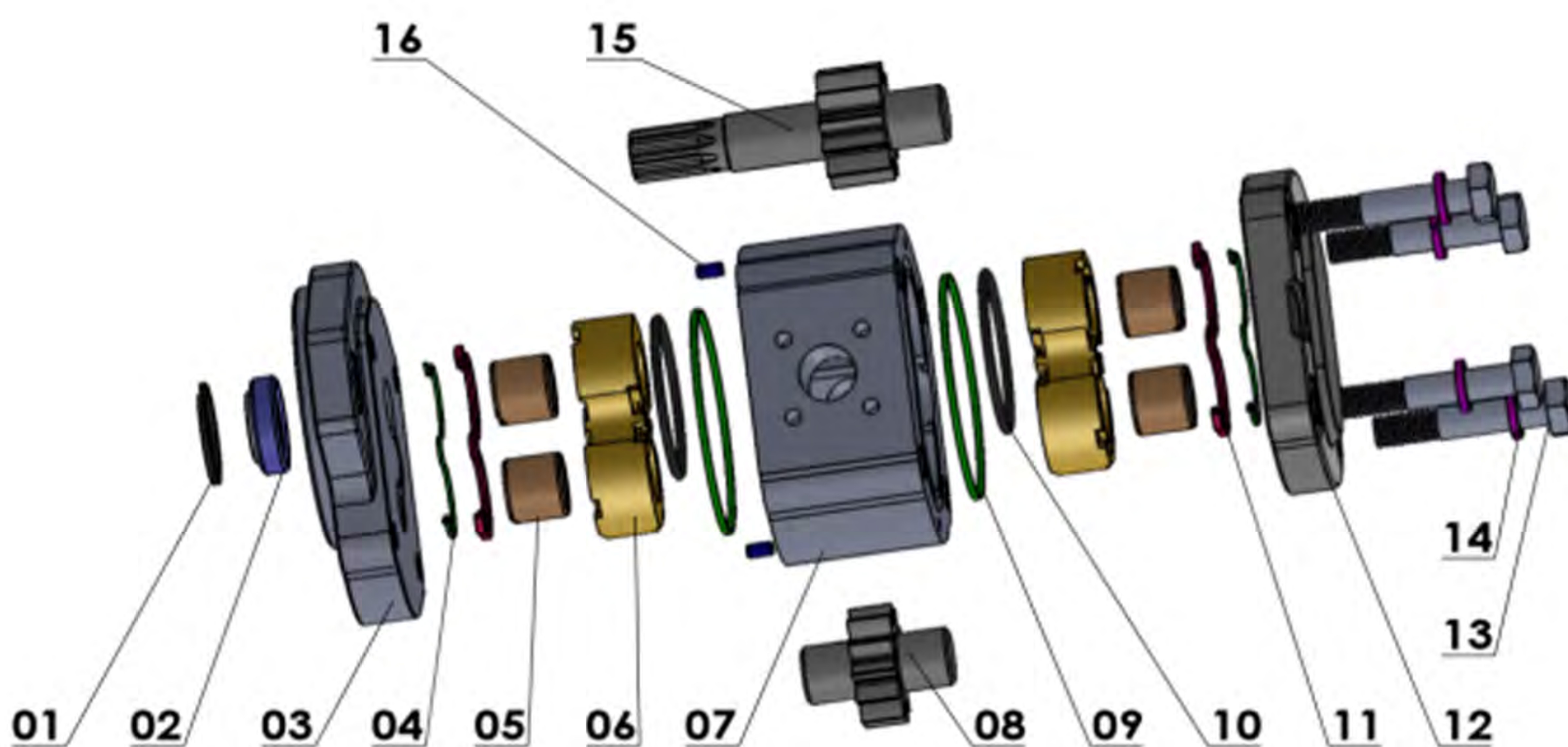
Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	D	d
GPM1FC1.4S1K2S	1.4	2.0	230	310	3000	6000	1000	3/4-16UNF	9/16-18UNF
GPM1FC2.1S1K2S	2.1	3.0	230	310	3000	6000	1000	3/4-16UNF	9/16-18UNF
GPM1FC2.8S1K2S	2.8	3.9	230	310	3000	5000	800	3/4-16UNF	9/16-18UNF
GPM1FC3.5S1K2S	3.5	4.6	230	310	3000	5000	800	3/4-16UNF	9/16-18UNF
GPM1FC4.1S1K2S	4.1	5.3	230	310	3000	4000	800	3/4-16UNF	9/16-18UNF
GPM1FC5.2S1K2S	5.2	6.0	230	310	3000	4000	800	3/4-16UNF	9/16-18UNF
GPM1FC6.2S1K2S	6.2	7.1	210	290	2500	3800	600	3/4-16UNF	9/16-18UNF
GPM1FC7.6S1K2S	7.6	8.6	210	290	2500	3200	600	7/8-14UNF	3/4-16UNF
GMP1FC9.3S1K2S	9.3	10.0	210	260	2500	2600	600	7/8-14UNF	3/4-16UNF
GMP1FC11.0S1K2S	11	11.4	190	260	2500	2600	600	7/8-14UNF	3/4-16UNF
GMP1FC13.8S1K2S	13.8	14.0	190	240	2000	2200	600	7/8-14UNF	3/4-16UNF

How To Order GPM2.0



GPM2	F	C	4	F	S	01					
Pump Series GPM2	Pressure (bar)	Rotation	Displacement (ml/r)	Mounting flange type	Drive Shaft	Port Type	Supported Bearing	Rear cover with valves		Seals	
F:200	A: Anticlockwise	4	A	Omit-1:8 tape	01	01	Omit: Not Required	Code	Valve Type	Omit: Range=-10°C +80°C	
			B								02
G:250	C: Clockwise	8	C	T	03	04	O: Required	-	Omit (standard rear cover)	V: Range=-10°C +120°C	
			D								04
			E								05
			F								06
			G								07
			J								08
			S								09
			U								11
			R								22
			M								15
			H								K1
			K								K2
			N								K3
			W								K4
Y	H										
X											
I											
SB											
								V	Relief Valve	H: Range=-40°C +80°C	
								Z	Flow Control Valve		
								Y	Priority Valve		
								L	Loading Sensing Valve		
								P	Rear Cover with outlet		
								R	Rear Cover with inlet and outlet		
								J	Special order code		

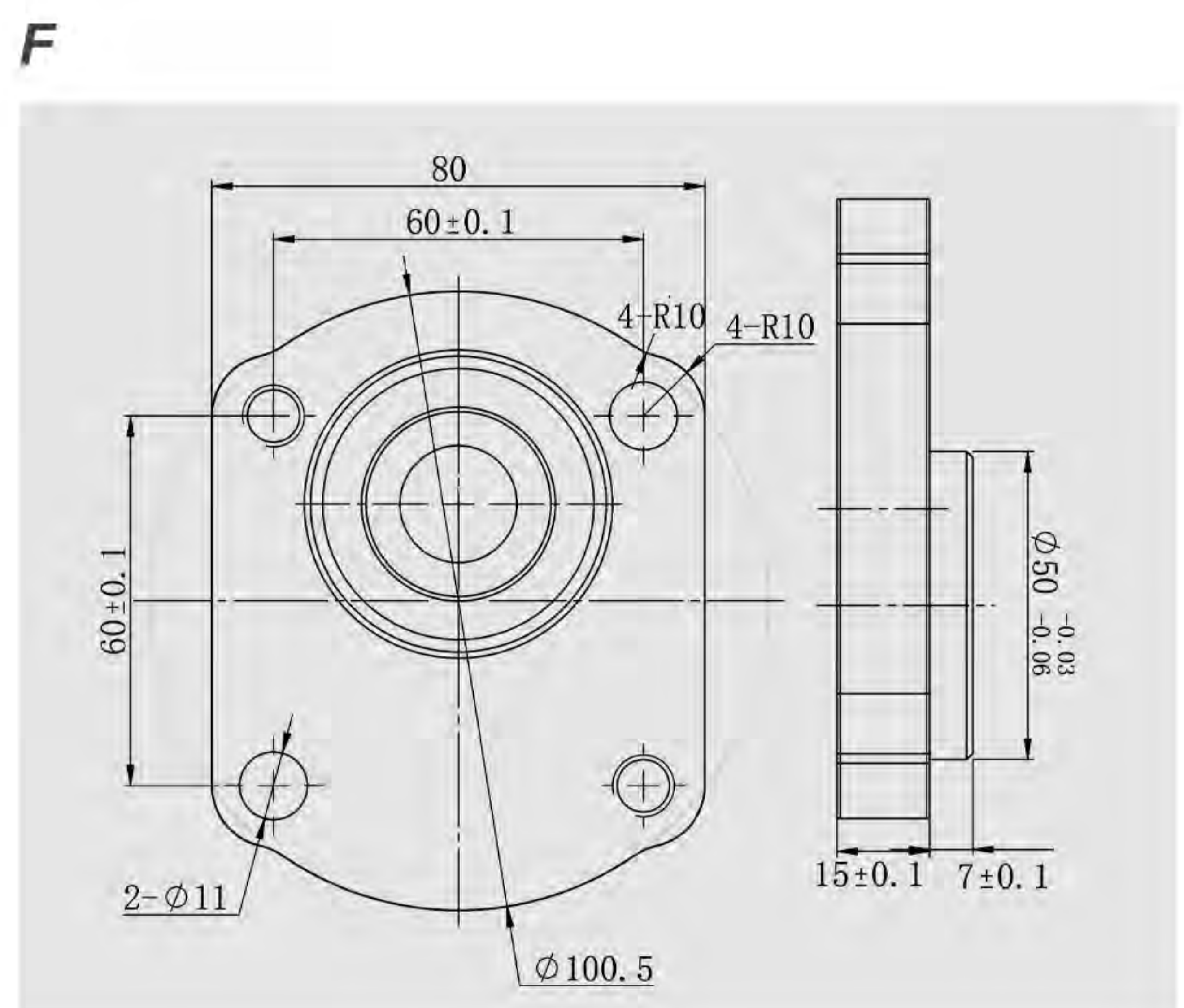
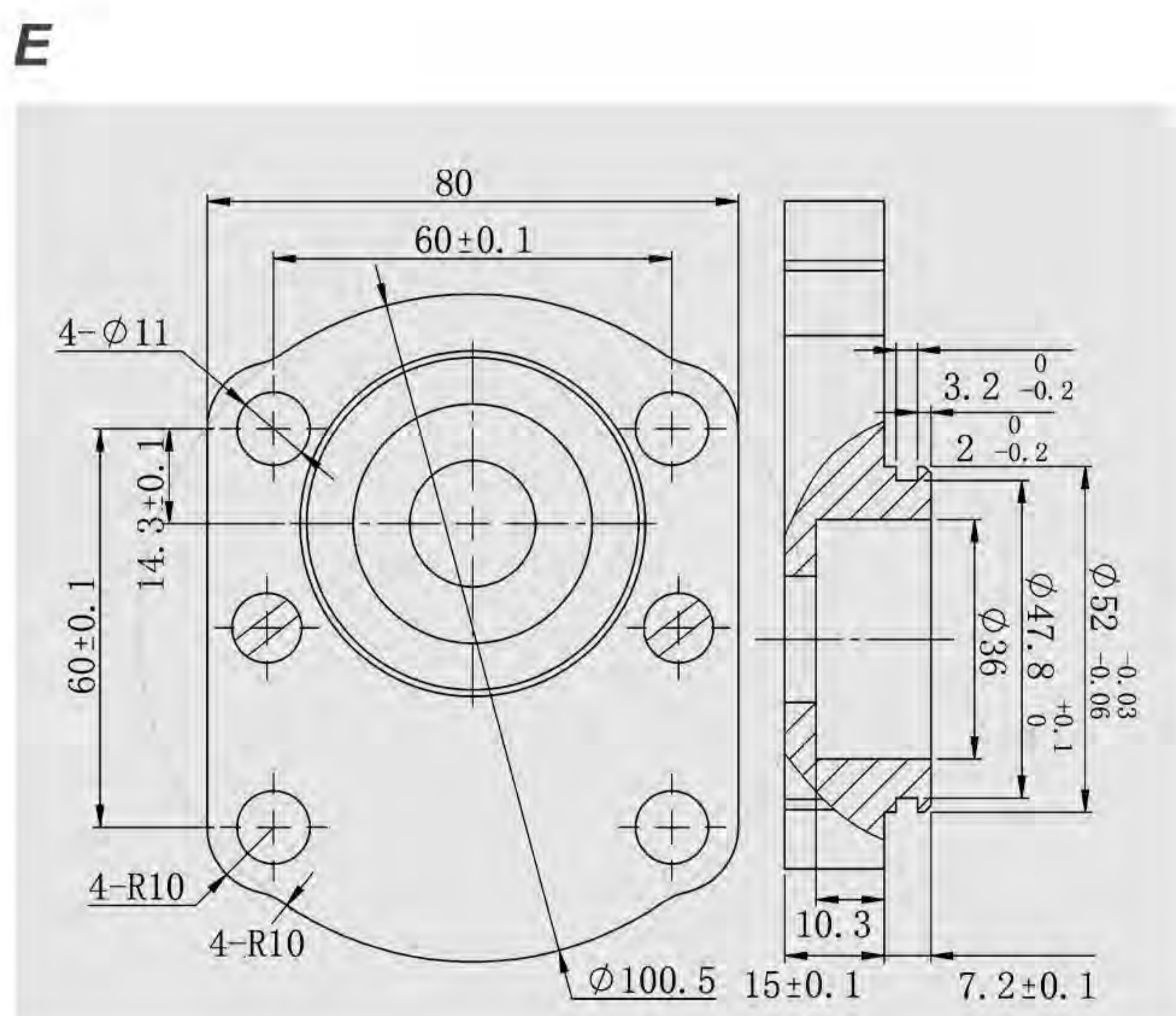
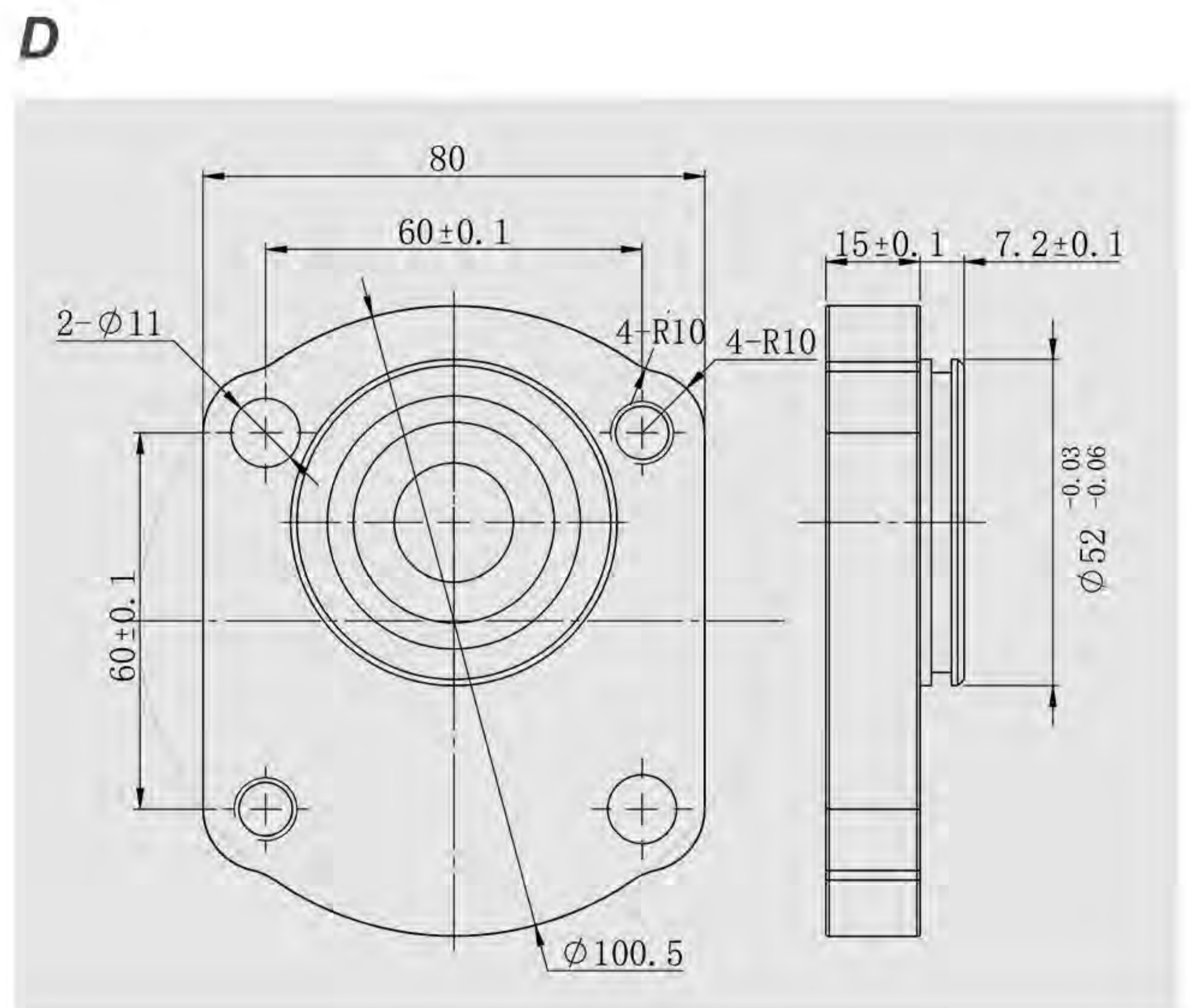
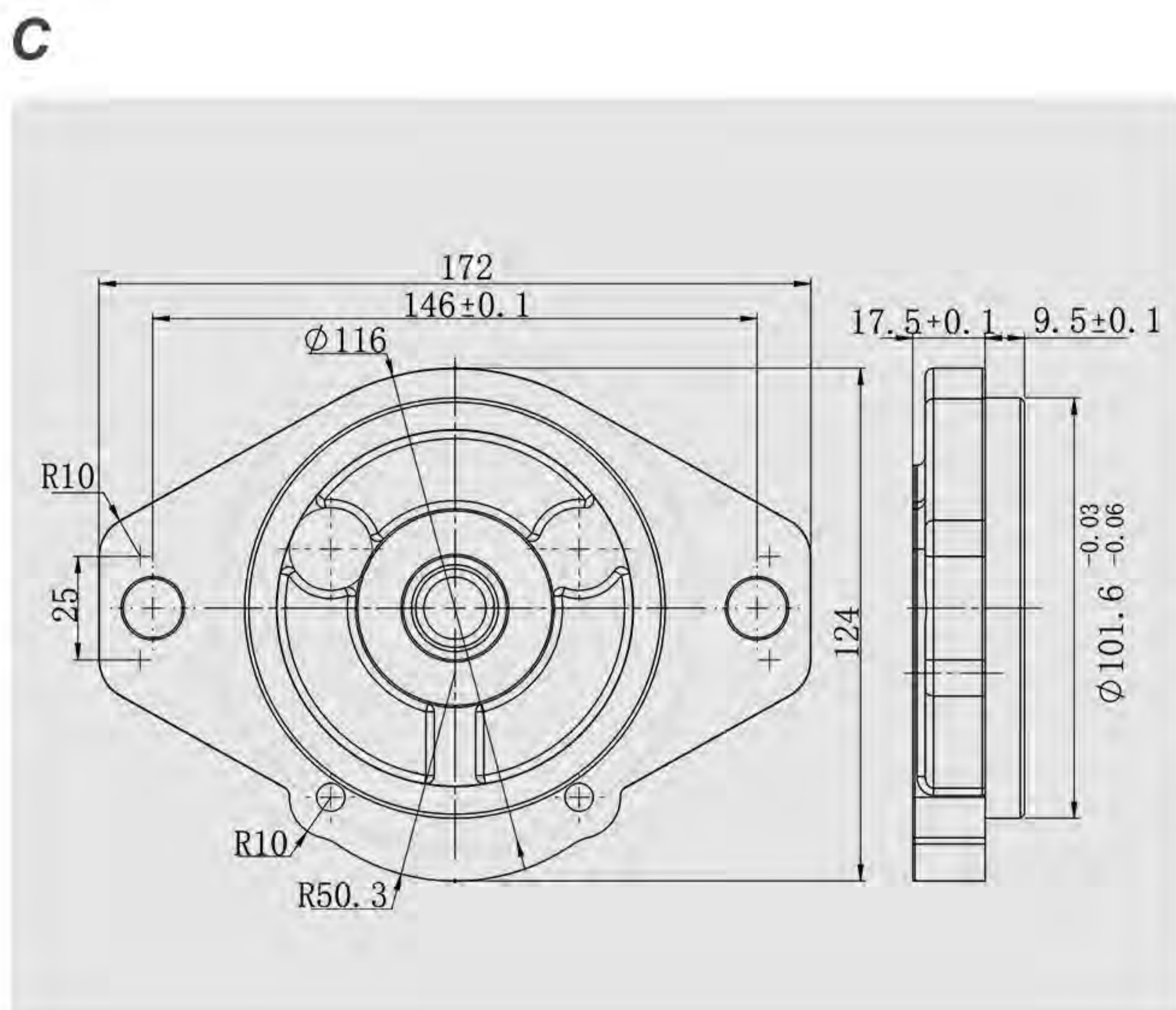
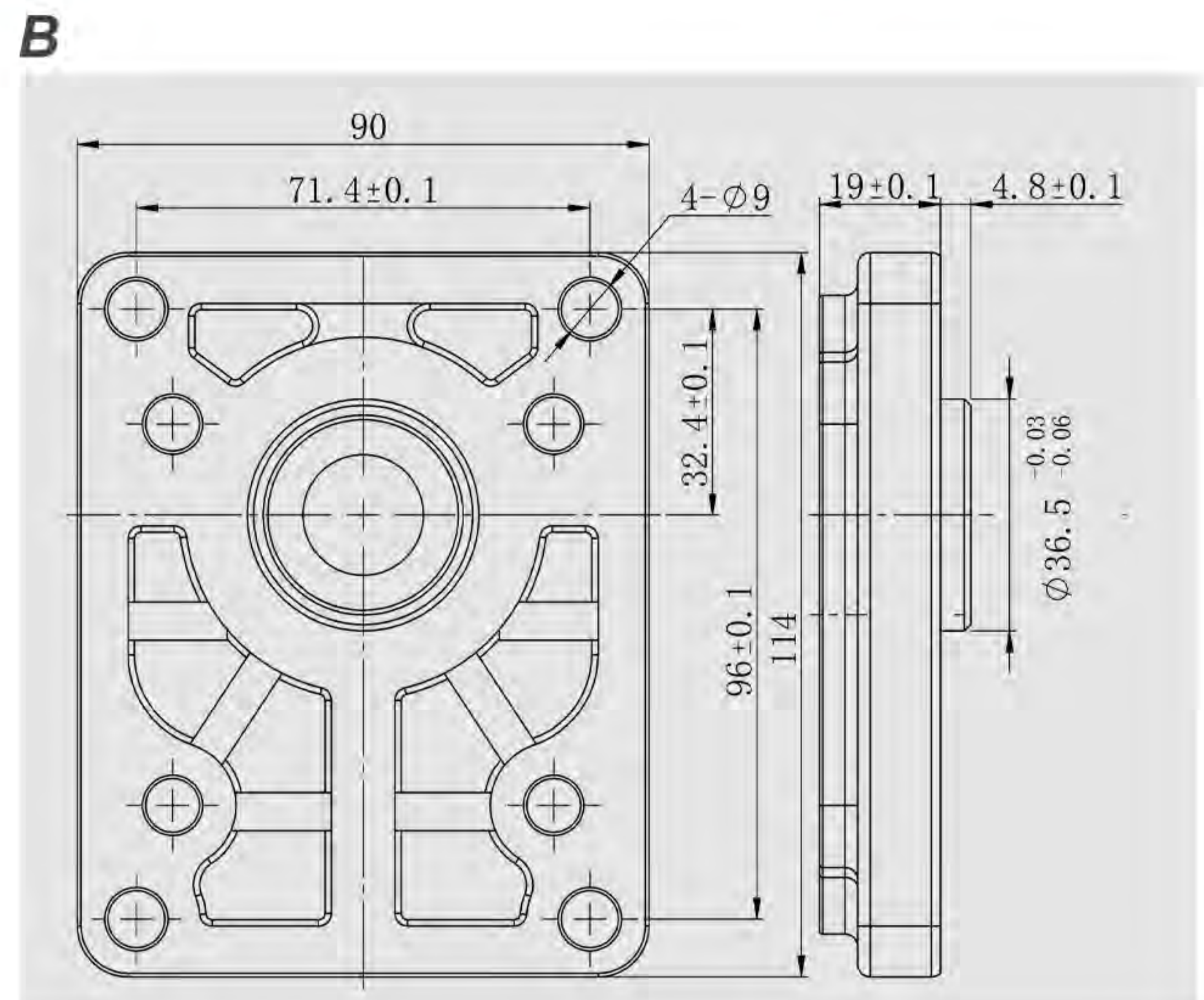
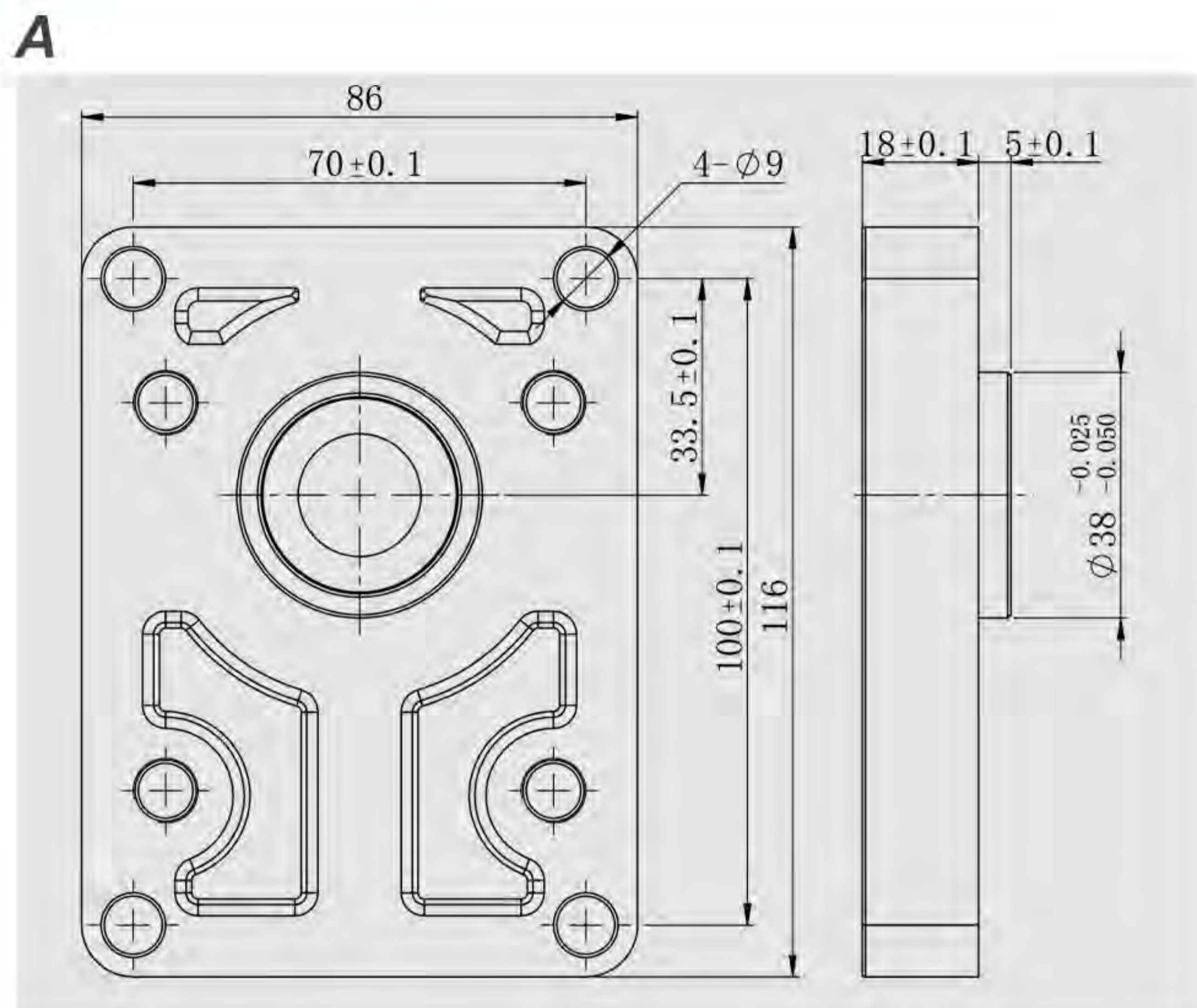
MODEL	Displacement cm ³ /rev	Flow at 1500rpm L/min	Max Pressure bar	Min Speed rpm	Max Speed rpm
GPM2FC004	4	6.0	280	800	4000
GPM2FC006	6	9.0	280	600	4000
GPM2FC008	8	12	280	600	4000
GPM2FC010	10	15	280	500	3500
GPM2FC011	11	16.5	280	500	3000
GPM2FC012	12	18	280	500	3000
GPM2FC014	14	21	260	500	4000
GPM2FC016	16	24	260	500	4000
GPM2FC018	18	27	260	400	3600
GPM2FC020	20	30	230	400	3200
GPM2FC022	22	33	230	400	3000
GPM2FC025	25	37.5	210	400	3000
GPM2FC026	26	39	200	400	2500
GPM2FC028	28	42	200	400	2500
GPM2FC030	30	45	180	400	2500



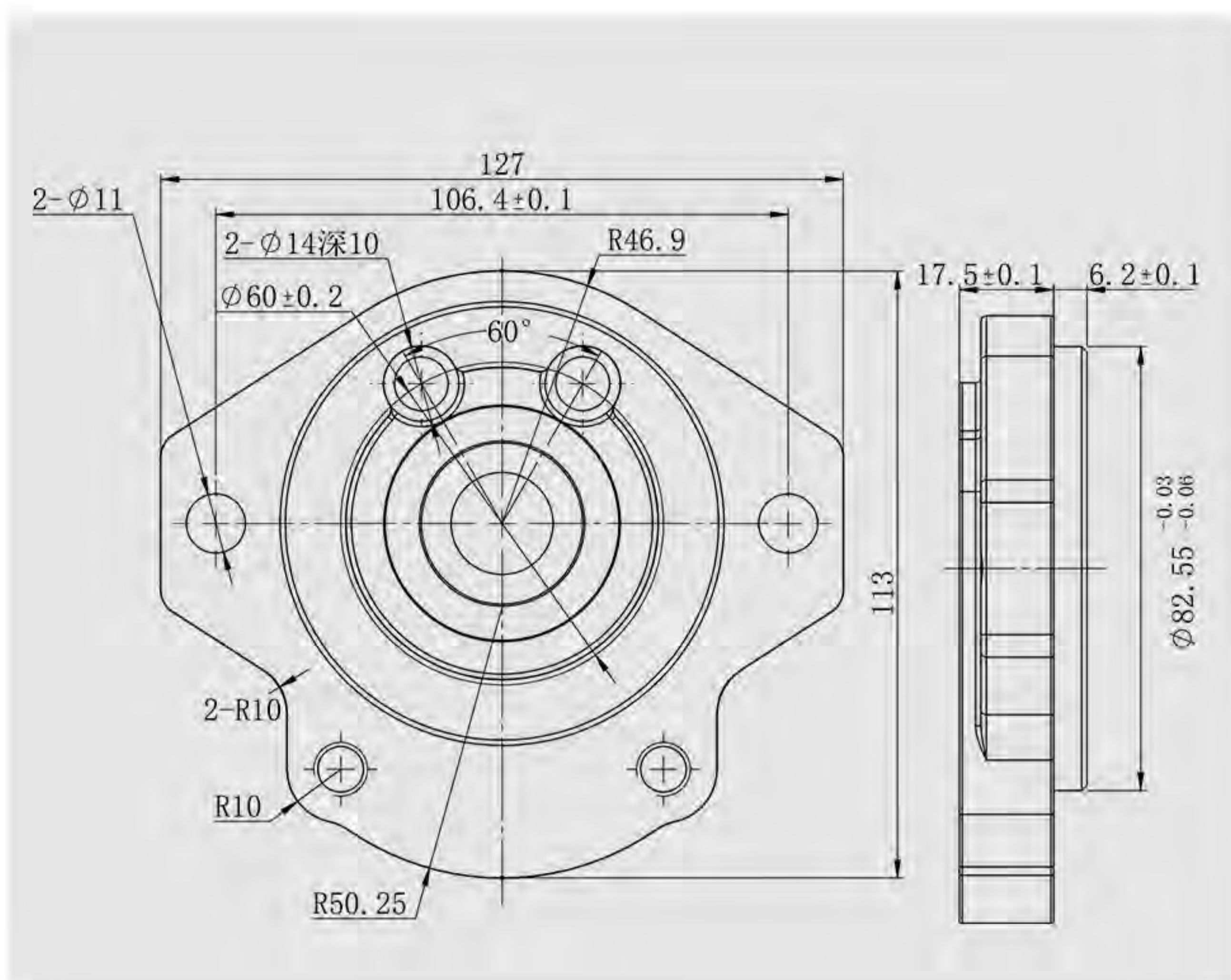
BASIC PUMP'S PARTS

- 01 Stop Ring
- 02 Rotary Shaft Seal
- 03 Front Flange
- 04 Anti-Extrusion Seal
- 05 Sliding Bearings
- 06 Bearing
- 07 Pump Housing
- 08 Gear
- 09 Housing Anti-extrusion Seals
- 10 Housing Seals
- 11 Axial zone seal
- 12 Rear Cover
- 13 Bolts
- 14 Washers
- 15 Driving Gear
- 16 Pins

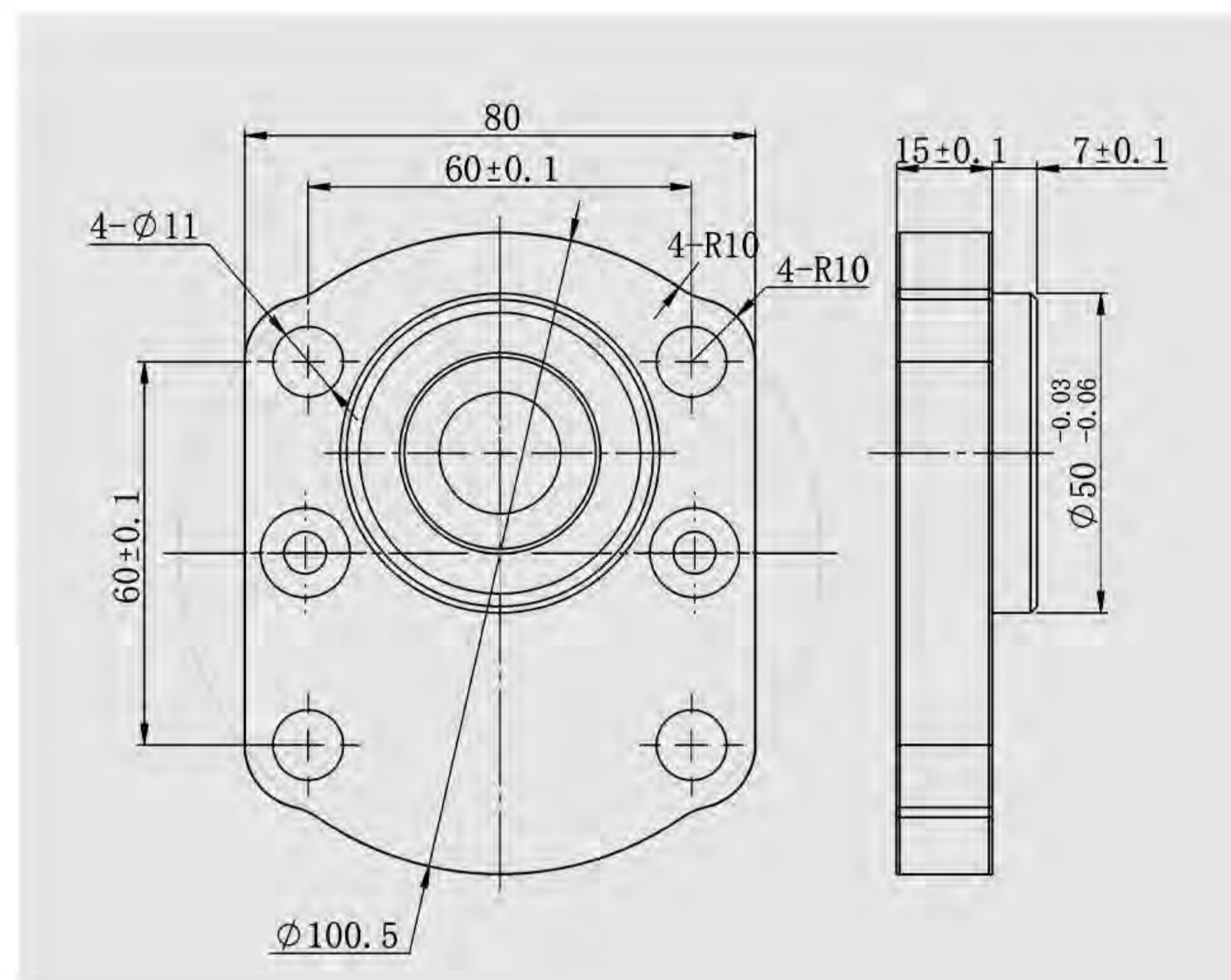
Mounting Flange Types



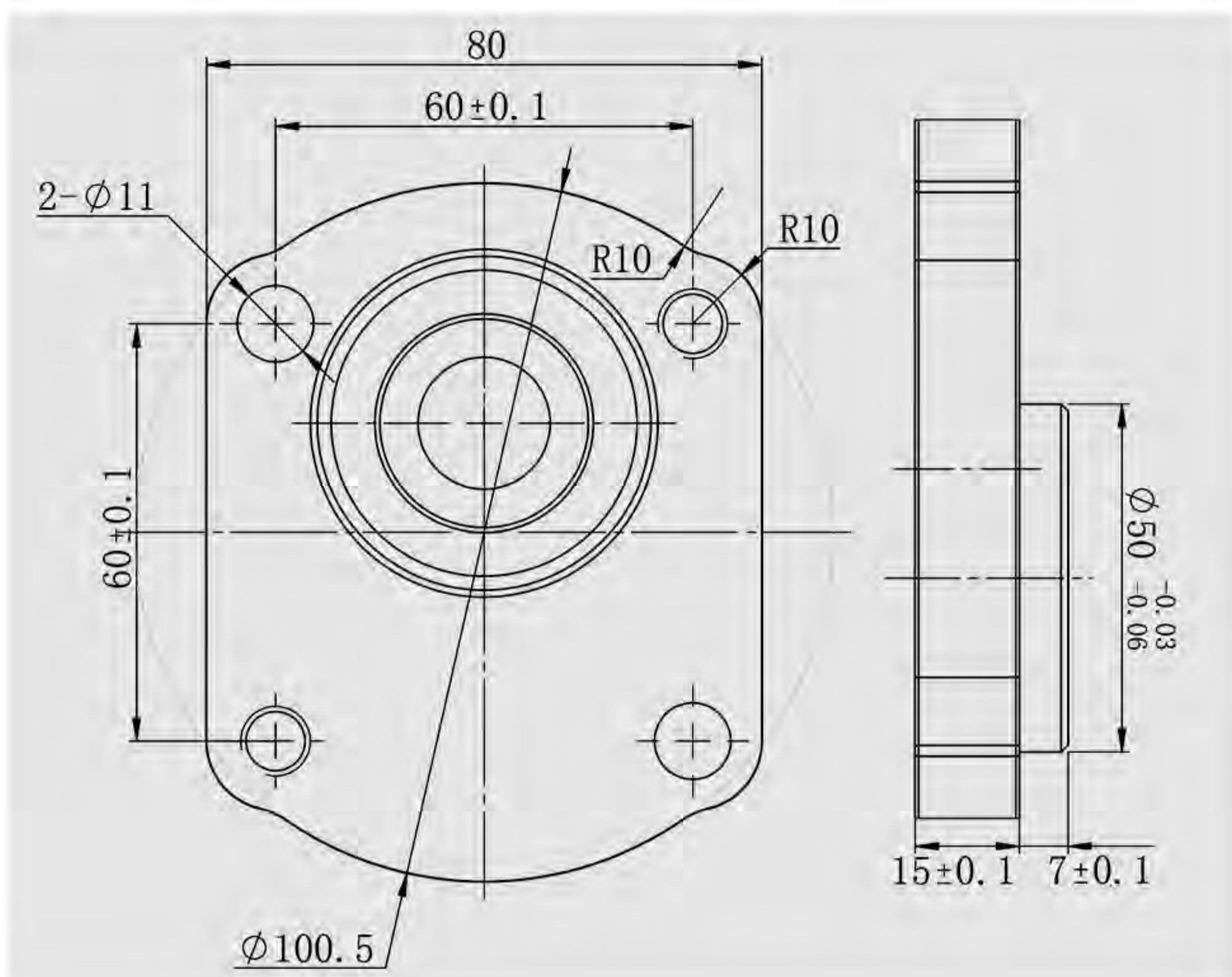
G



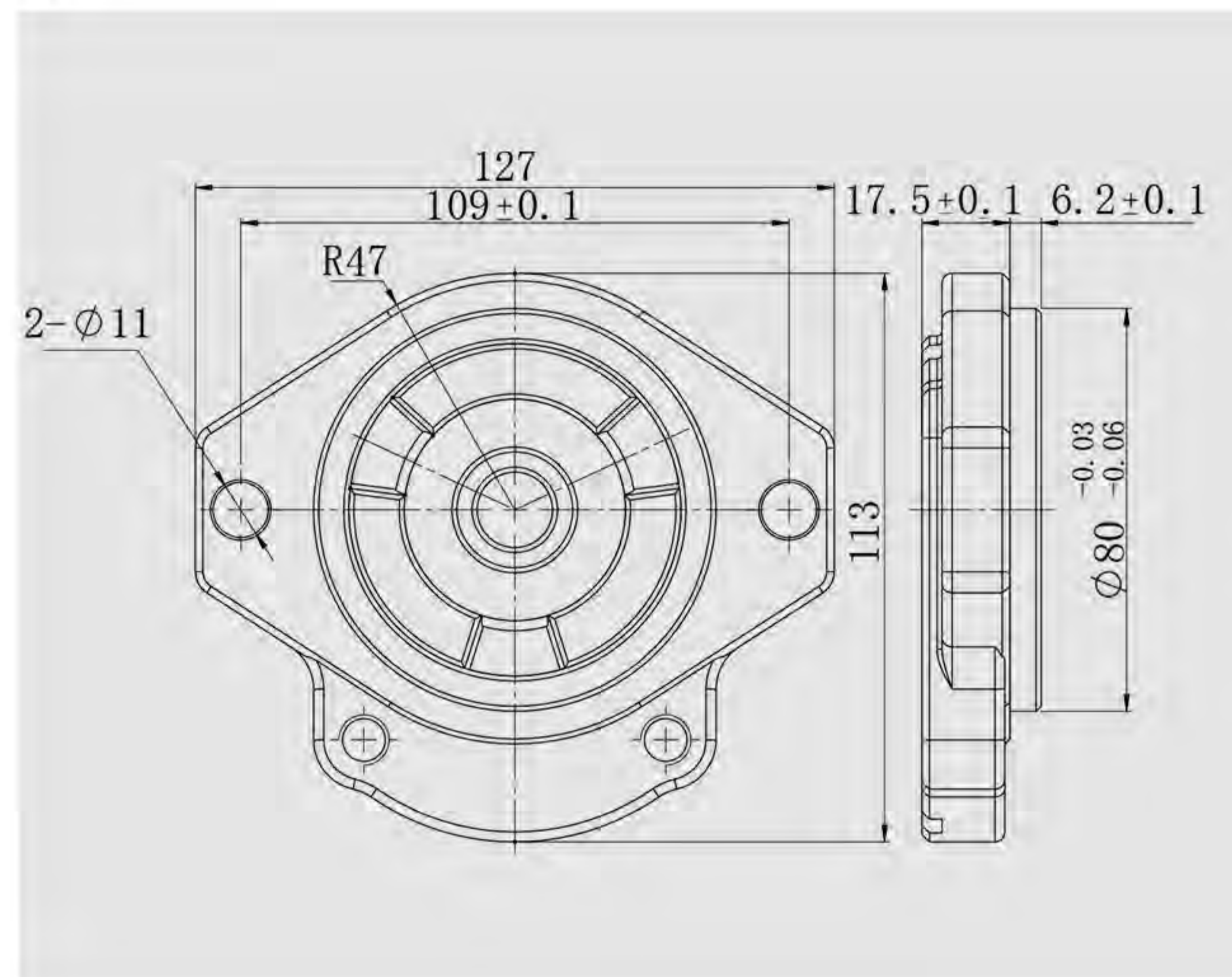
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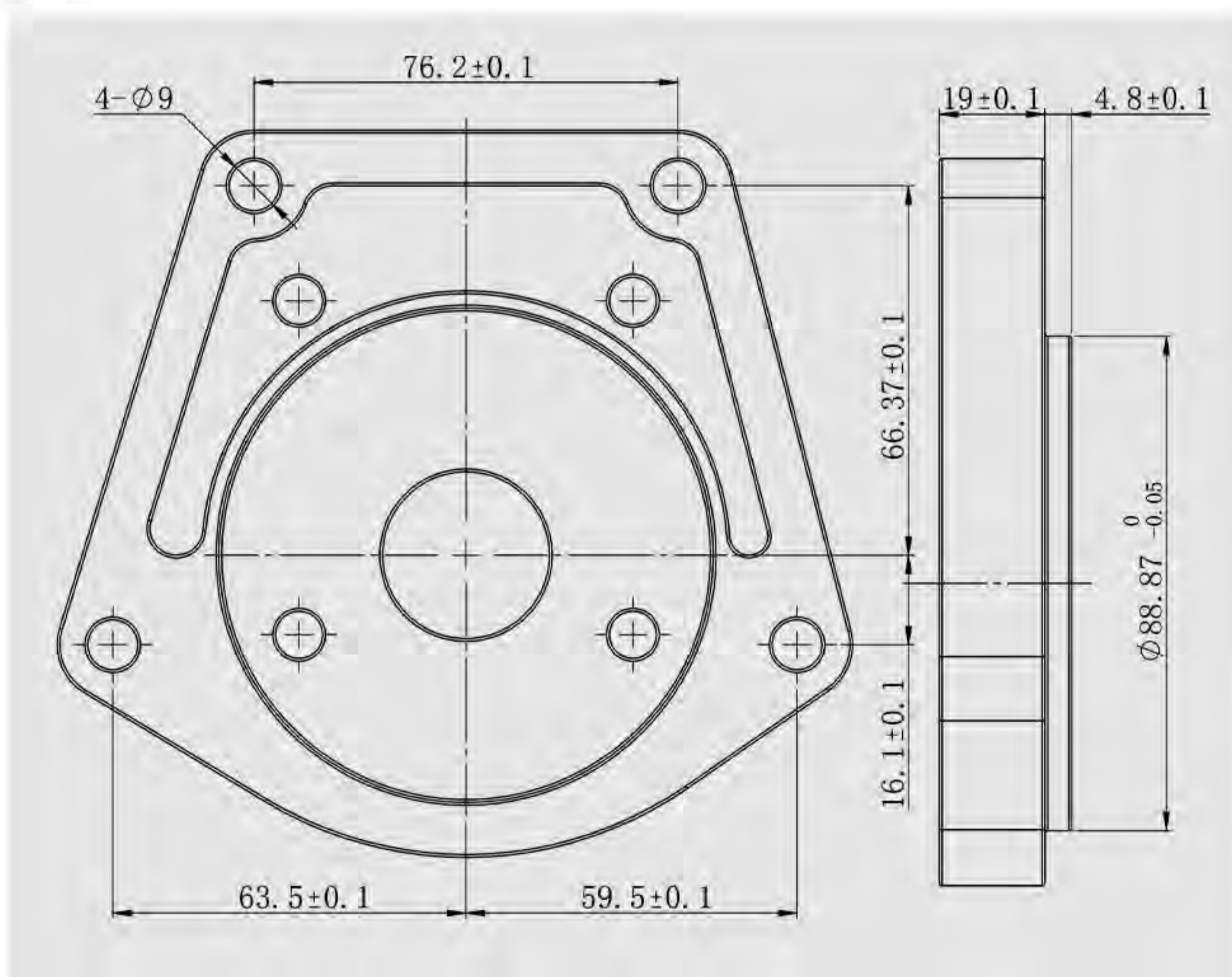
J



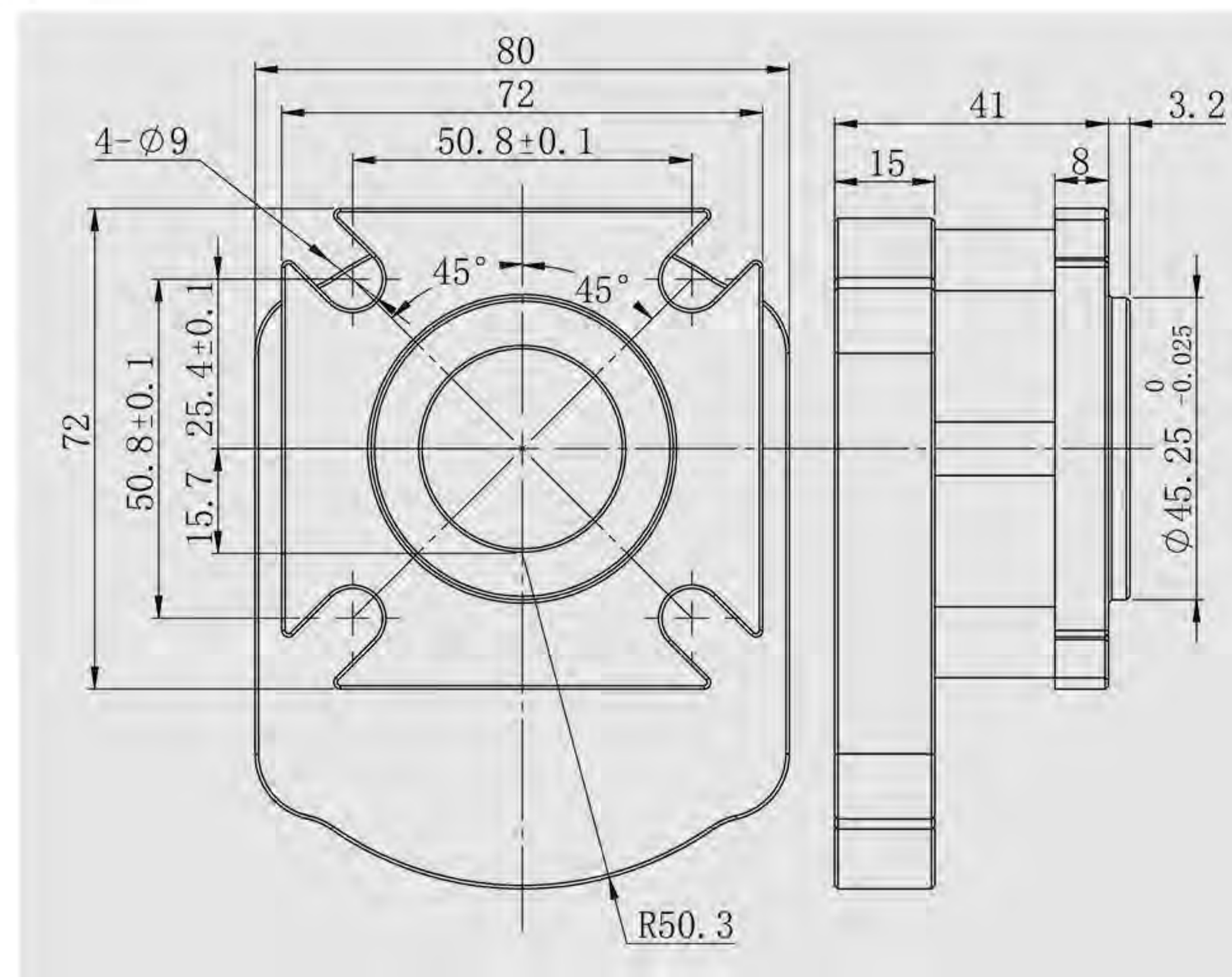
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M

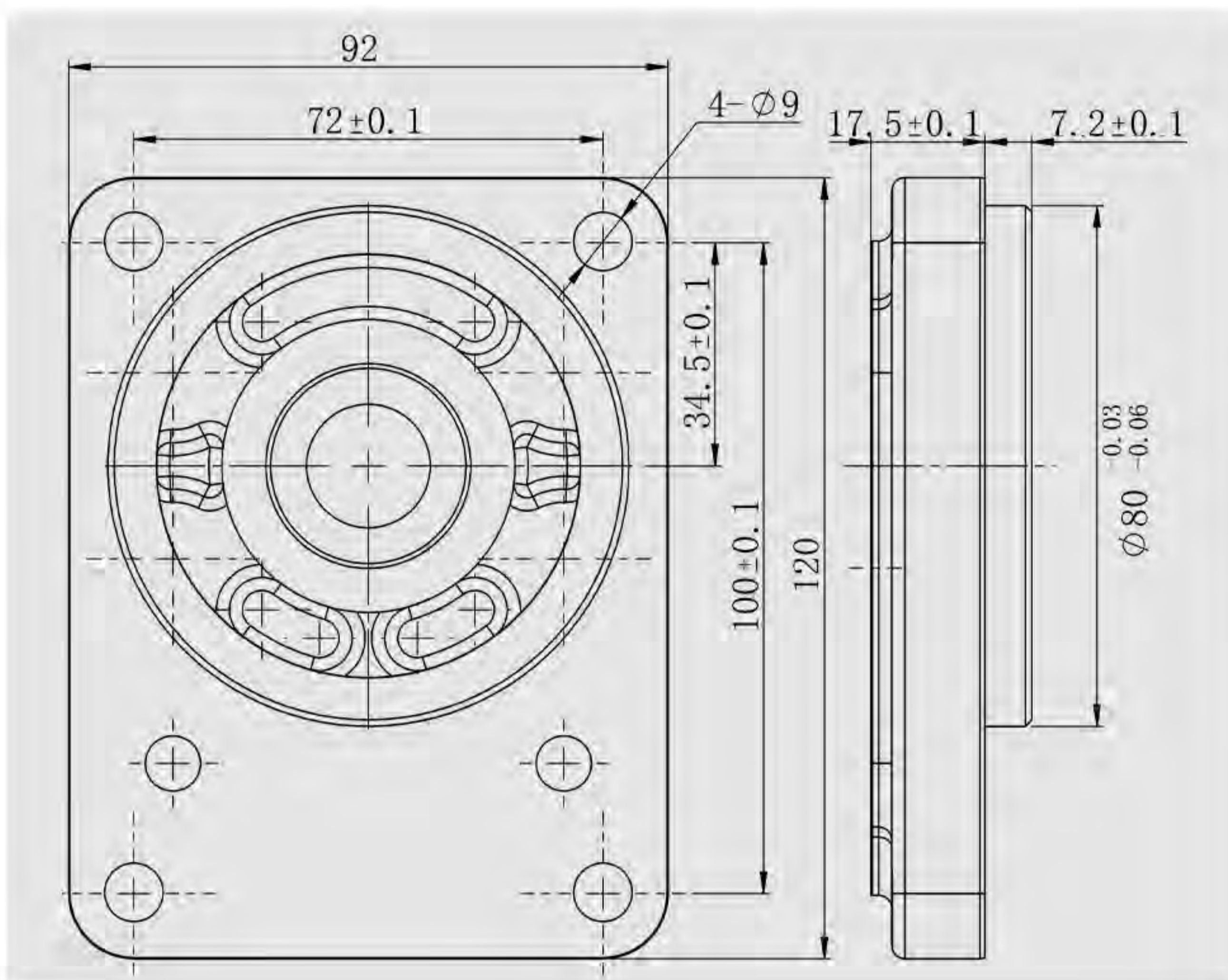


R

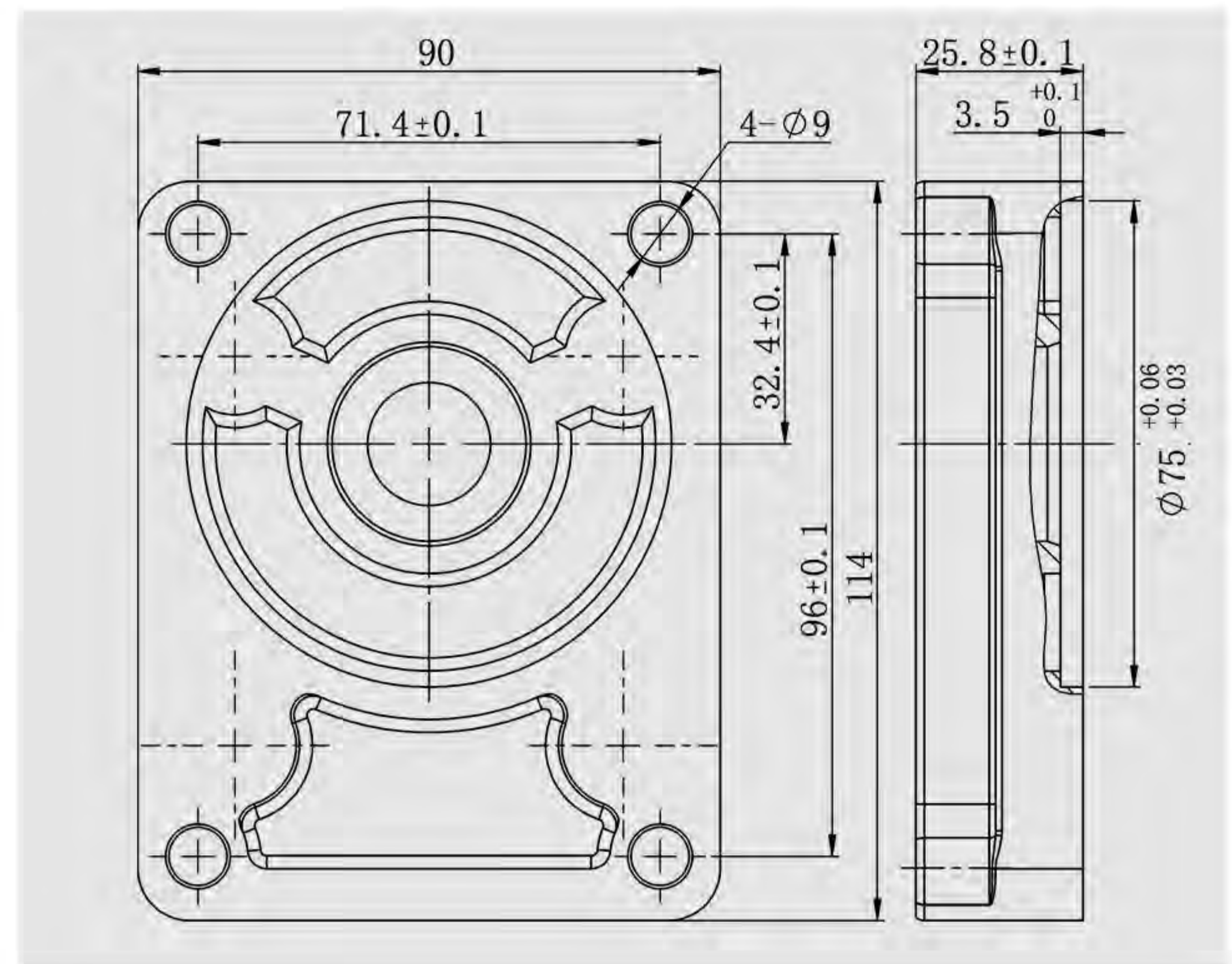


Mounting Flange Types

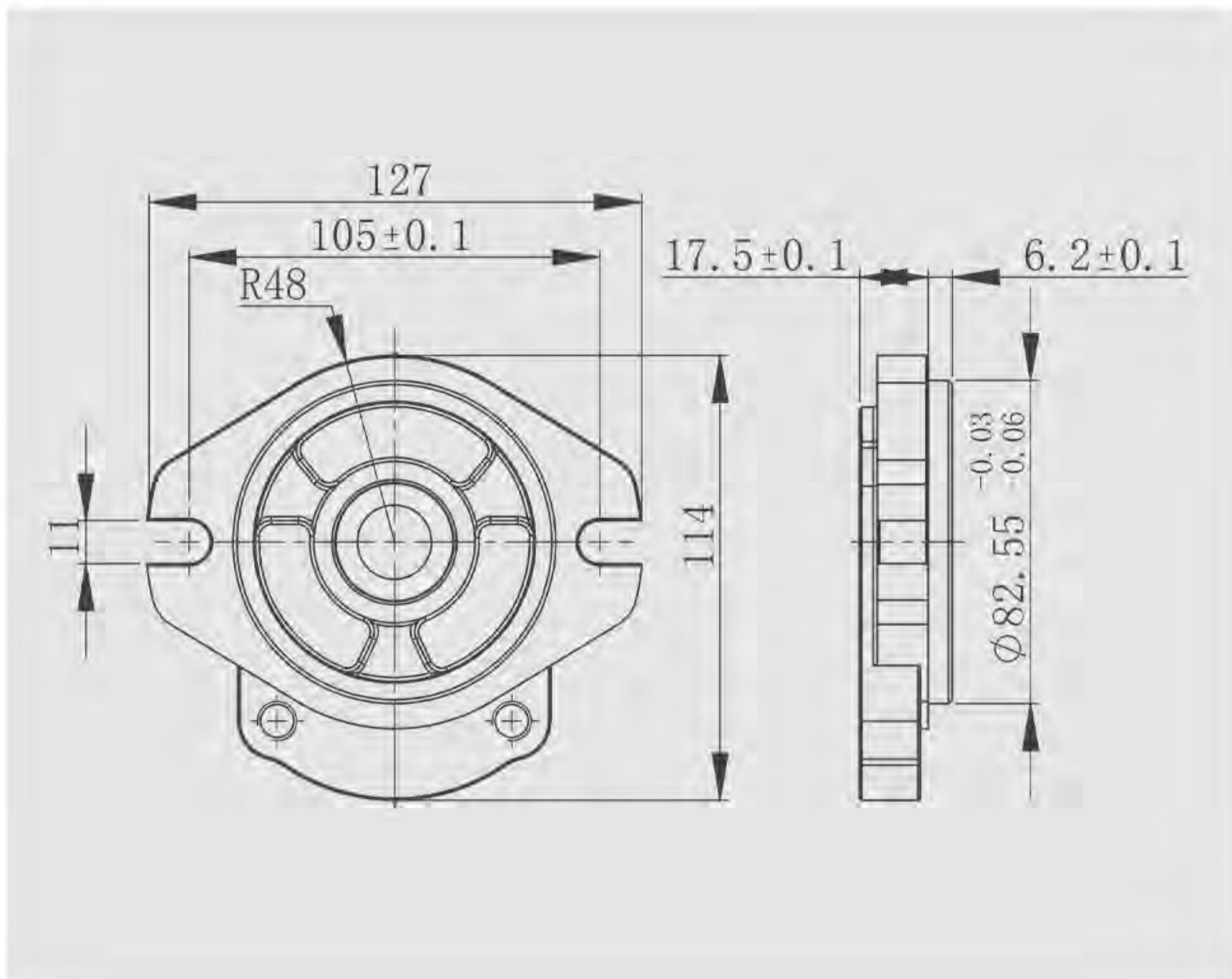
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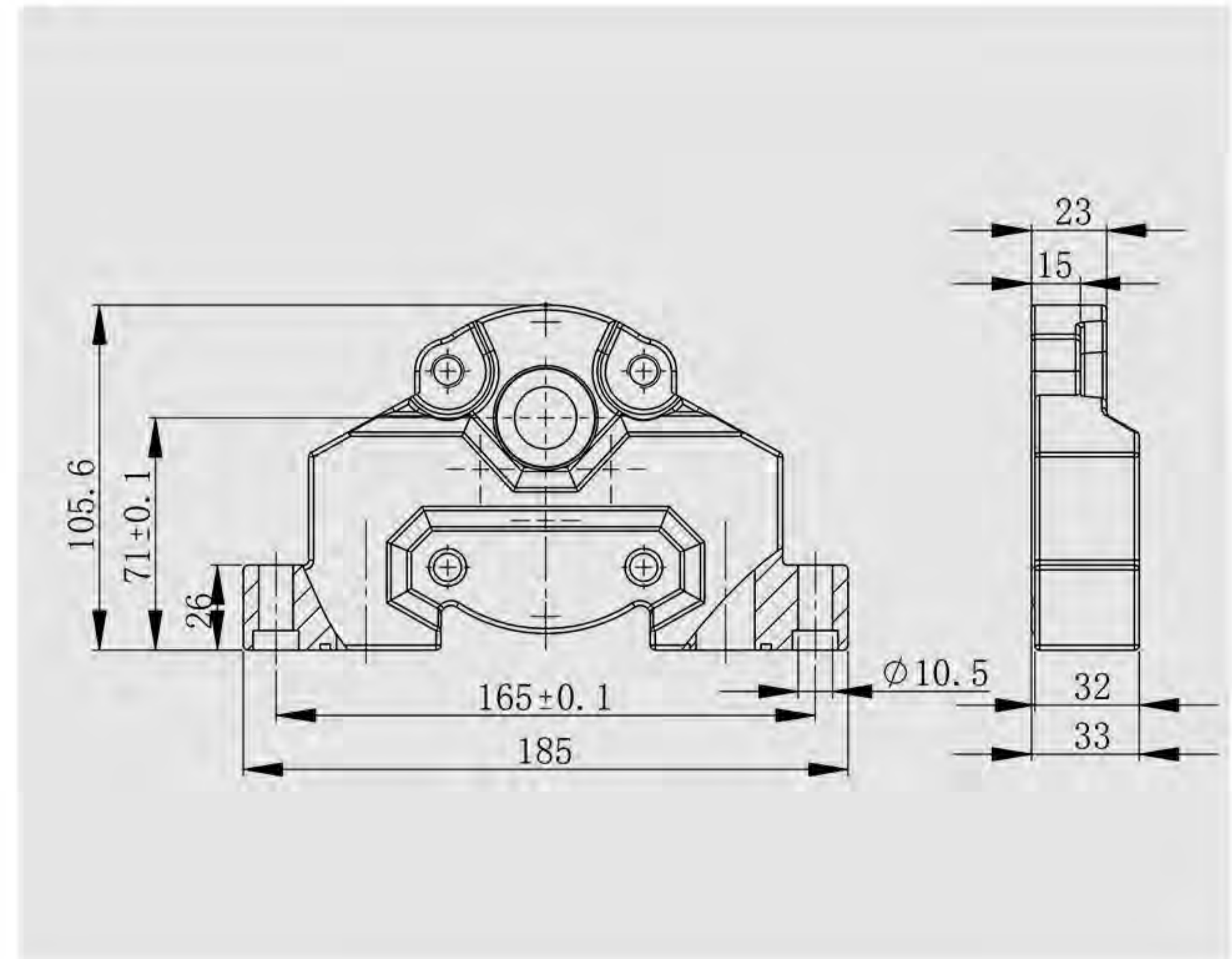
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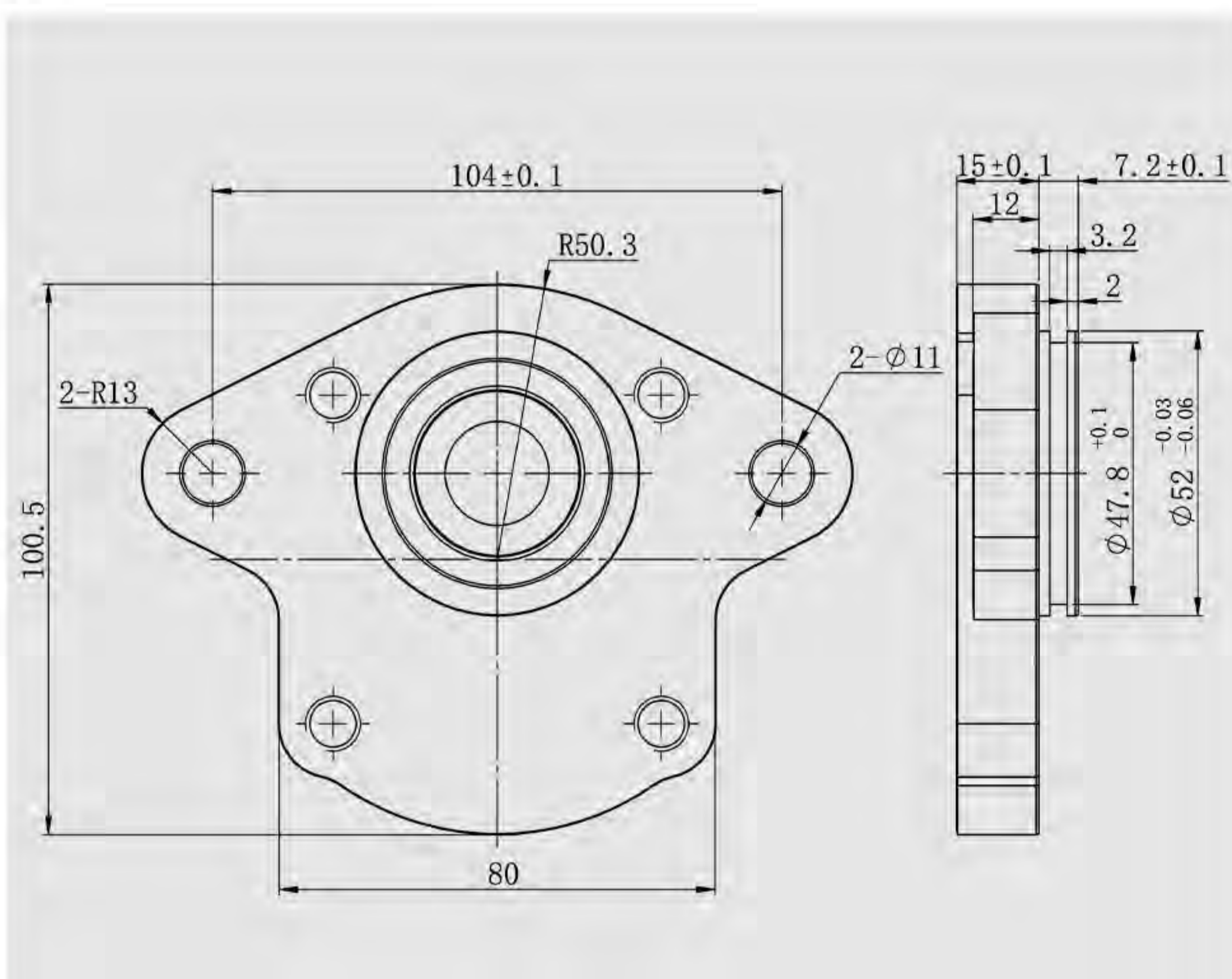
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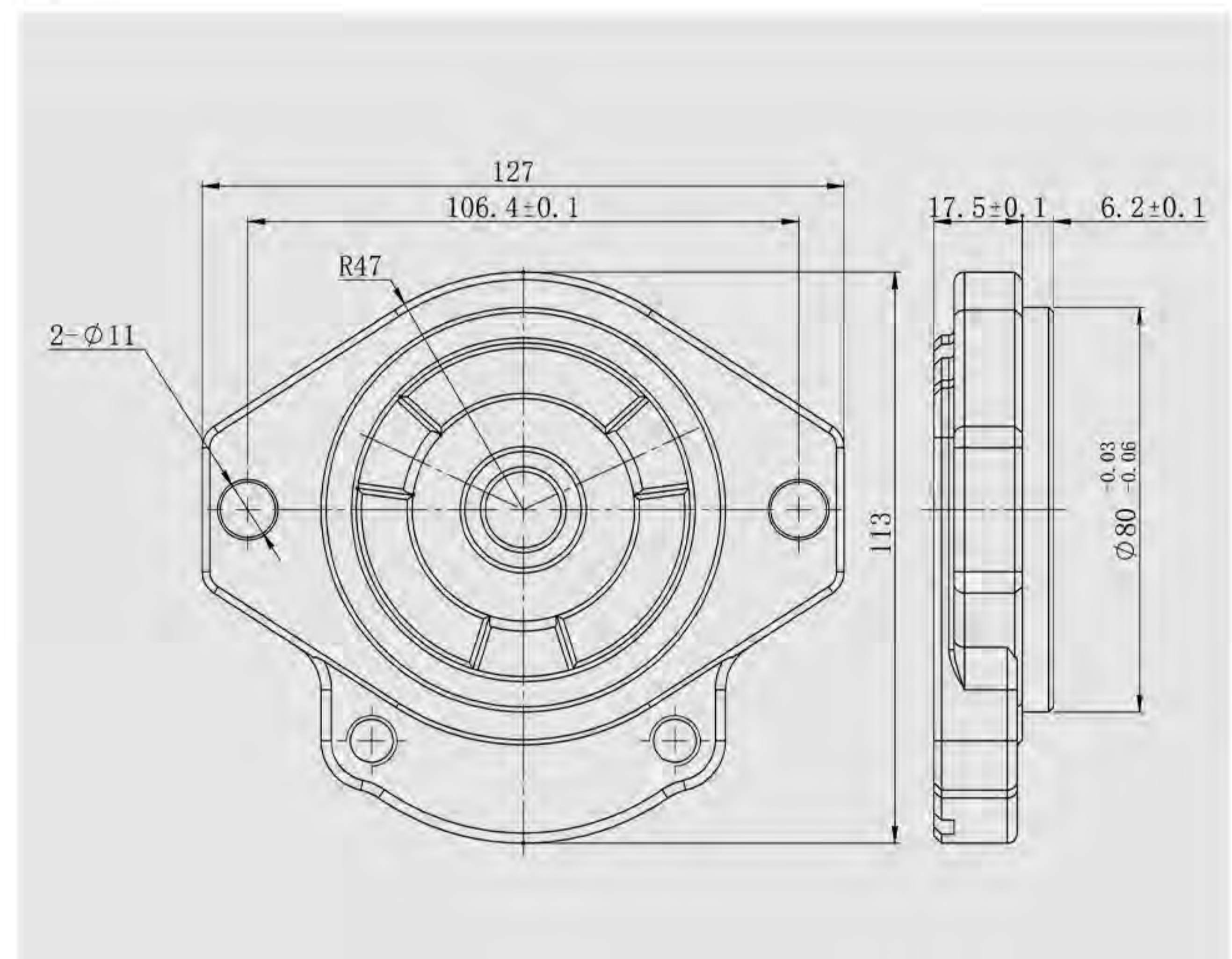
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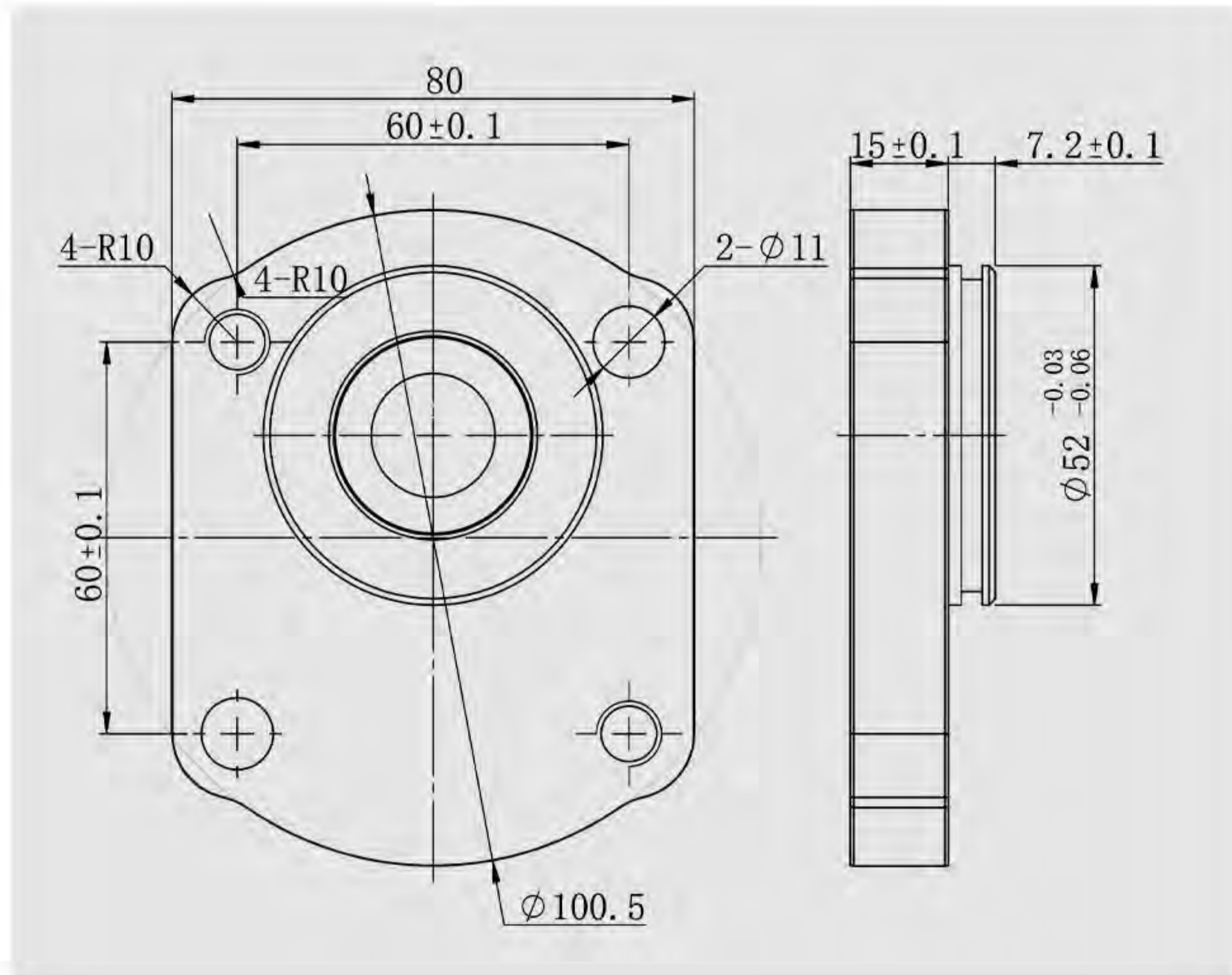
Y



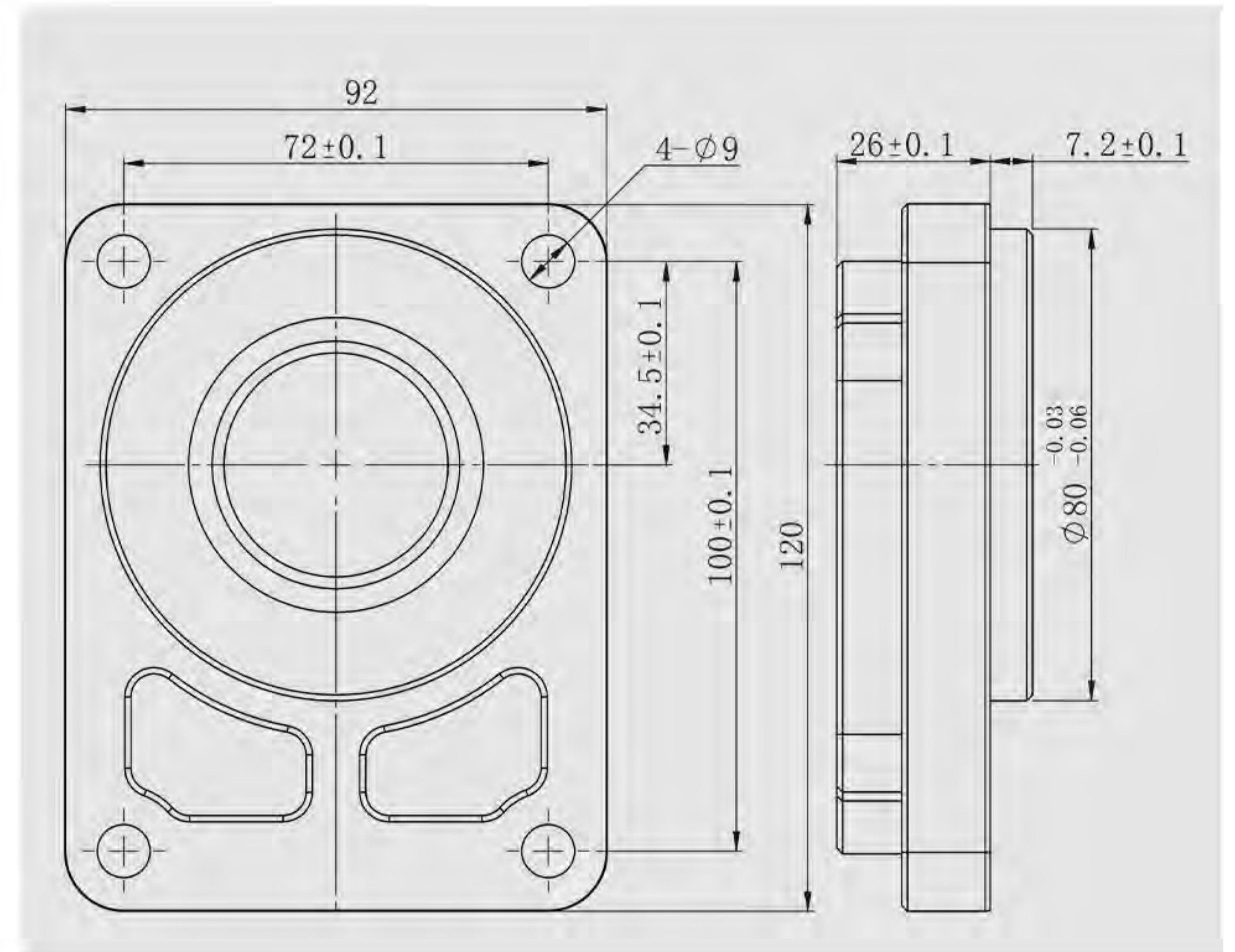
X



I

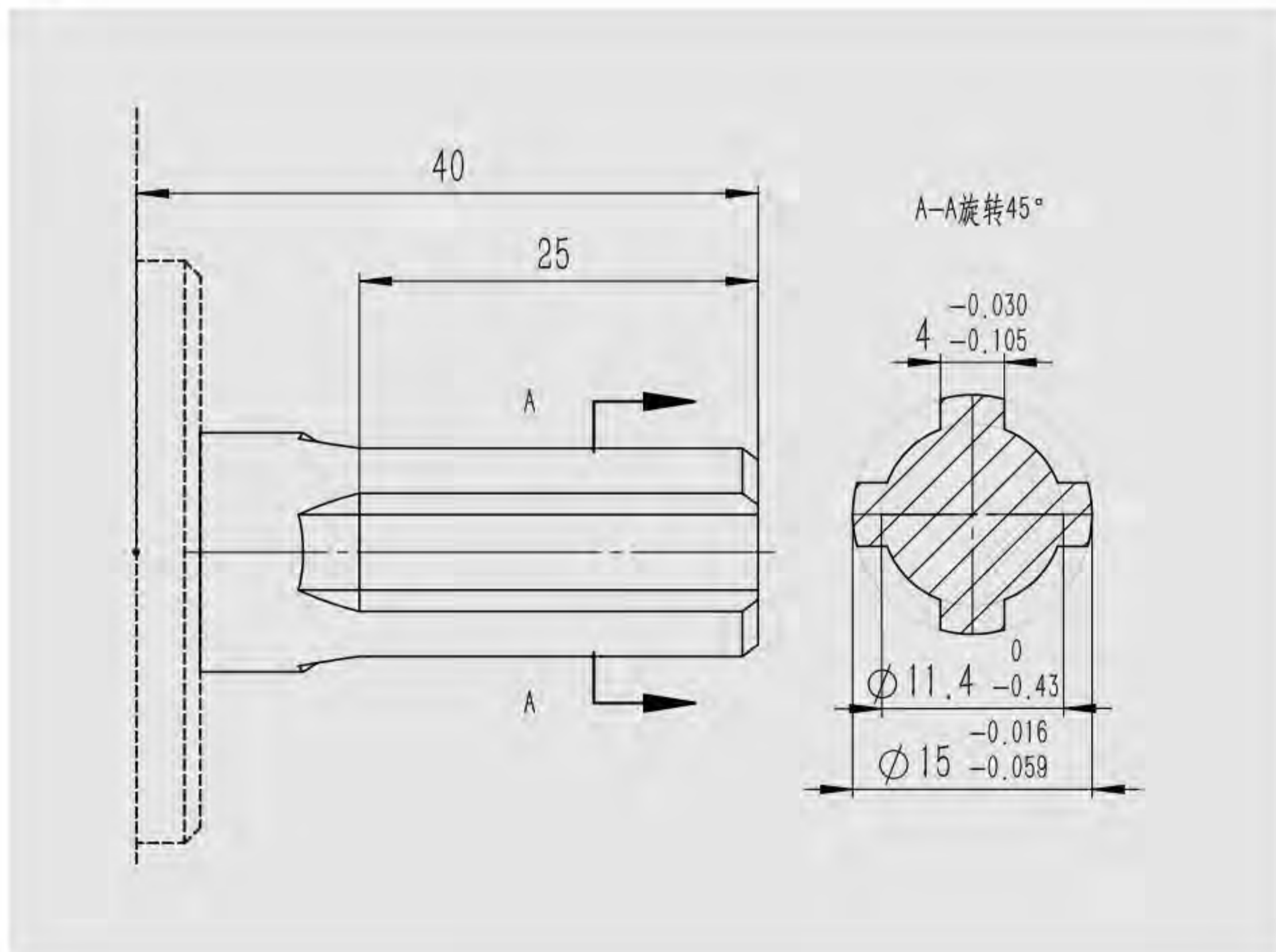


SB

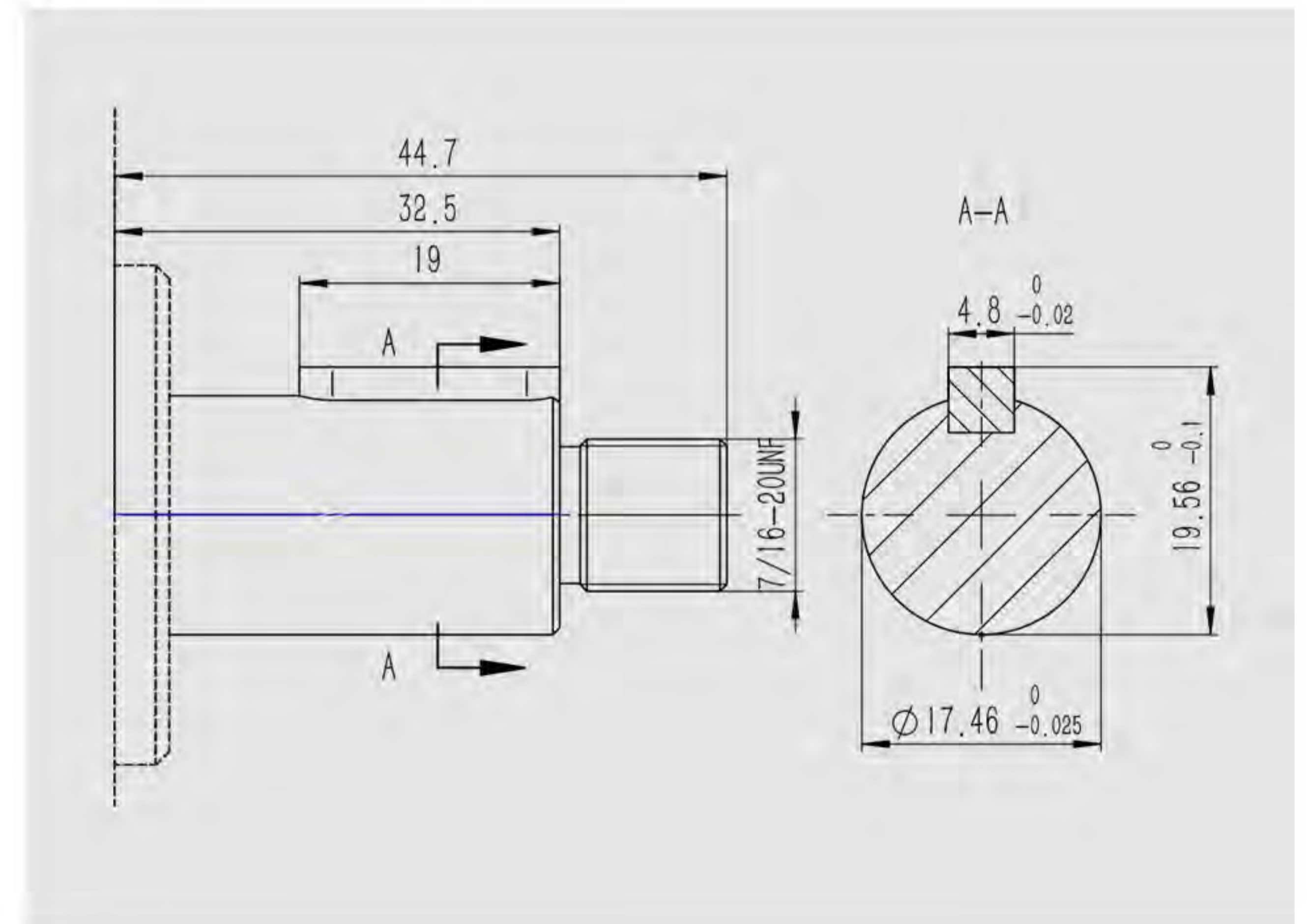


Drive Shaft Types

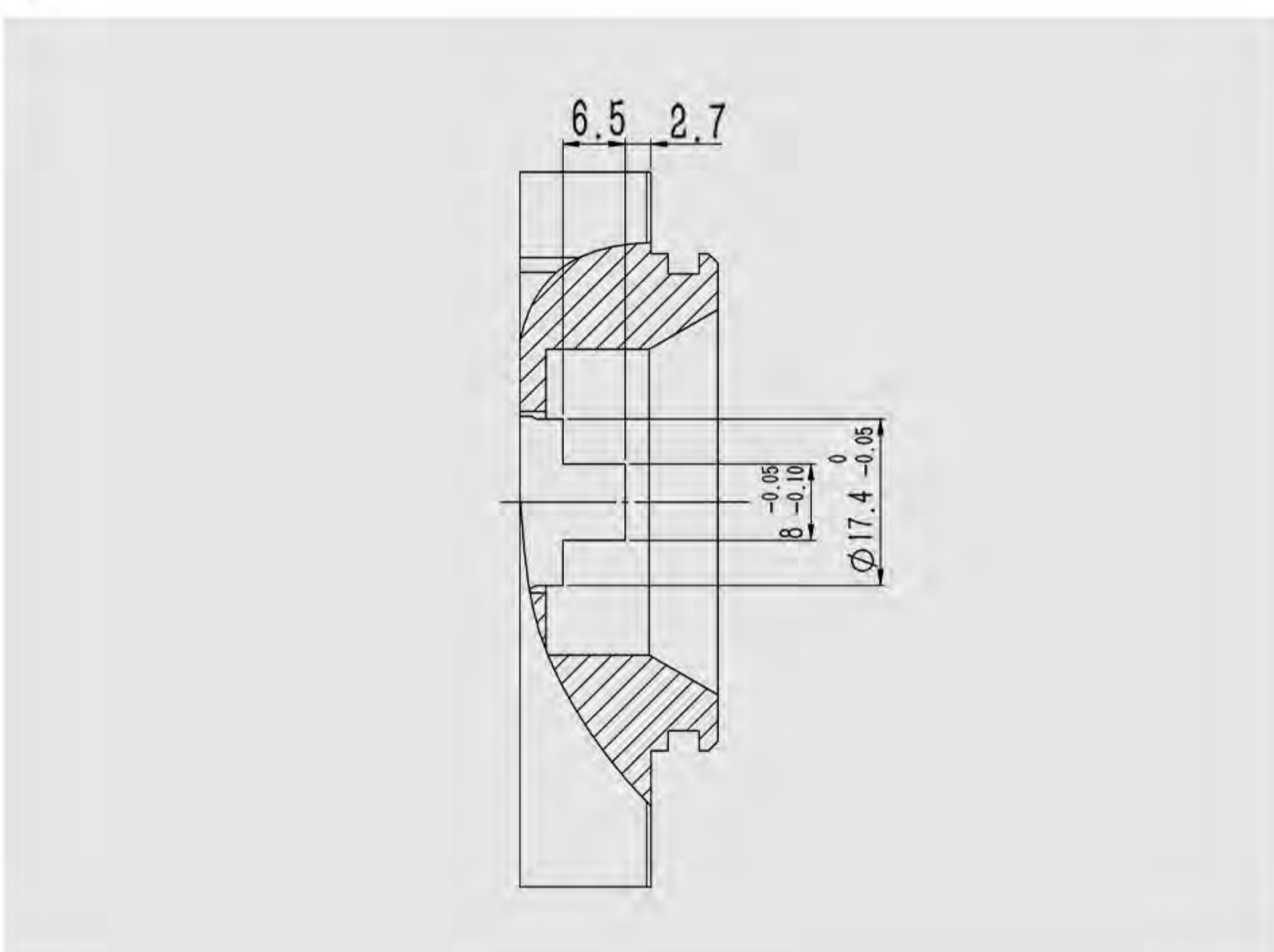
H



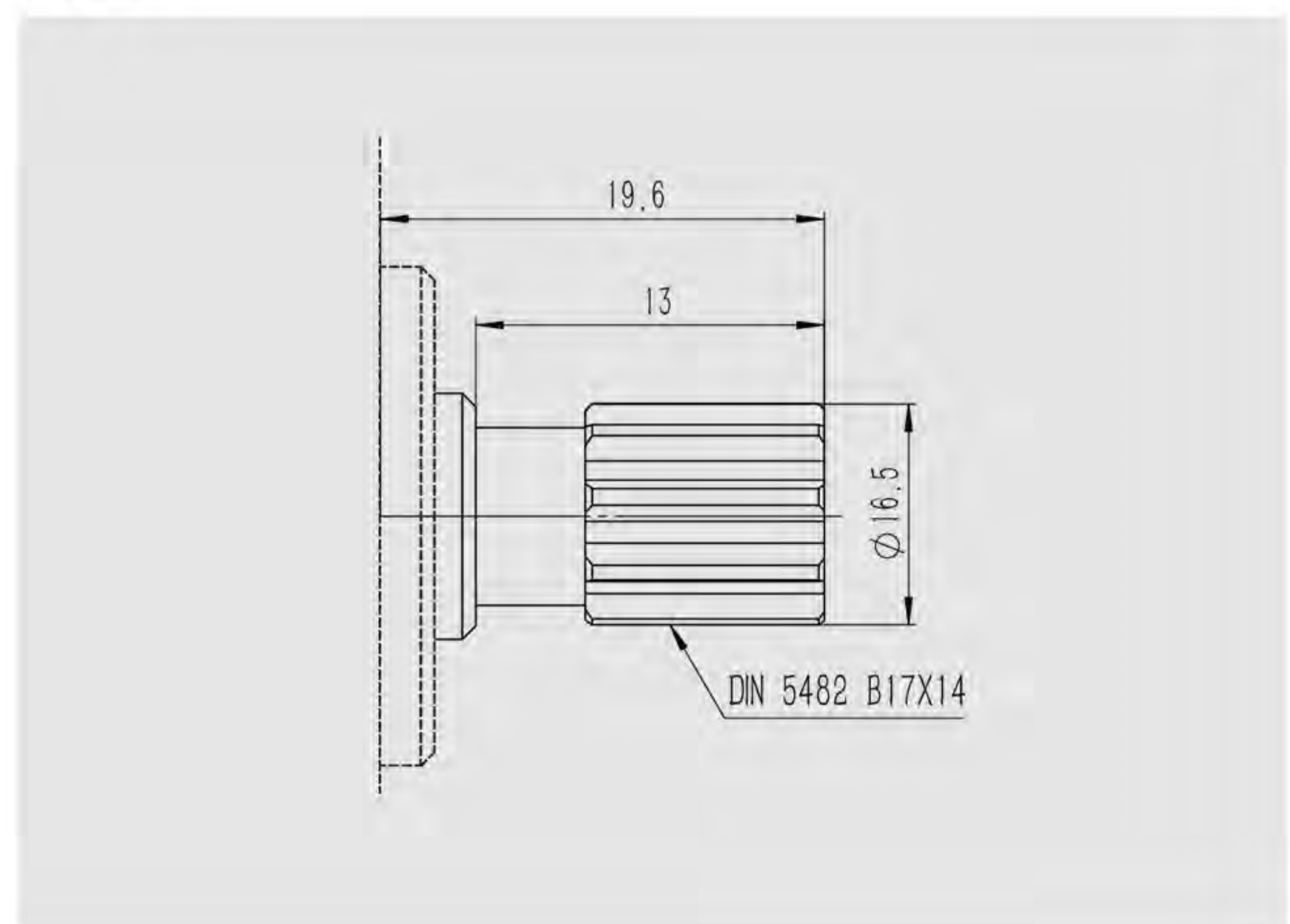
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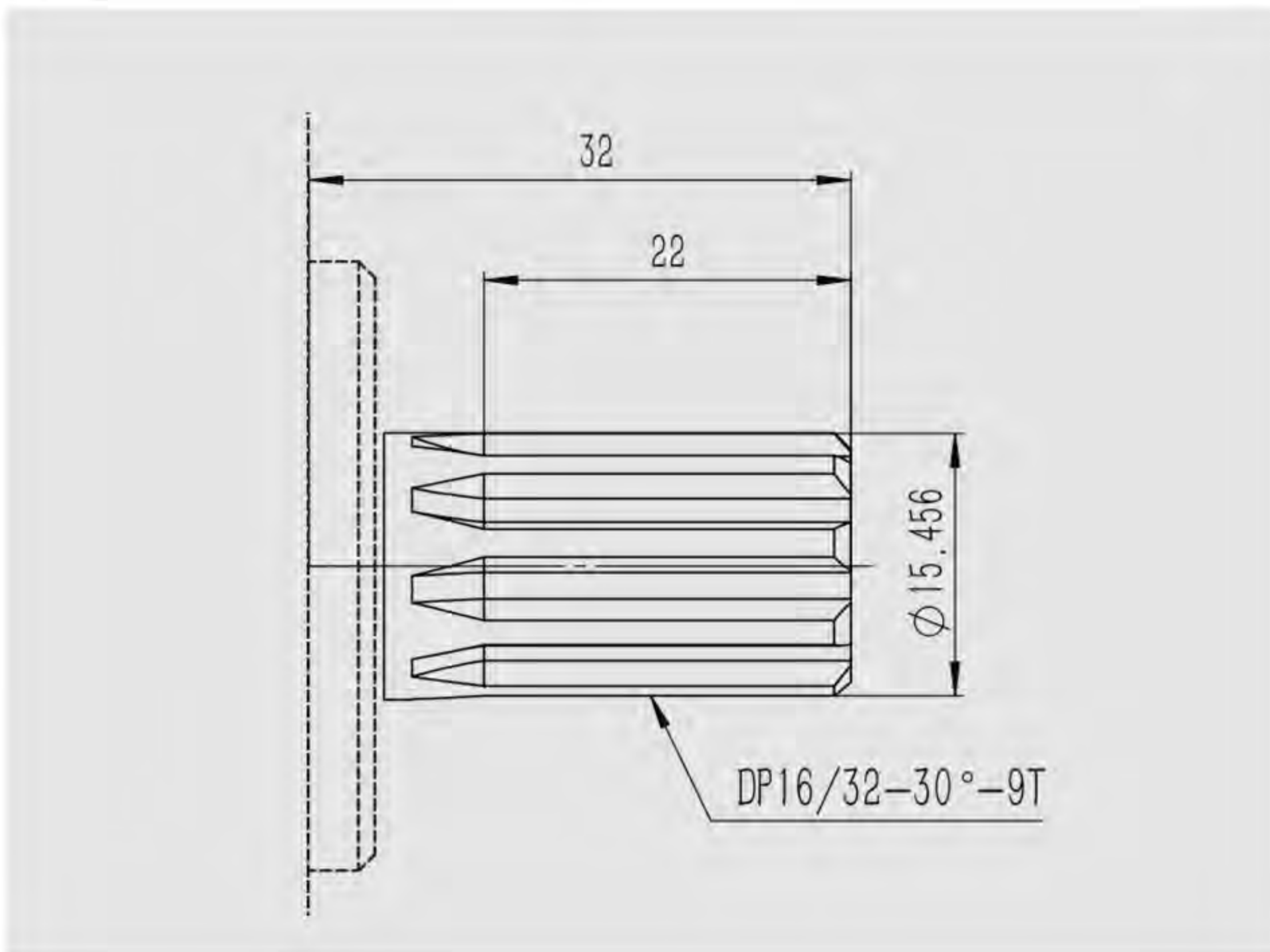
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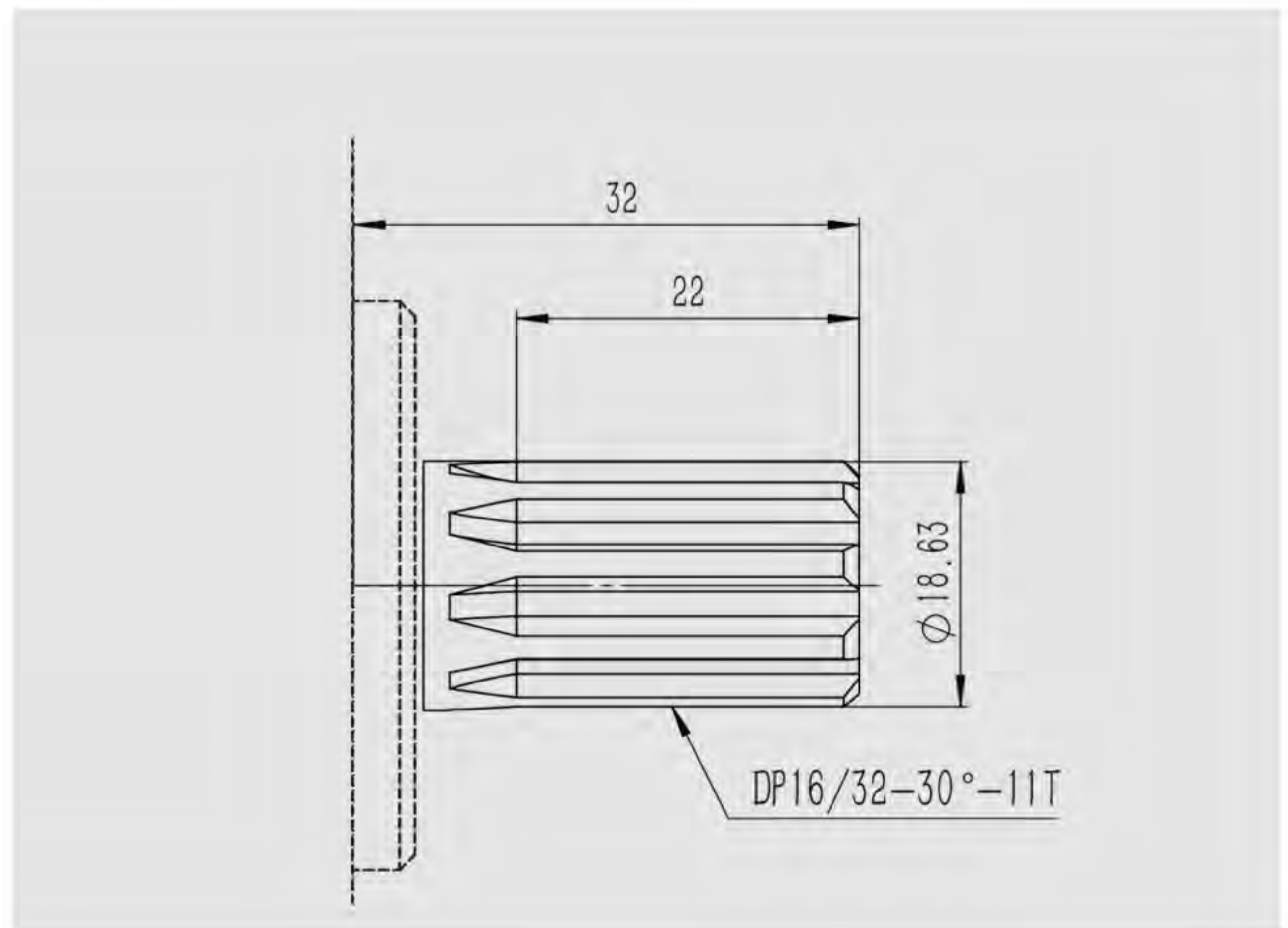
SO



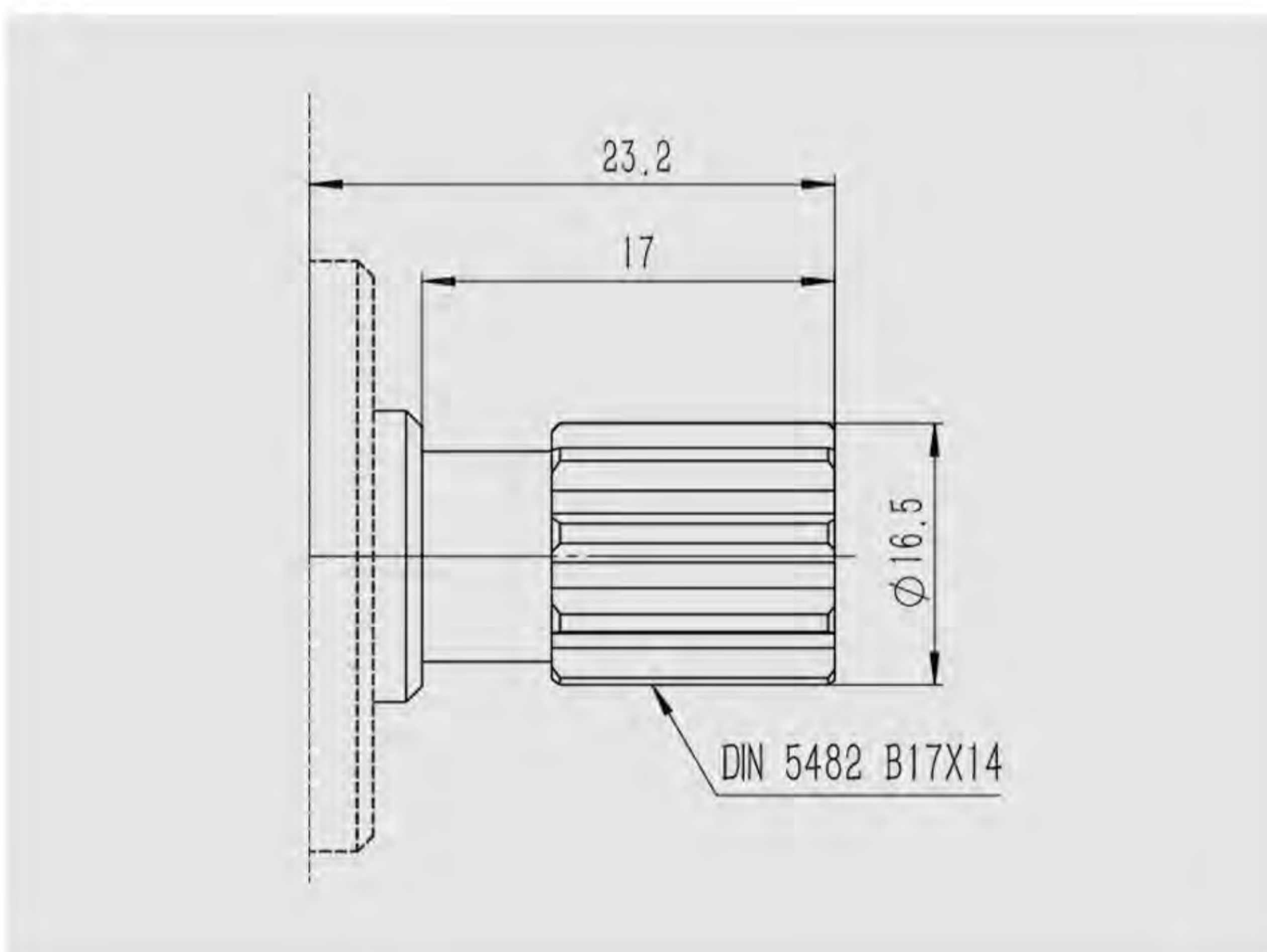
S1



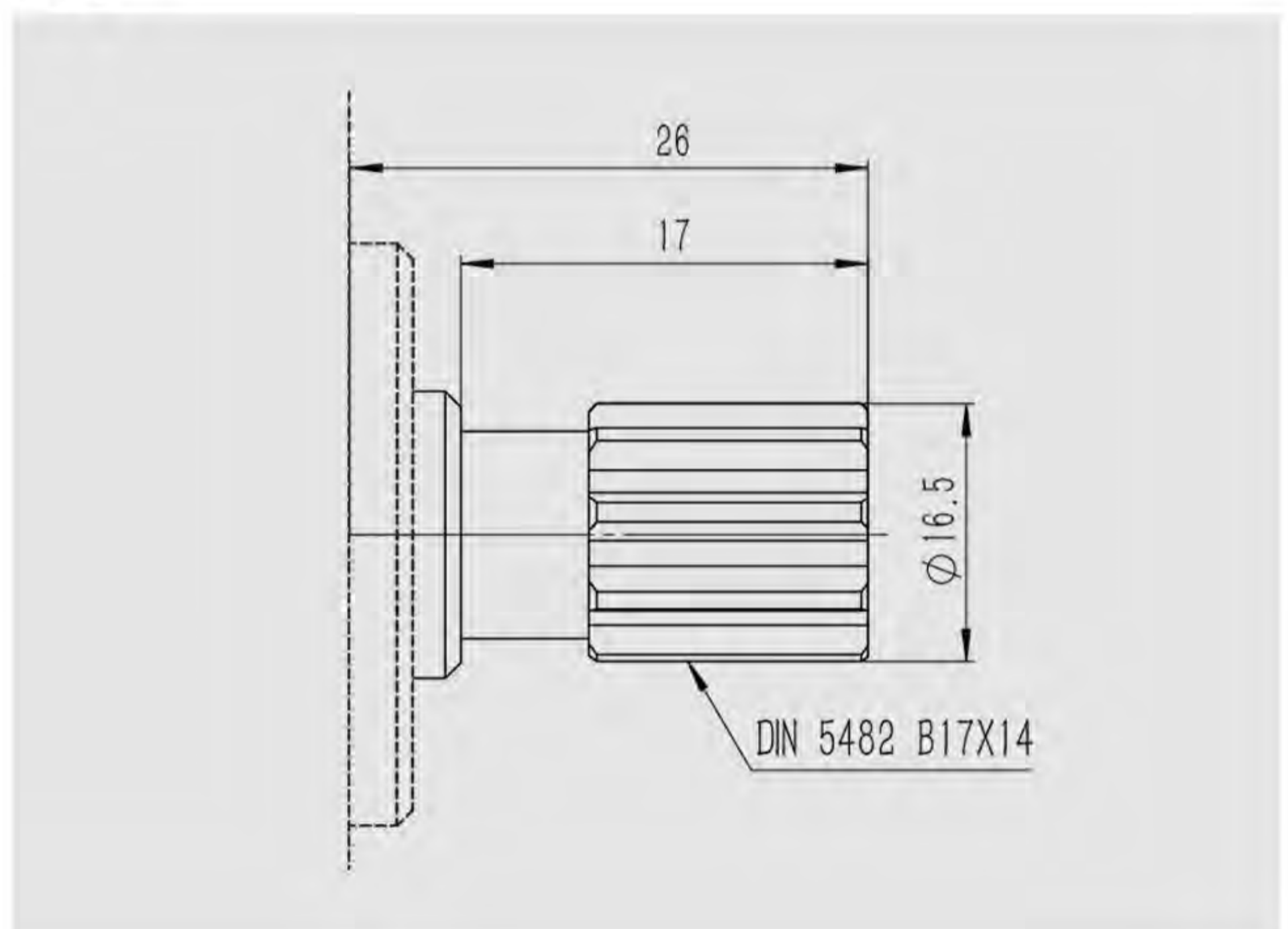
S2



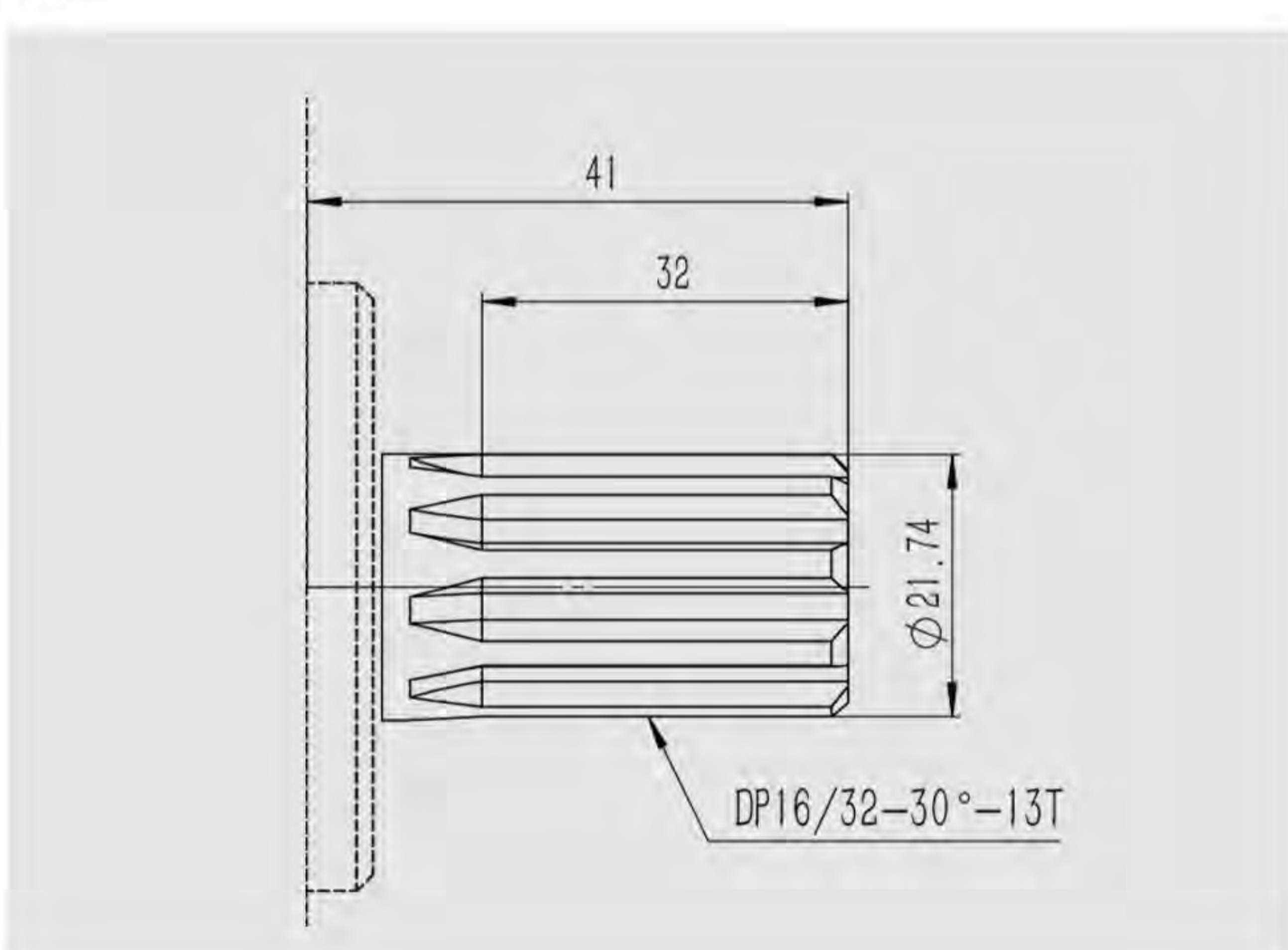
S3



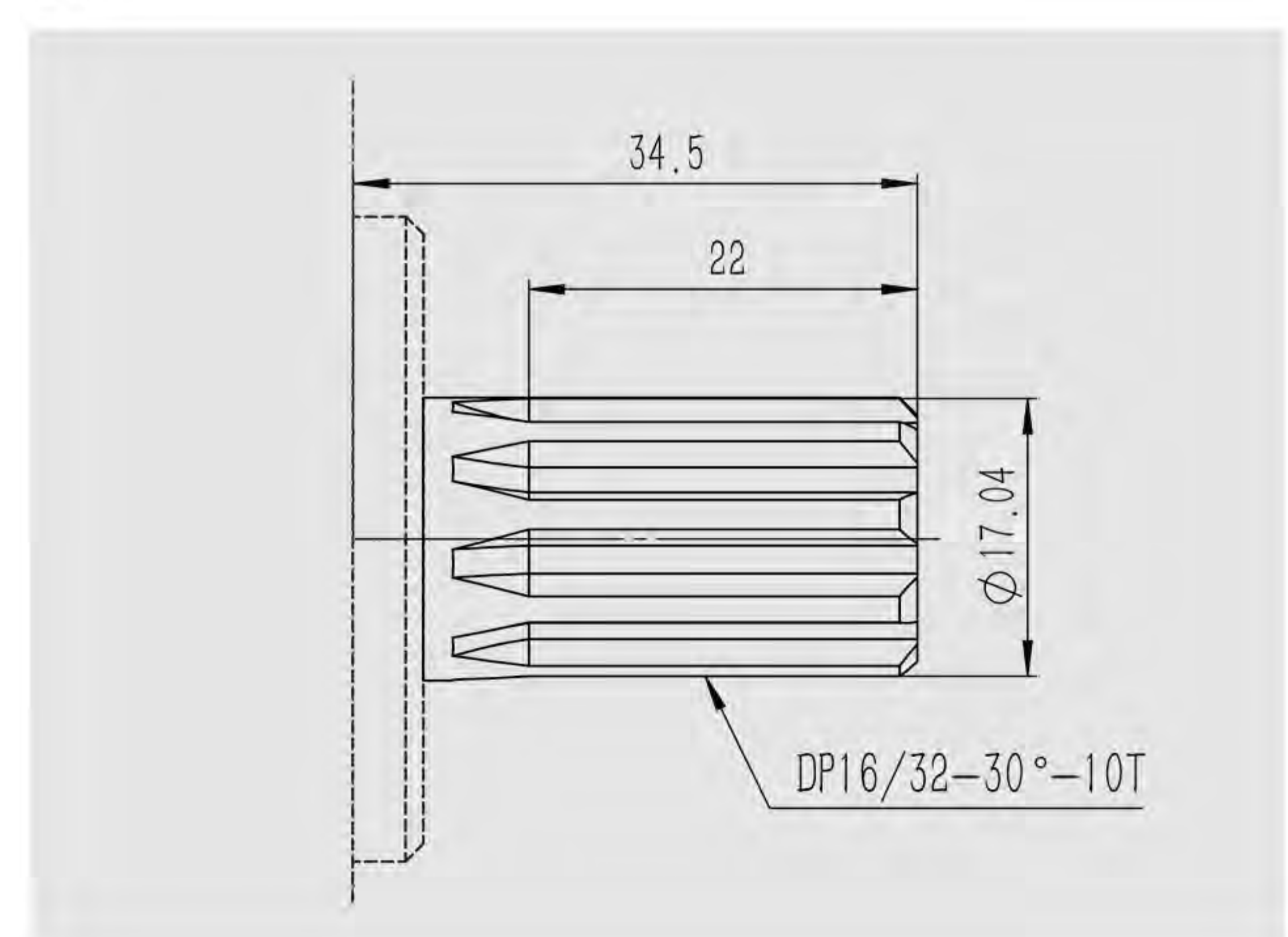
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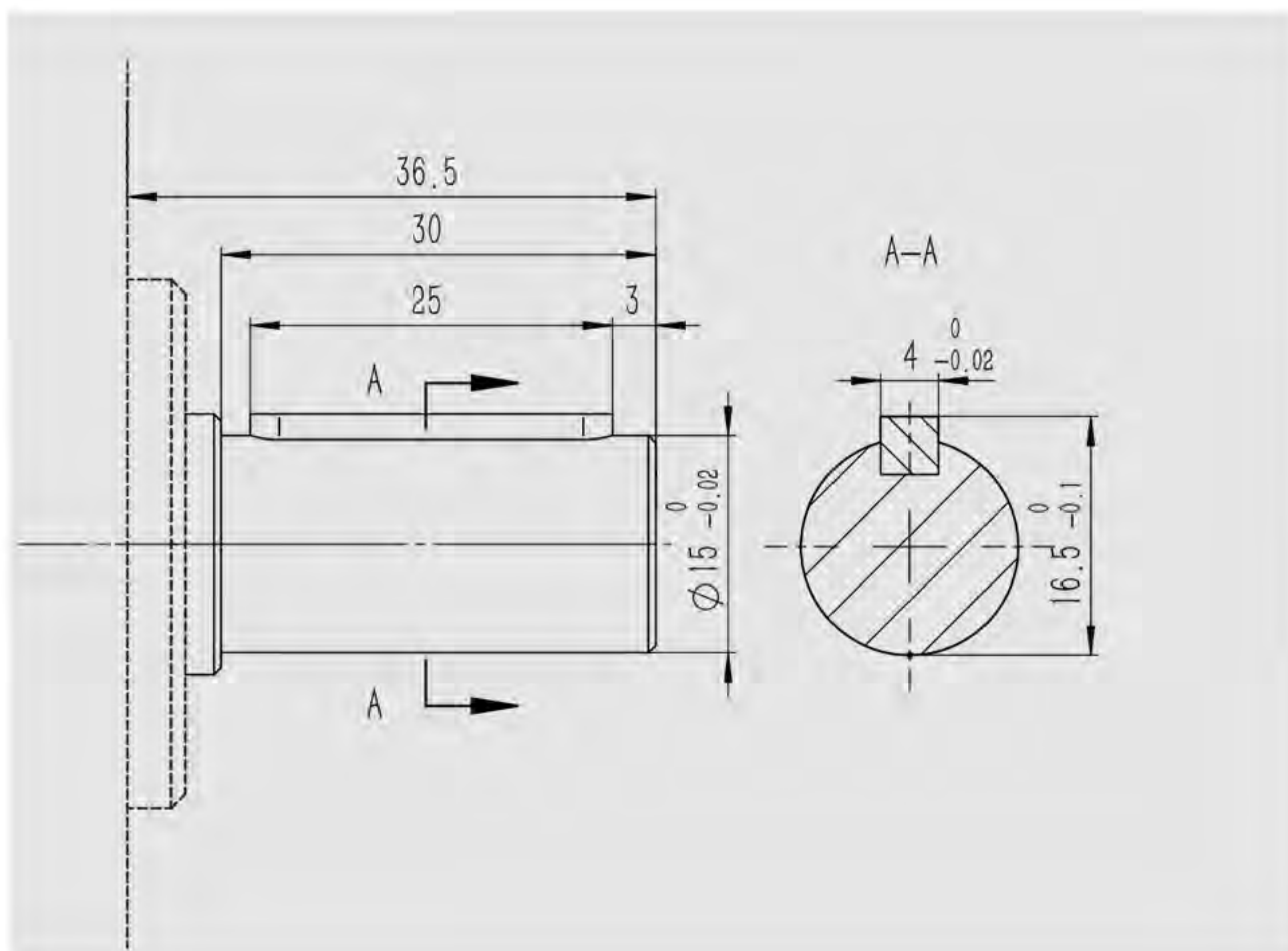
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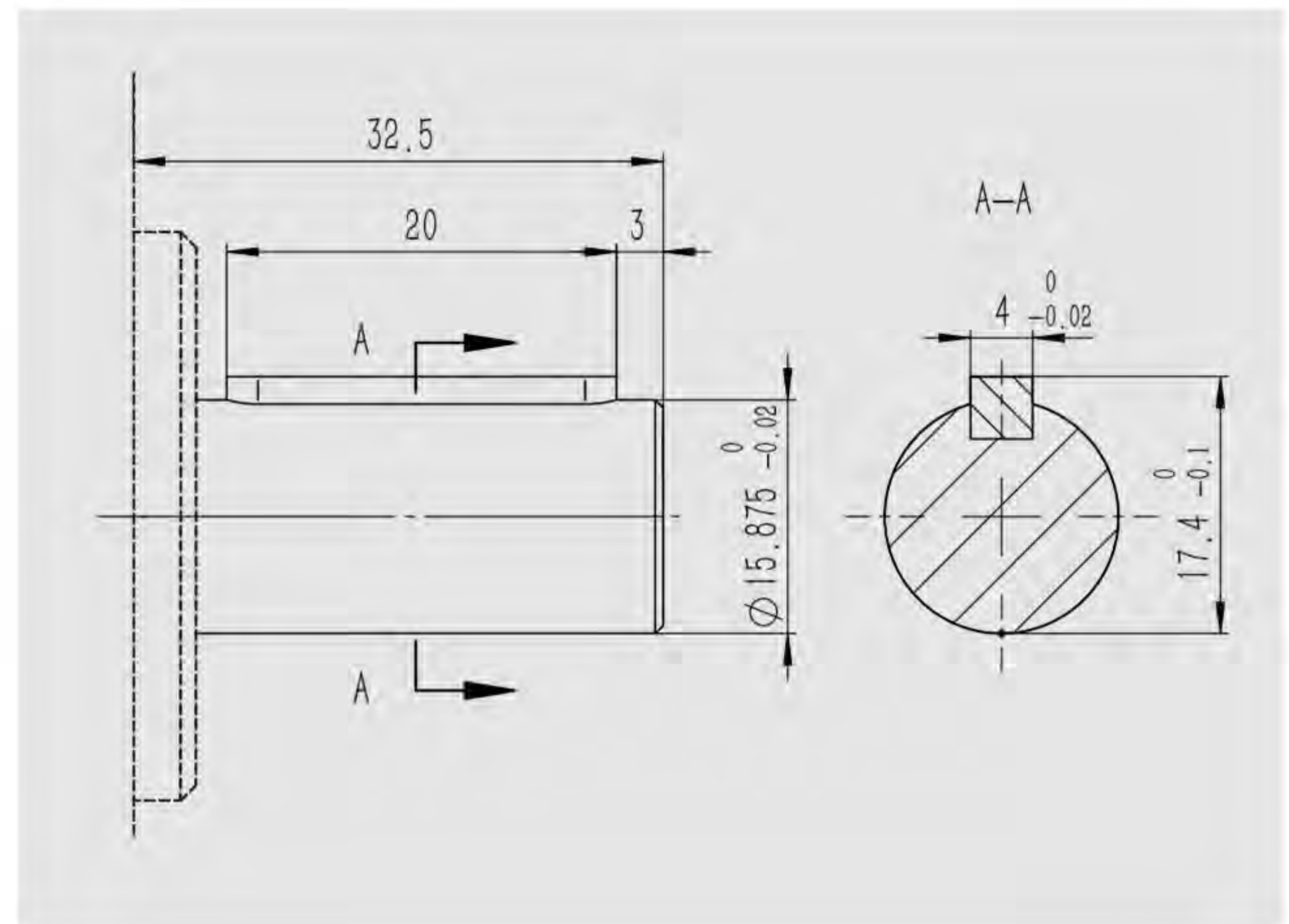
S6



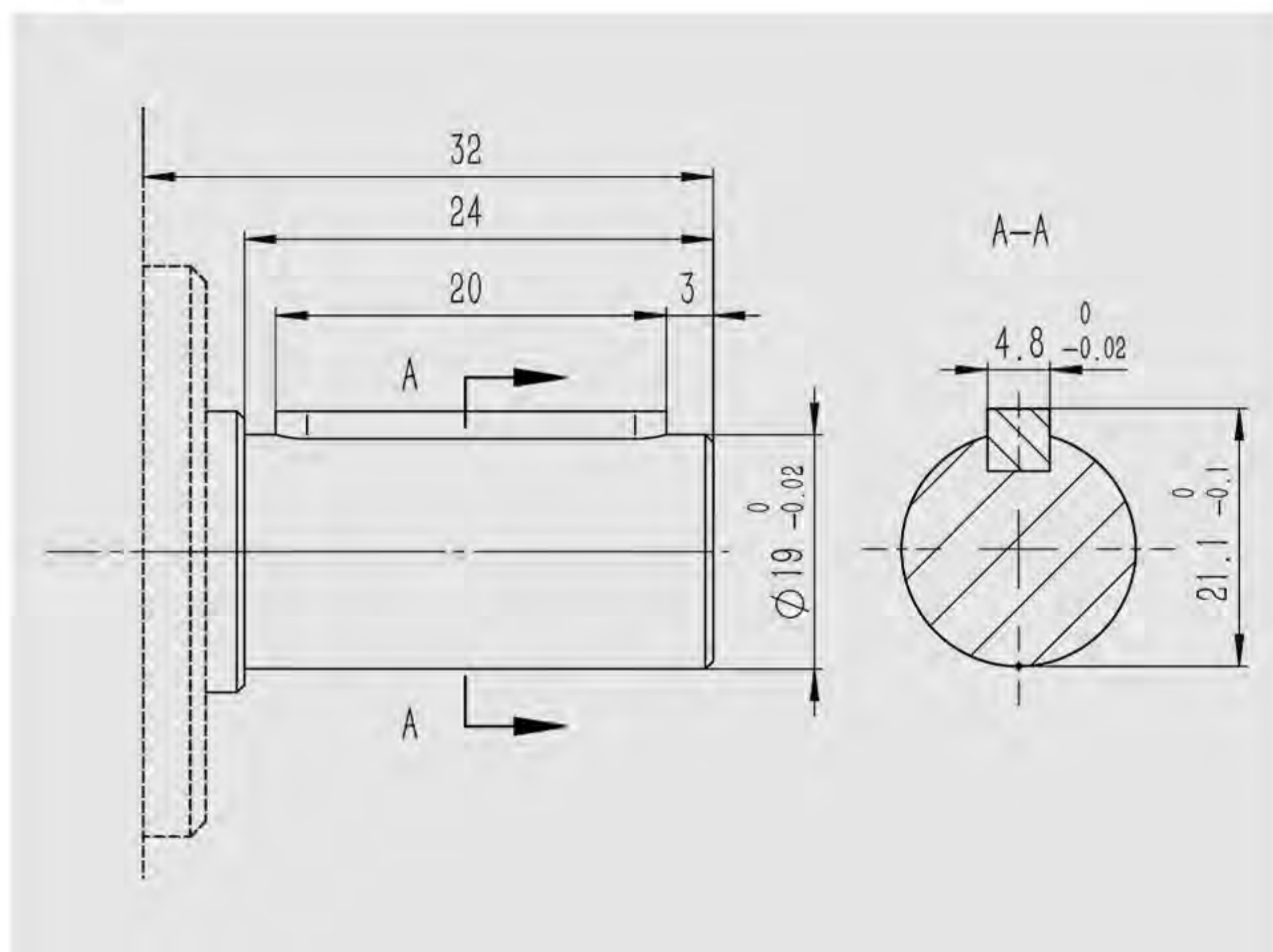
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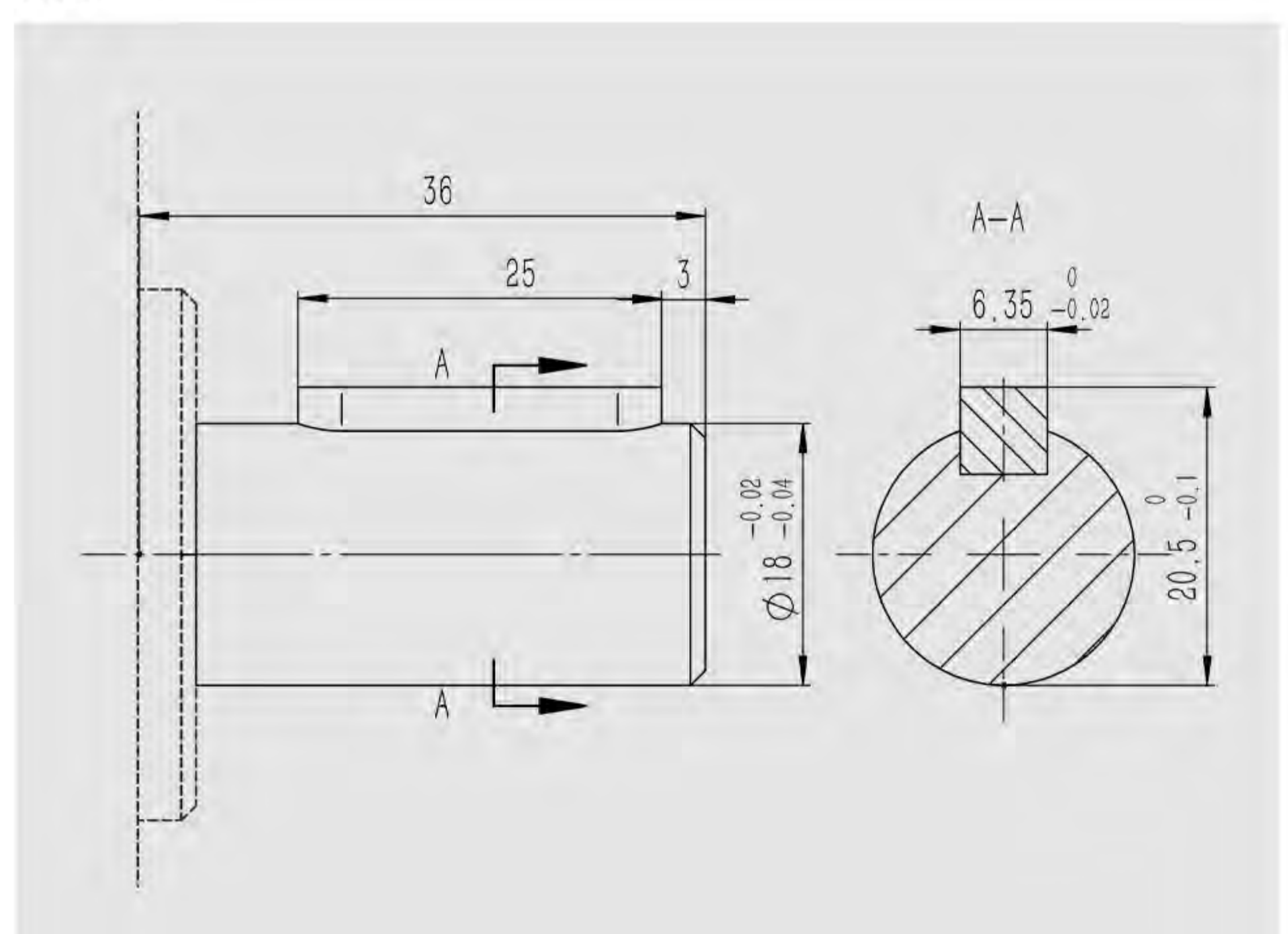
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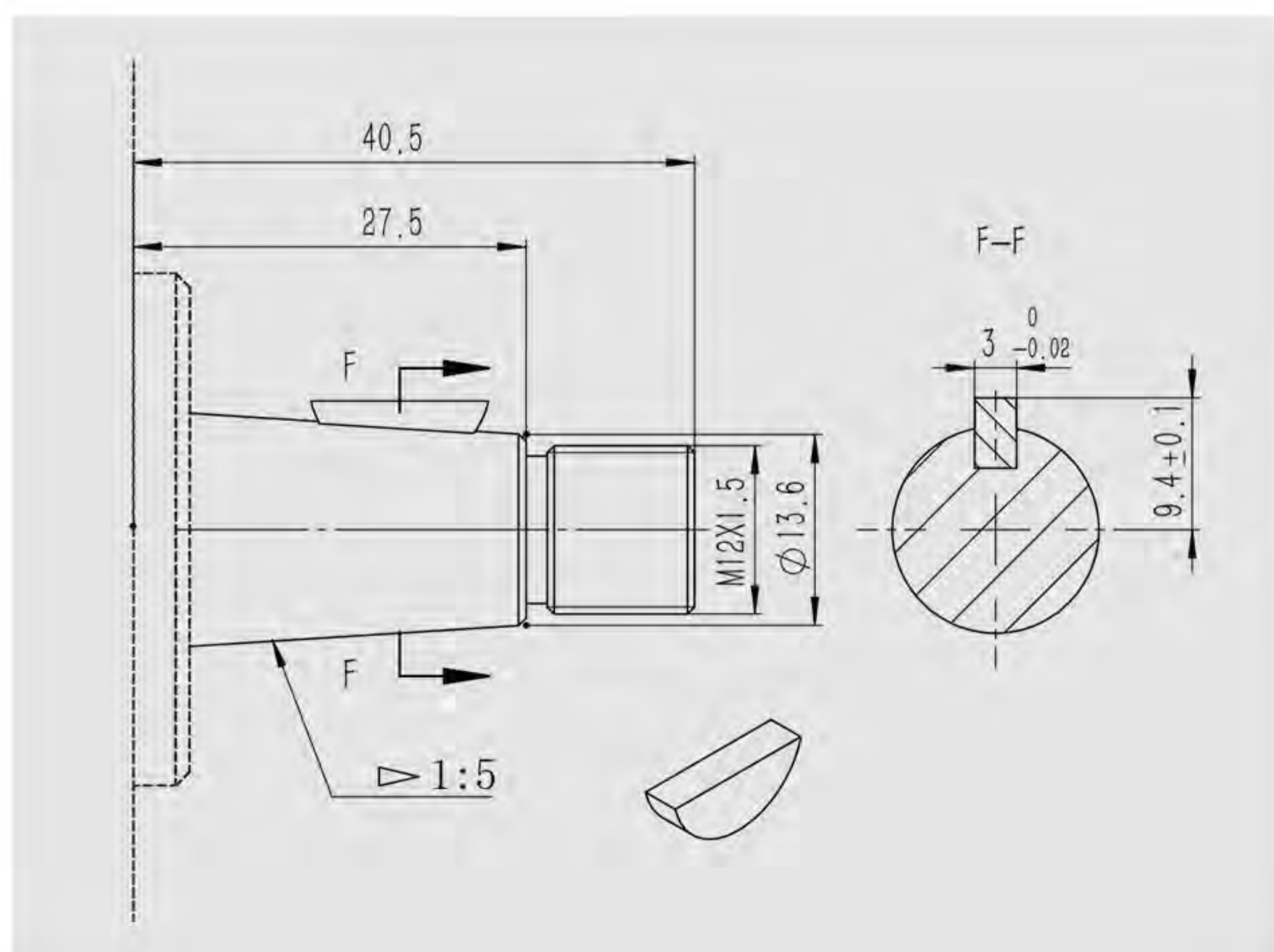
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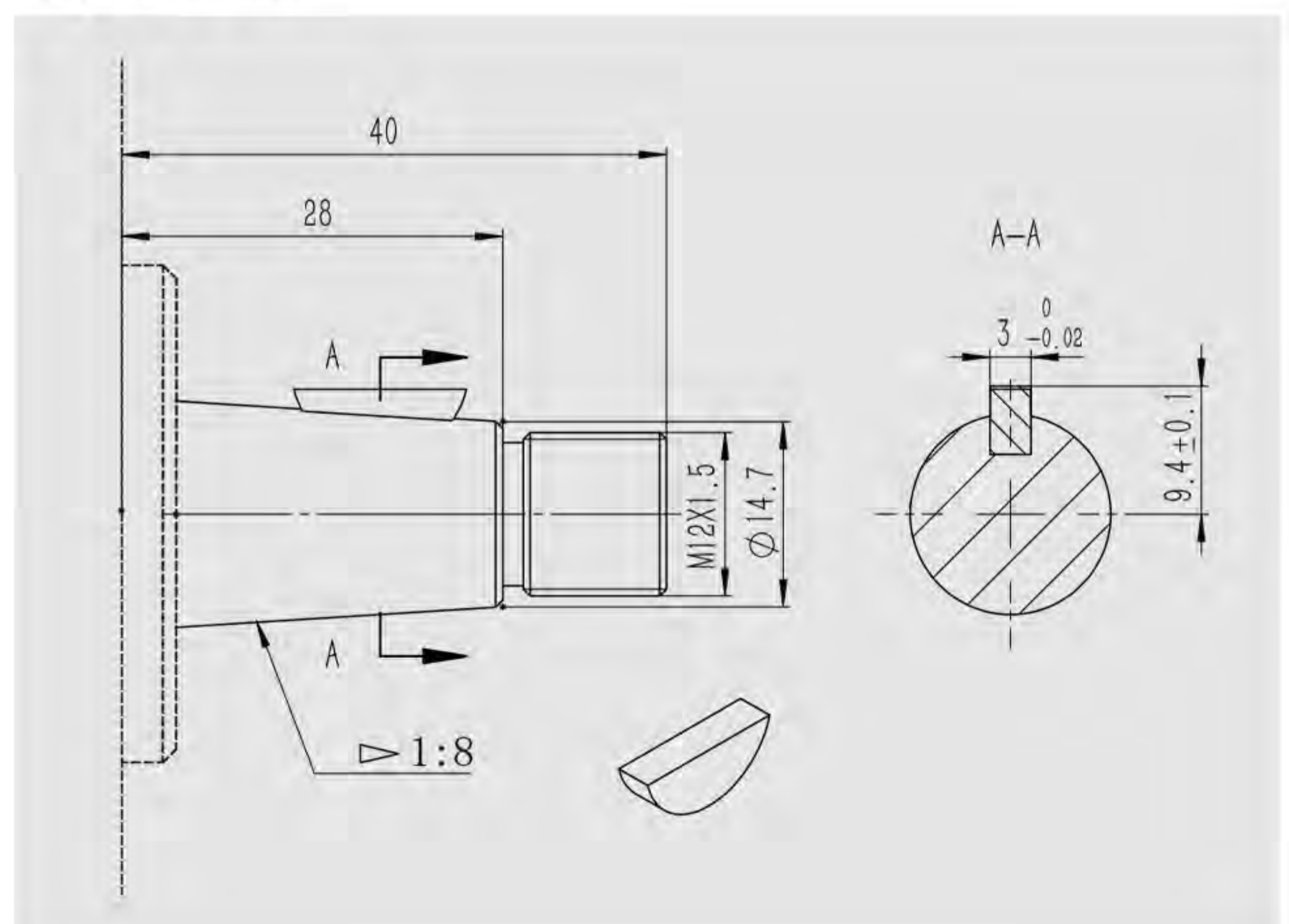
K4



T

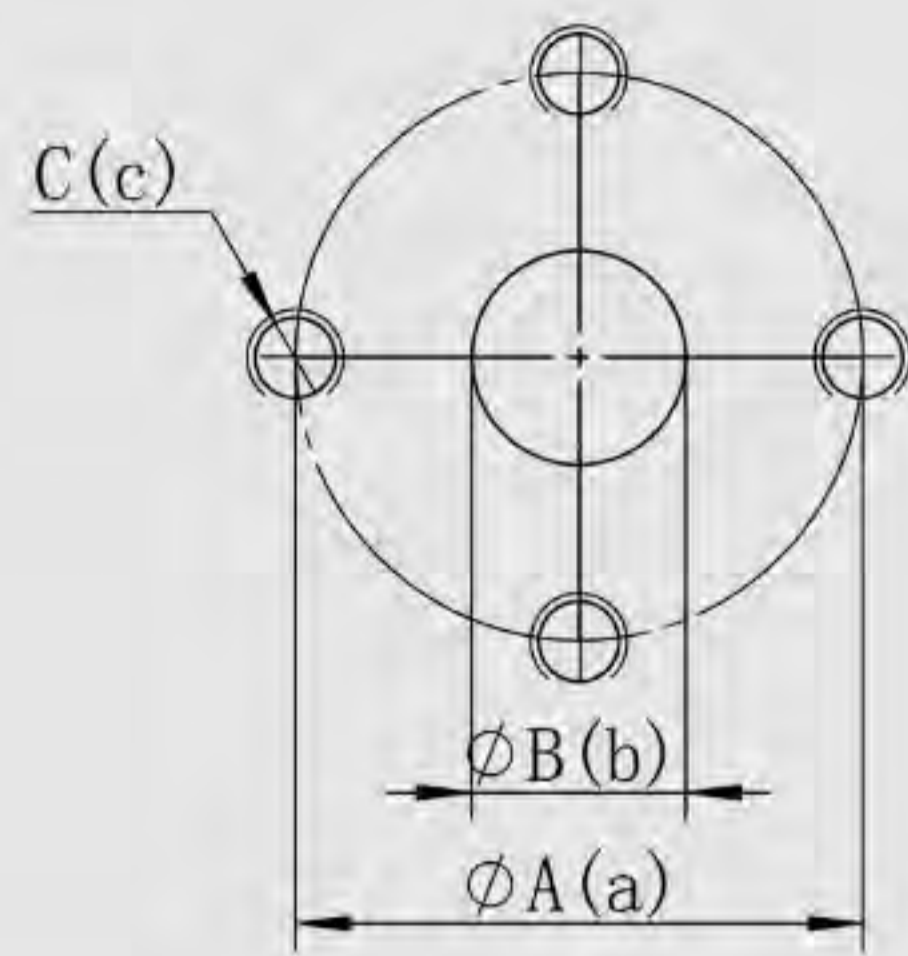


Tape1: 8



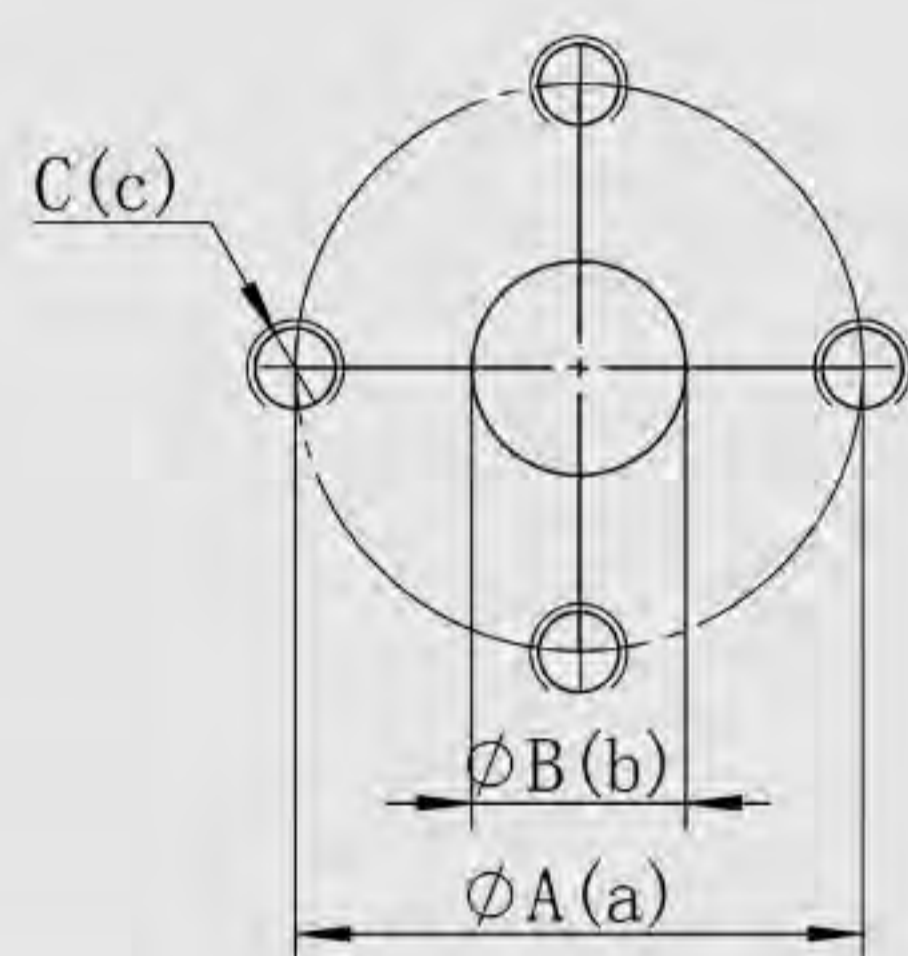
Port Size

Code: 01



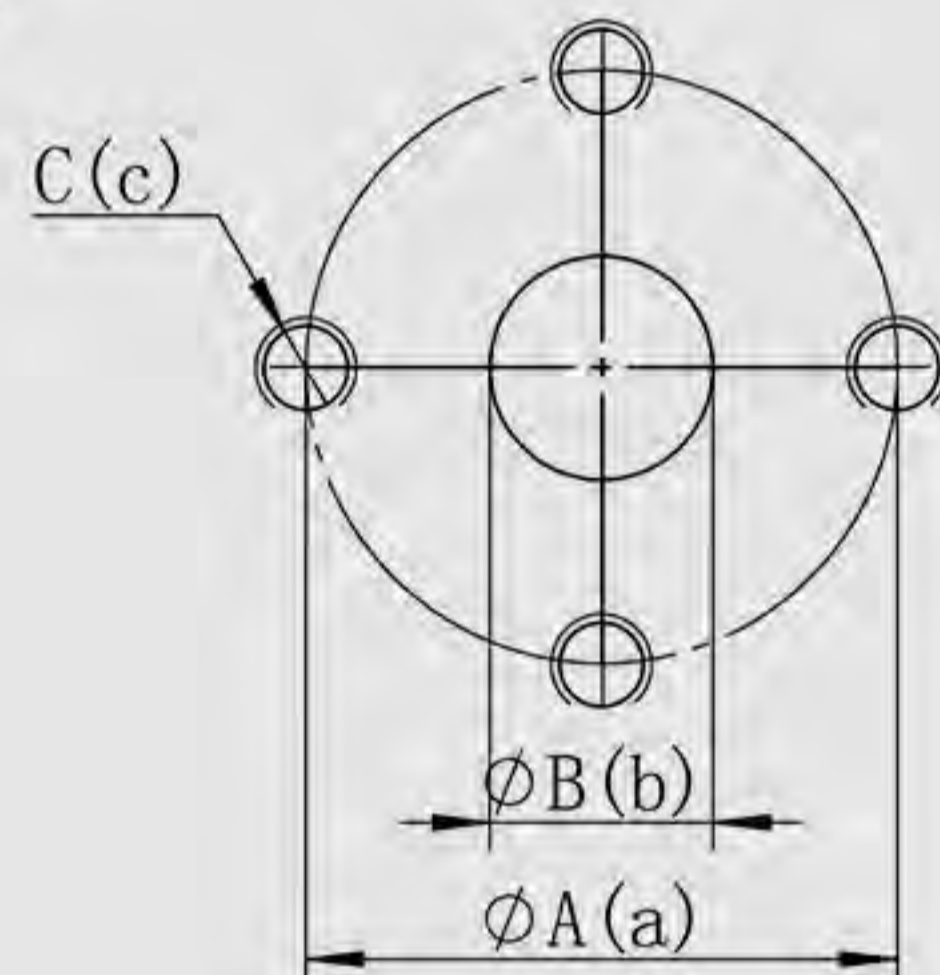
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM2*004~006	30	13	M6	30	13	M6
GPM2*008~010	40	13	M8	40	13	M8
GPM2*012~018	40	19	M8	40	13	M8
GPM2*022~028	40	19	M8	40	19	M8
GPM2*030	40	21	M8	40	19	M8

Code: 11



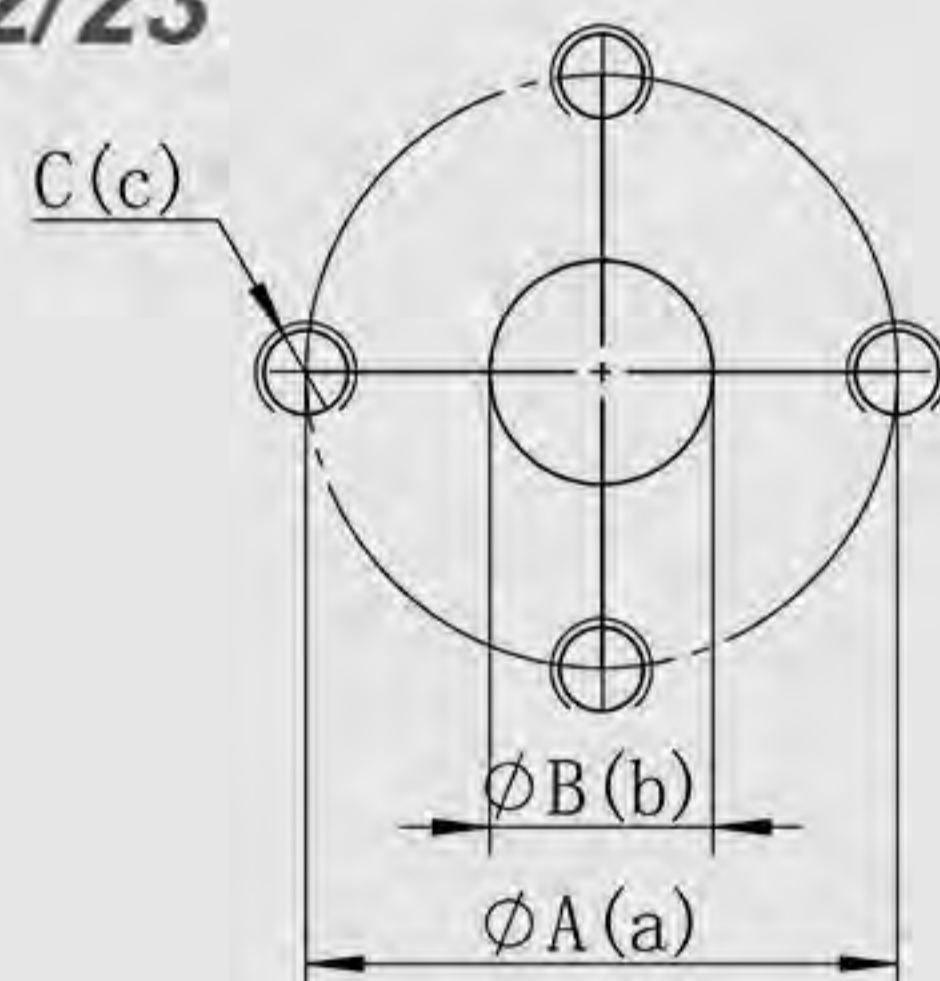
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM2*004~028	30	13	M6	30	13	M6

Code: 02



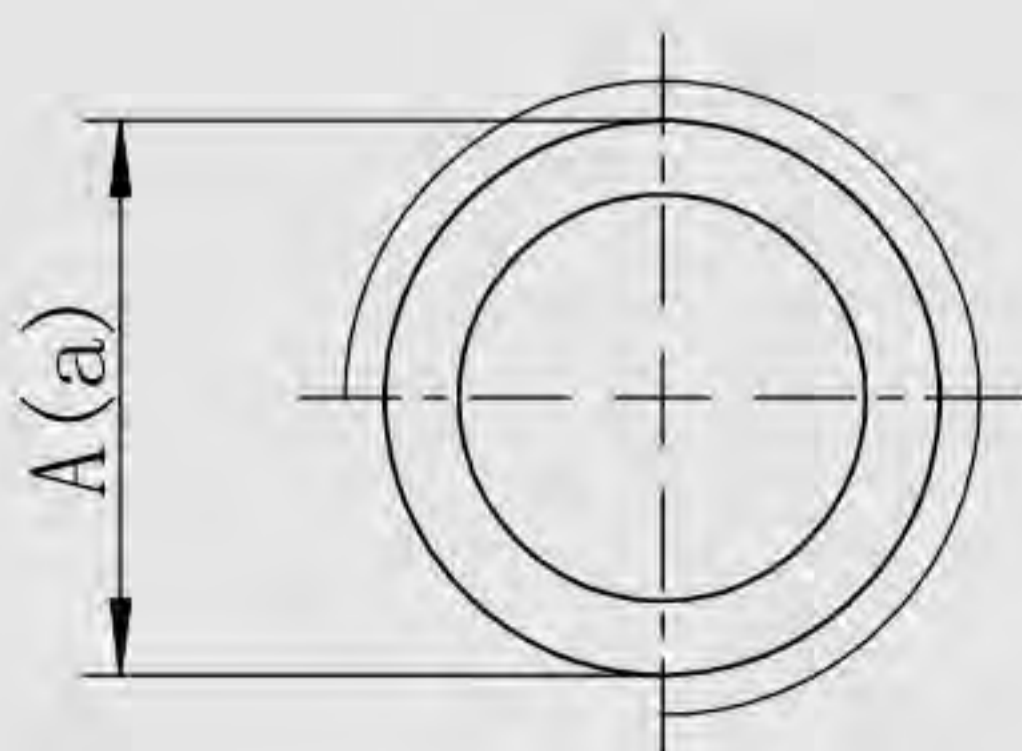
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM2*004~006	30	13	M6	30	13	M6
GPM2*008~012	30	13	M6	30	13	M6
GPM2*014~028	40	19	M8	30	13	M6
GPM2*030	40	21	M8	30	19	M6

Code: 22/23



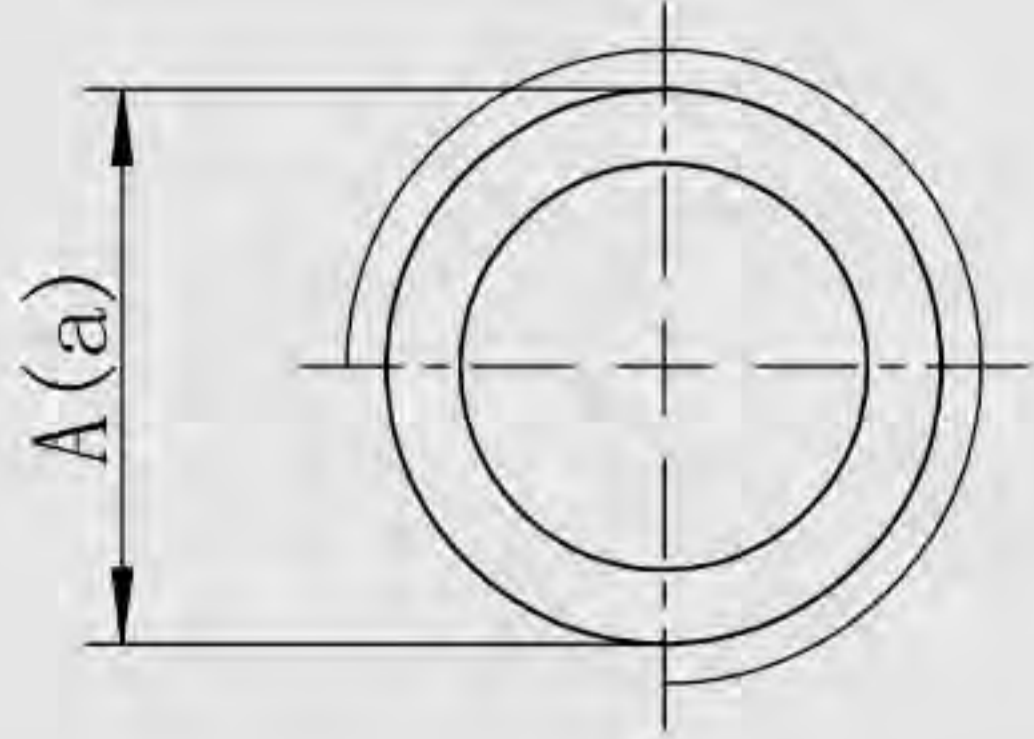
Type	Code	Inlet			Outlet		
		A	B	C	a	b	c
GPM2*011~028	22	40	19	M6	30	13	M6
GPM2*004~008	23	30.2	13.1	M6	30.2	13.1	M6
GPM2*010~025	23	39.7	19	M8	30.2	14.2	M6
GPM28*030	23	39.7	19	M8	39.7	19	M8

Code: 03



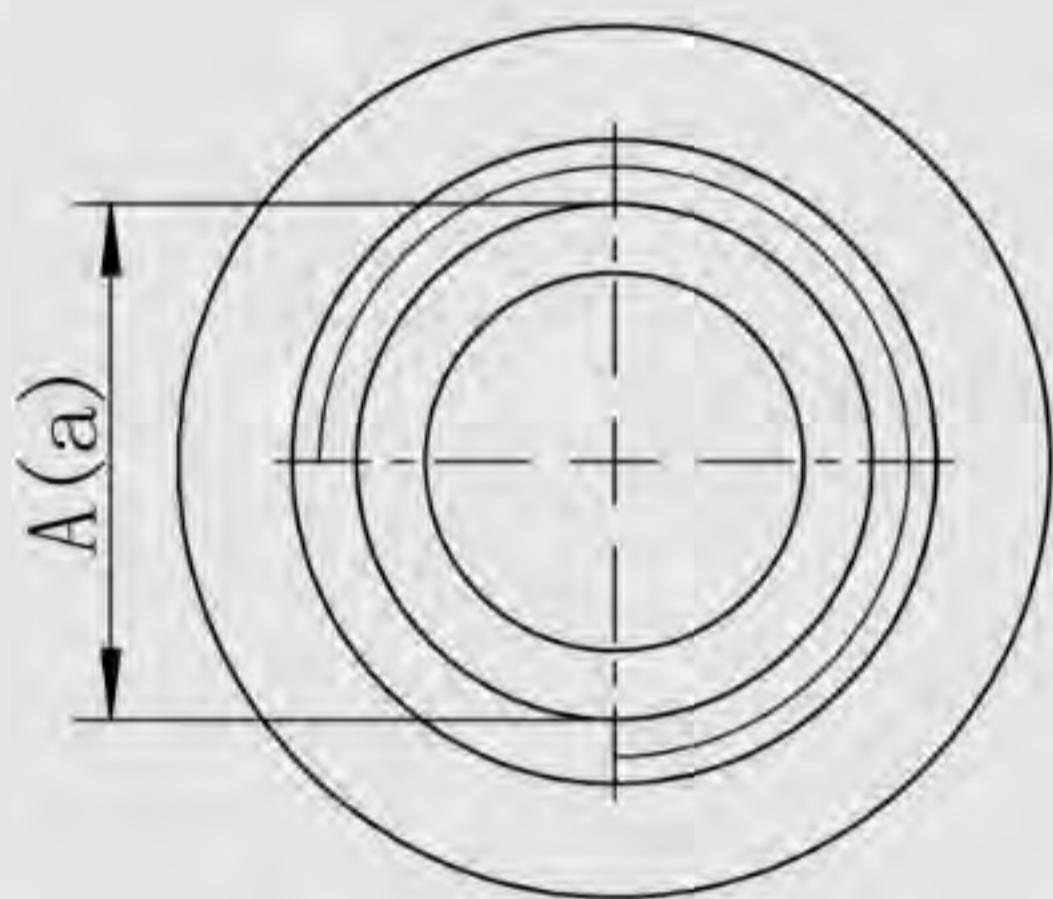
Type	Inlet	Outlet
GPM2*004~011	G1/2	G1/2
GPM2*012~030	G3/4	G1/2

Code: 04



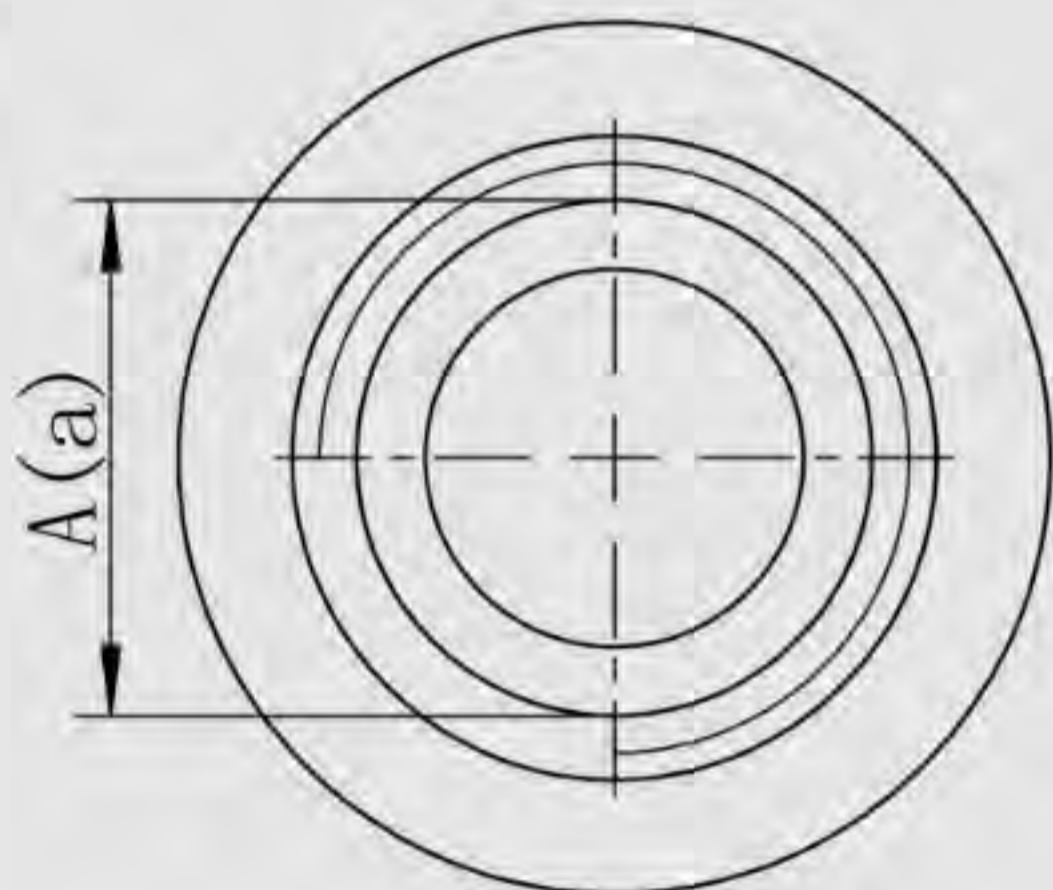
Type	Inlet	Outlet
	A	a
GPM2*004~011	Rc1/2	Rc1/2
GPM2*012~030	Rc3/4	Rc1/2

Code: 05



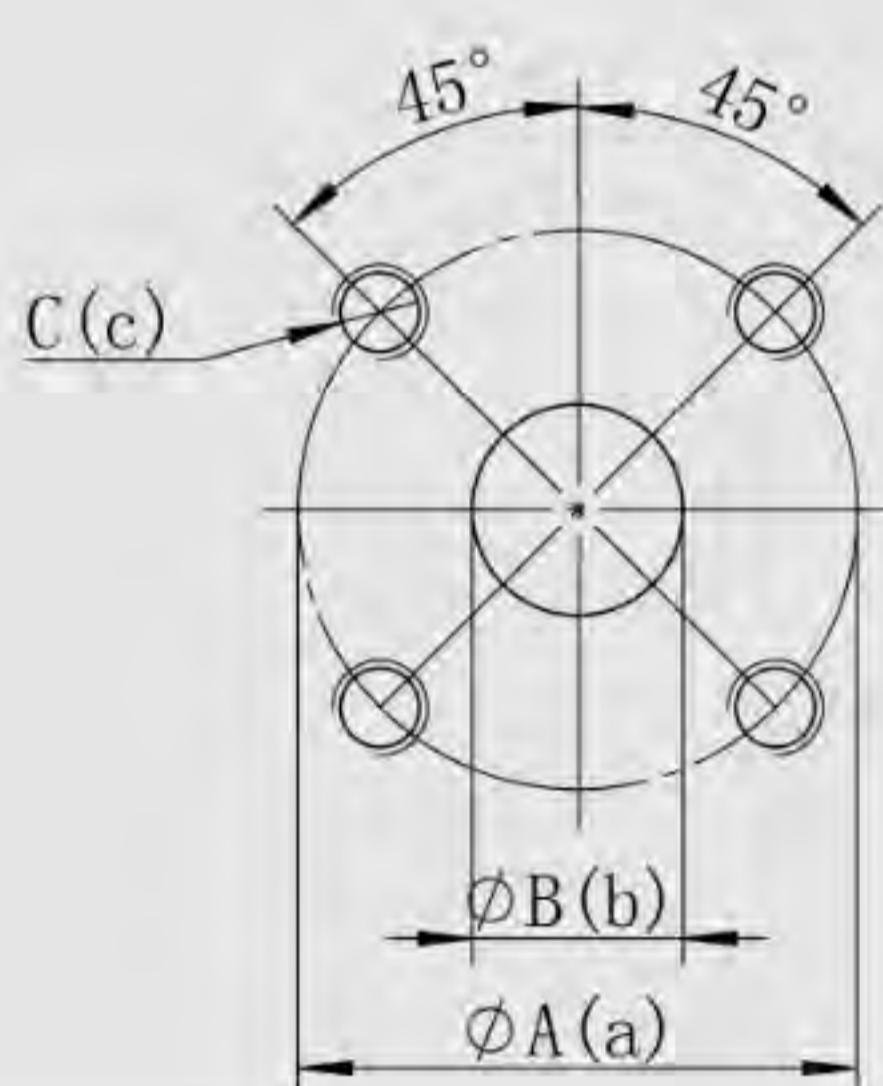
Type	Inlet	Outlet
	A	a
GPM2*004~028	1 1/16-12UN	7/8-14UNF
GPM2*030	1 5/16-12UNF	7/8-14UNF

Code: 15



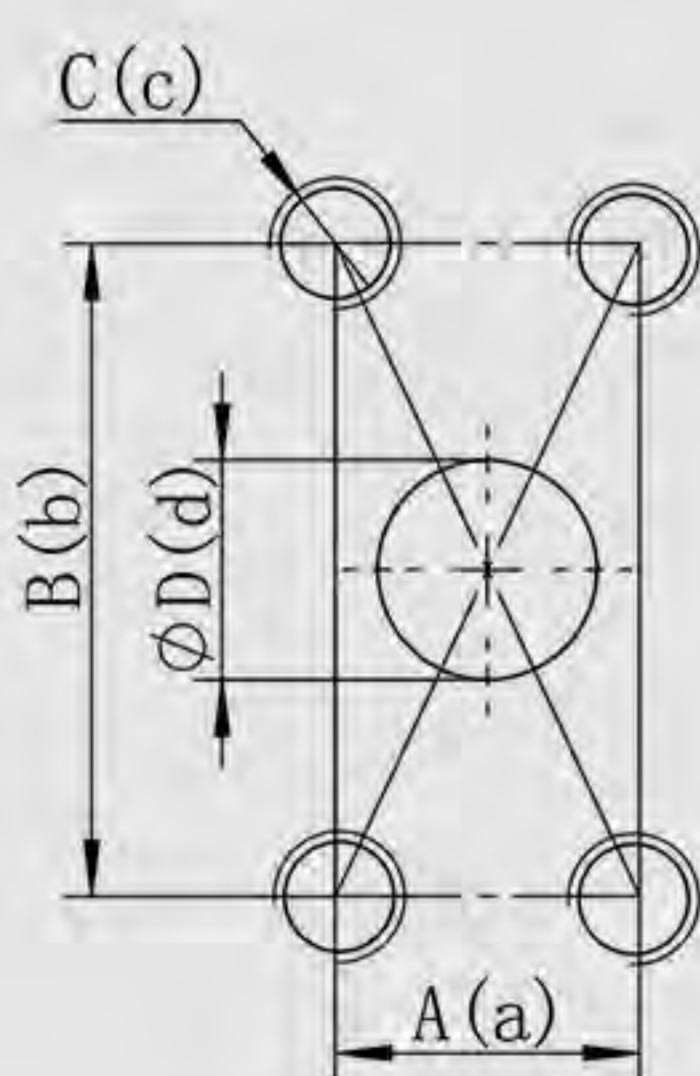
Type	Inlet	Outlet
	A	a
GPM2*004~030	3/16" -12UNF	7/8-14UNF

Code: 06



Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM2*004~006	40	15	M6	35	15	M6
GPM2*008~030	40	20	M6	35	15	M6

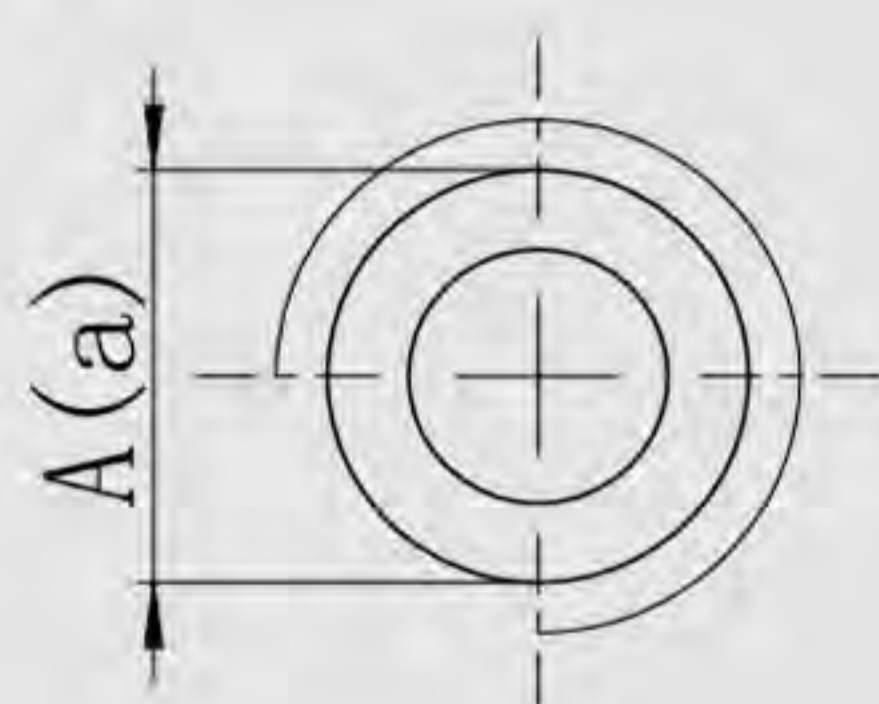
Code: 07



Type	Inlet				Outlet			
	A	B	C	D	a	b	c	d
GPM2*004~016	17.48	38.1	5/16-18UNC	13	17.48	38.1	5/16-18UNC	13
GPM2*018	22.23	47.63	3/8-16UNC	19	17.48	38.1	5/16-18UNC	13
GPM2*022~030	22.23	47.63	3/8-16UNC	19	22.23	47.63	3/8-16UNC	19

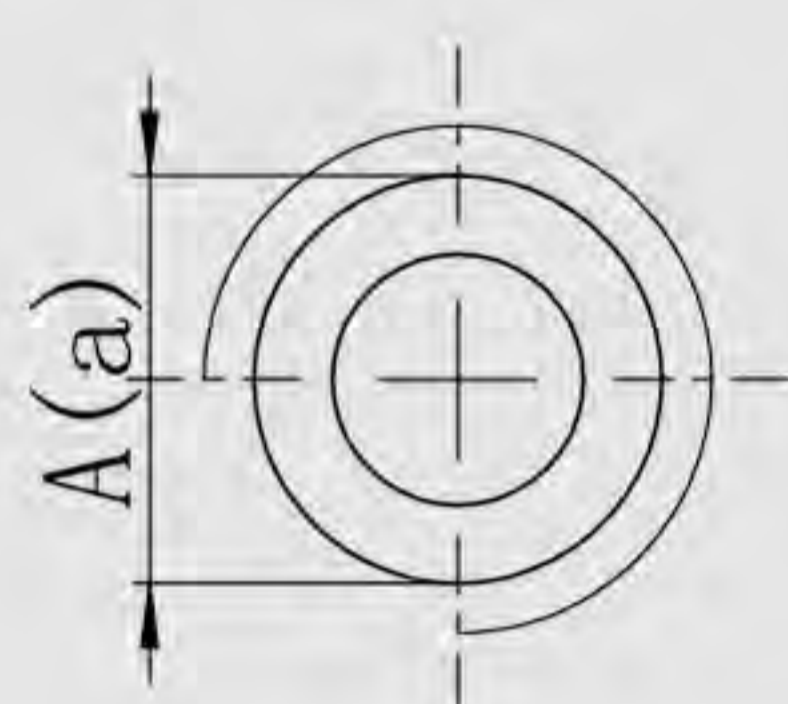
Port Size

Code: 08



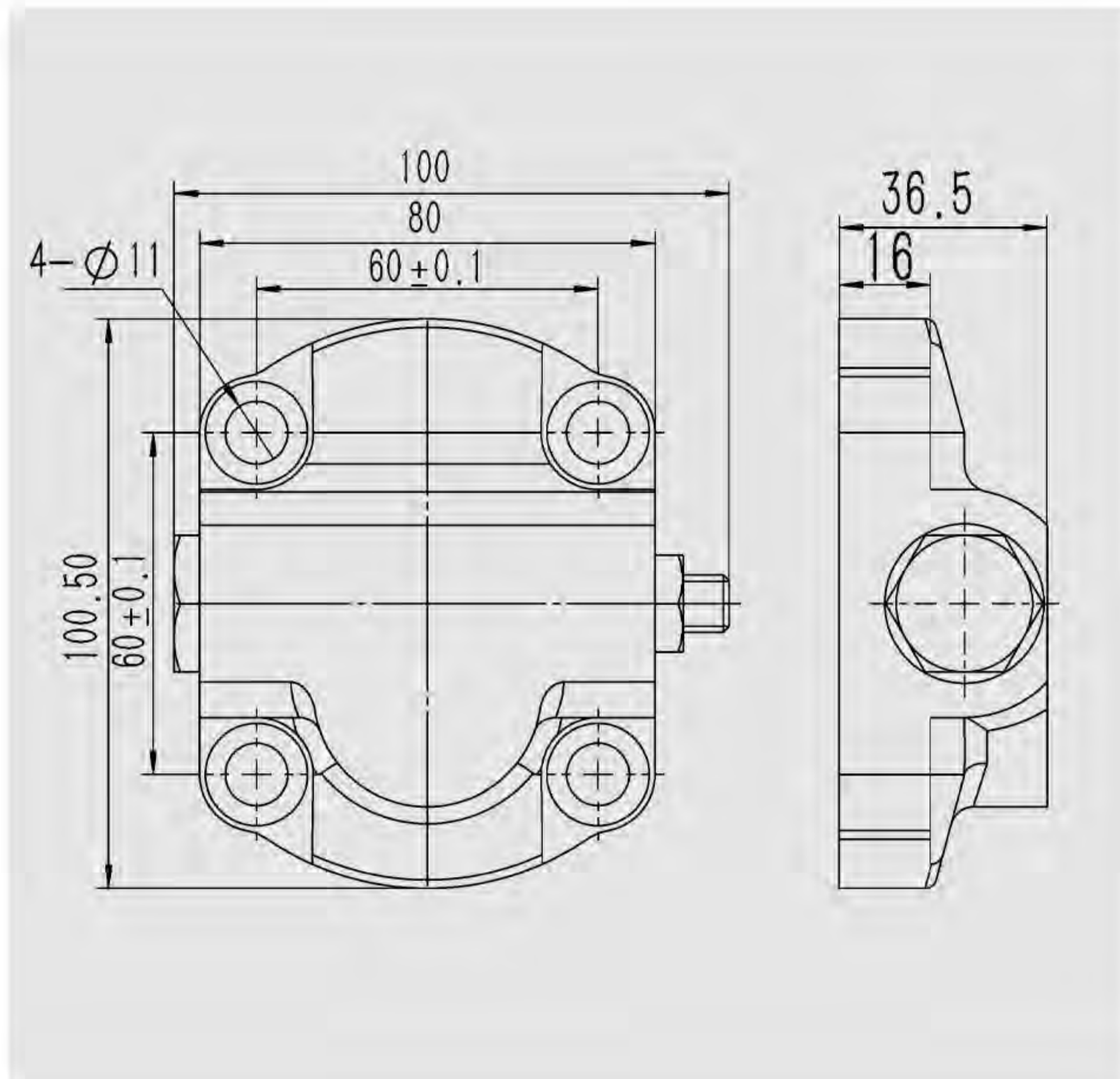
Type	Inlet	Outlet
	A	a
GPM2*004-030	M20*1.5	M18*1.5

Code:09/19/29

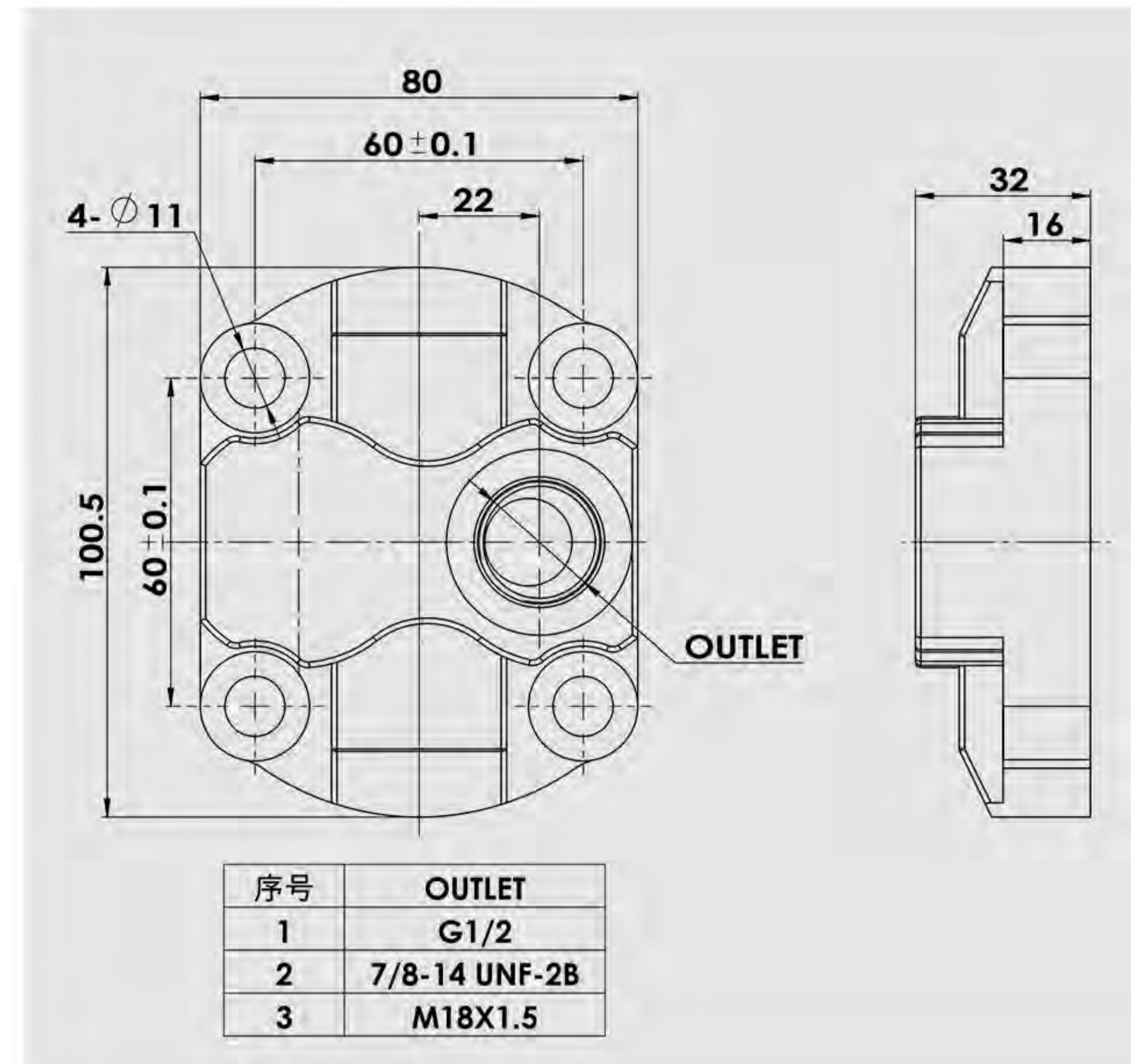


Type	Code	Inlet	Outlet
		A	a
GPM2*004-030	09	3/4NPT	3/4NPT
GPM2*004-011	19	1/2NPT	1/2NPT
GPM2*012-030	29	3/4NPT	1/2NPT

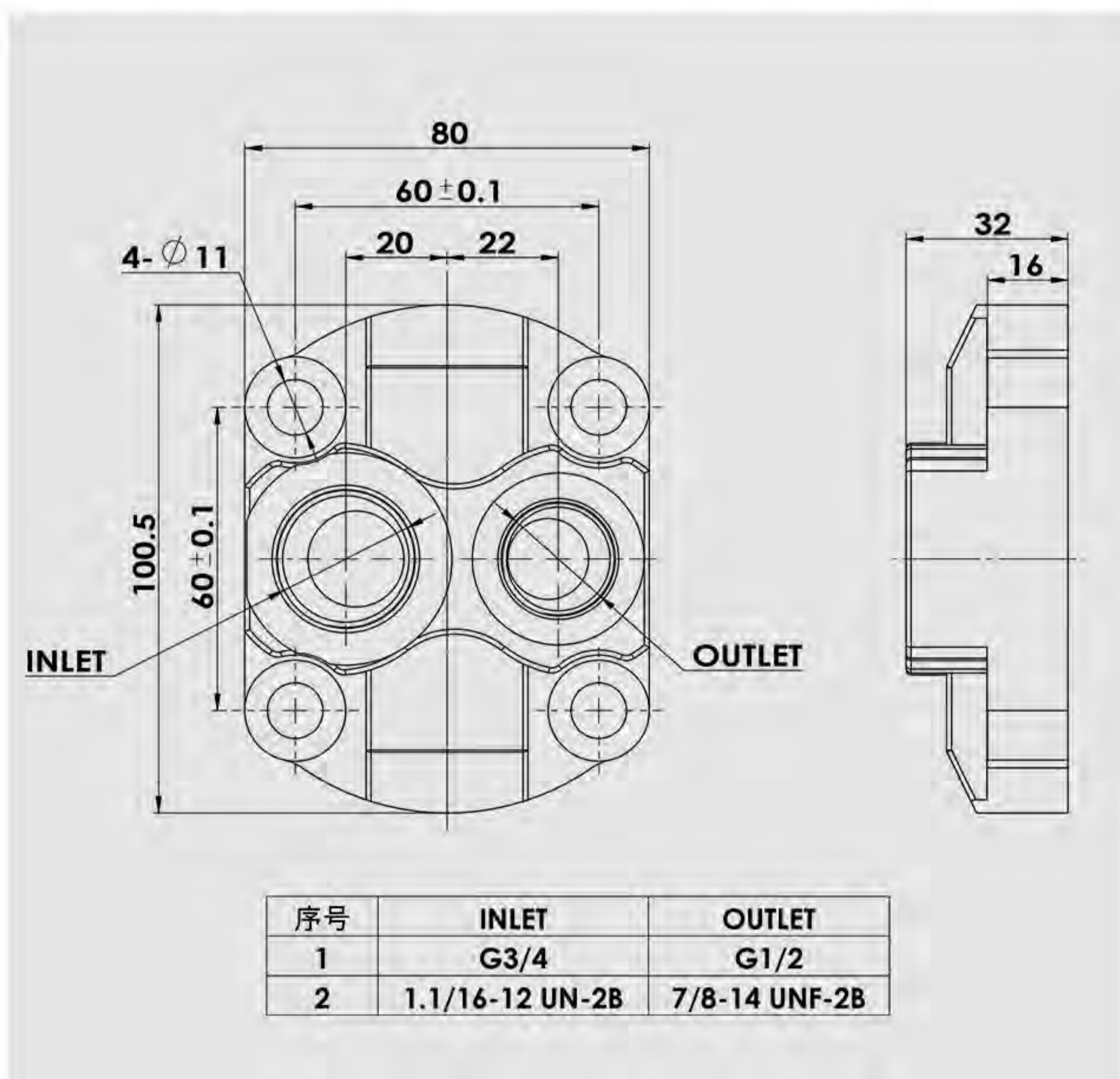
Type: V (rear cover with relief valve)



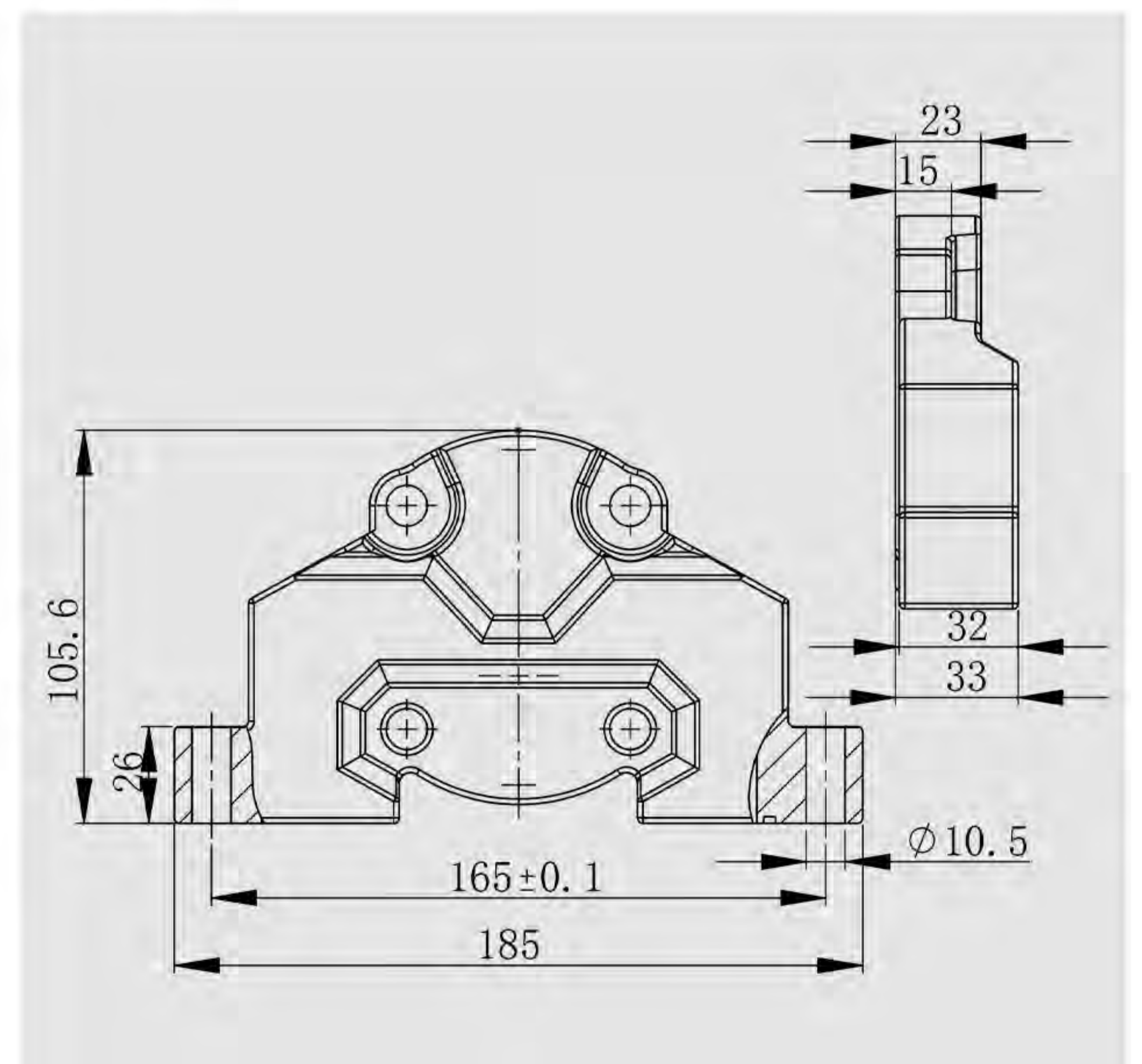
Type: P (rear cover with outlet)



Type: R (rear cover with inlet and outlet)



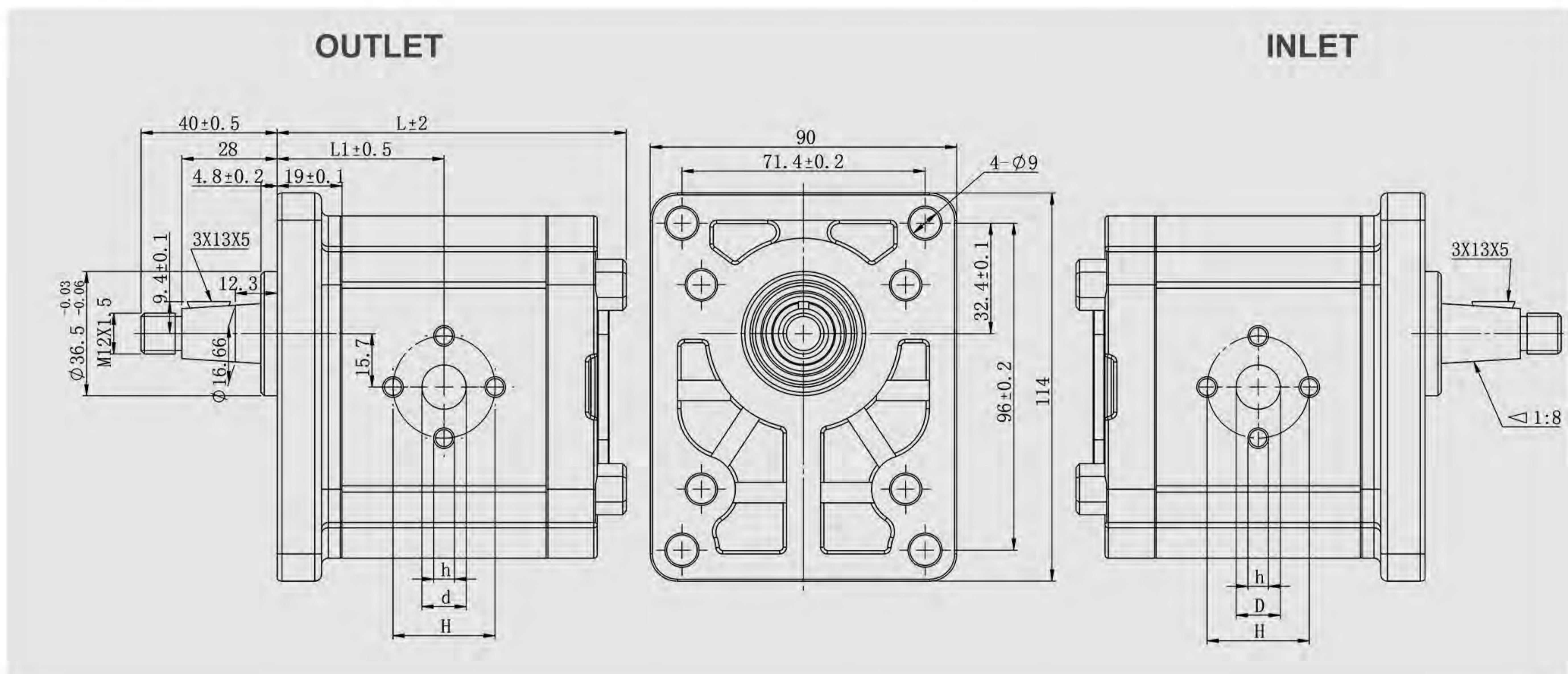
Type: J



GPM2 Gear Pumps



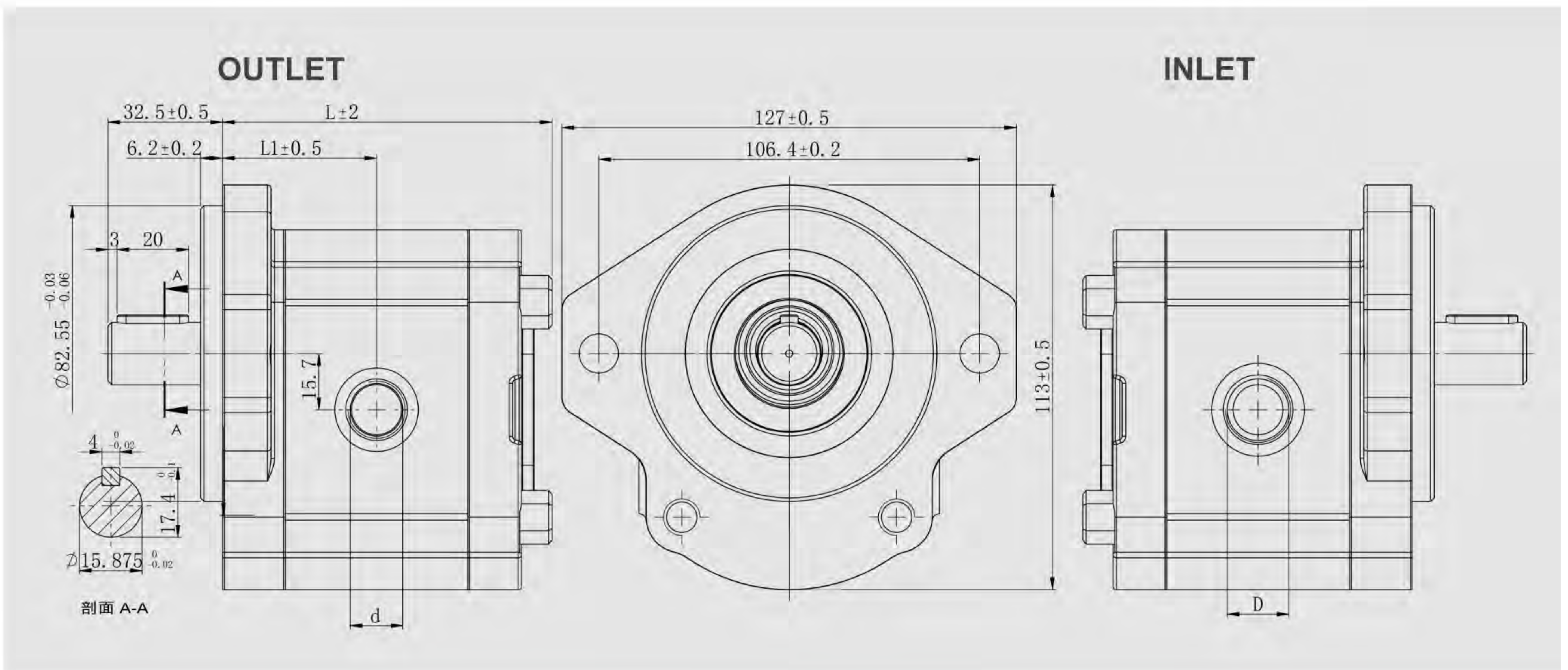
M6 thread depth 13mm, M8 thread depth 17mm,
 To mount the pump, n.4 M10 screws, with a torque wrench setting fixed at 70~75Nm.
 Shaft M12x1.25 nuts, with a torque wrench setting fixed at 50Nm.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm					
			Rated	Peak	Rated	Max	Min	L1	L	d	D	h	H
GPM2FC004B01	4.0	6.0	200	280	2000	4000	800	41.5	87.5	13	13	M6	30
GPM2FC006B01	6	9.0	200	280	2000	4000	600	43	90.5	13	13	M6	30
GPM2FC008B01	8	12	200	280	2000	4000	600	44.5	93.5	13	13	M8	40
GPM2FC010B01	10	15	200	280	2000	3500	500	46.3	97	13	13	M8	40
GPM2FC011B01	11	16.5	200	280	2000	3000	500	47	98.5	19	13	M8	40
GPM2FC012B01	12	18	200	280	2000	3000	500	48	100.5	19	13	M8	40
GPM2FC014B01	14	21	200	260	2000	4000	500	49.5	103.5	19	13	M8	40
GPM2FC016B01	16	24	200	260	2000	4000	500	51.3	107	19	13	M8	40
GPM2FC018B01	18	27	200	260	2000	3600	400	53	110.5	19	13	M8	40
GPM2FC020B01	20	30	200	230	2000	3200	400	54.5	113.5	19	19	M8	40
GPM2FC022B01	22	33	200	230	2000	3000	400	56.3	117	19	19	M8	40
GPM2FC025B01	25	37.5	200	210	2000	3000	400	58.5	121.5	19	19	M8	40
GPM2FC026B01	26	39	180	200	2000	2500	400	59.5	123.5	19	19	M8	40
GPM2FC028B01	28	42	180	200	1500	2500	400	61	126.5	19	19	M8	40
GPM2FC030B01	30	45	150	180	1500	2500	400	62.8	130	21	19	M8	40

安装法兰材料	V
Mounting flange Material	Screw Tightening Torque NM
Aluminum	40~~~45
Cast Iron	70~~~75

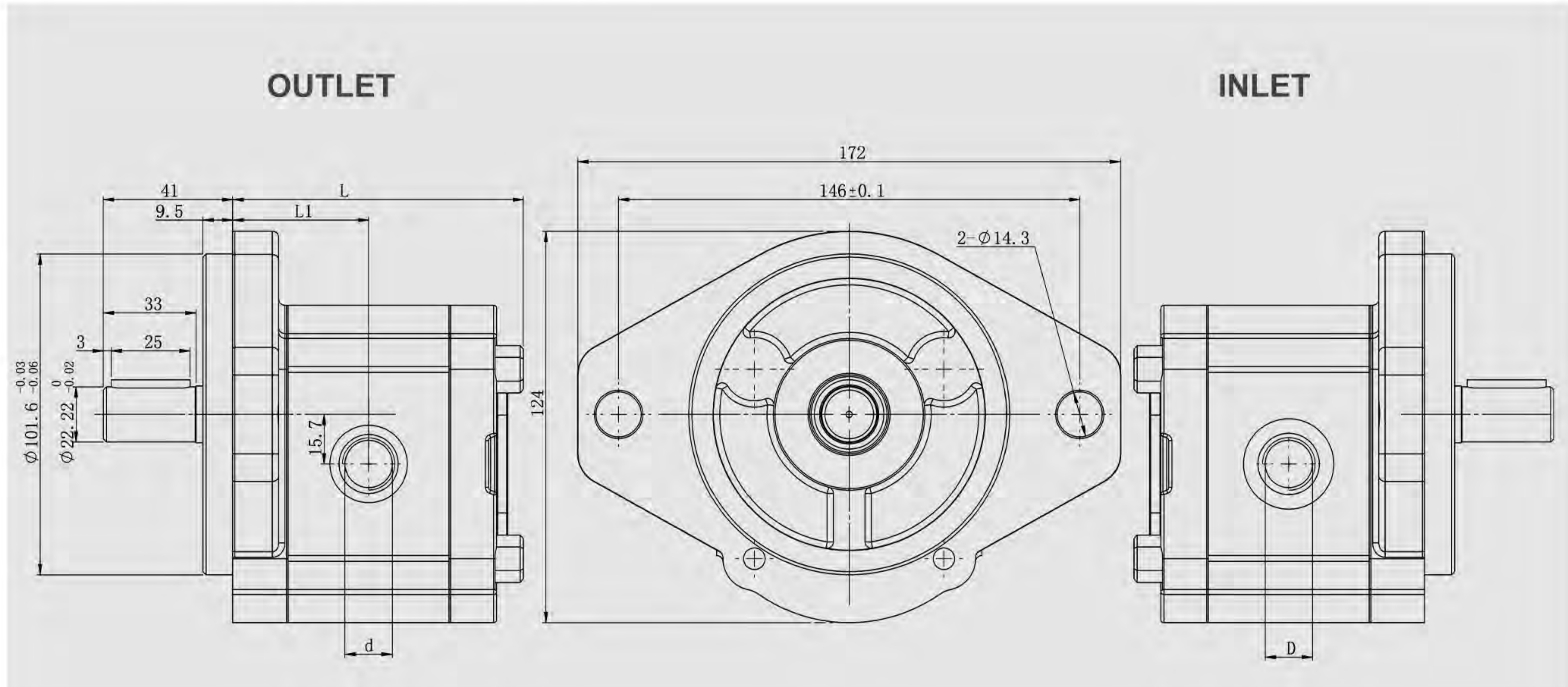
“D” and “d” ports are machined in compliance with thread port with O-ring seal in truncated housing SAE J1926/1 (ISO J1926-1).



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm			
			Rated	Peak	Rated	Max	Min	L1	L	d	D
GPM2FC004GK205	4	6.0	200	280	2000	4000	800	40	86	7/8-14UNF	1 1/16-12UNF
GPM2FC006GK205	6	9.0	200	280	2000	4000	600	41.5	89	7/8-14UNF	1 1/16-12UNF
GPM2FC008GK205	8	12	200	280	2000	4000	600	43	92	7/8-14UNF	1 1/16-12UNF
GPM2FC010GK205	10	15	200	280	2000	3500	500	44.8	95.5	7/8-14UNF	1 1/16-12UNF
GPM2FC011GK205	11	16.5	200	280	2000	3000	500	45.5	97	7/8-14UNF	1 1/16-12UNF
GPM2FC012GK205	12	18	200	280	2000	3000	500	46.5	99	7/8-14UNF	1 1/16-12UNF
GPM2FC014GK205	14	21	200	260	2000	4000	500	48	102	7/8-14UNF	1 1/16-12UNF
GPM2FC016GK205	16	24	200	260	2000	4000	500	49.8	105.5	7/8-14UNF	1 1/16-12UNF
GPM2FC018GK205	18	27	200	260	2000	3600	400	51.5	109	7/8-14UNF	1 1/16-12UNF
GPM2FC020GK205	20	30	200	230	2000	3200	400	53	112	7/8-14UNF	1 1/16-12UNF
GPM2FC022GK205	22	33	200	230	2000	3000	400	54.8	115.5	7/8-14UNF	1 1/16-12UNF
GPM2FC025GK205	25	37.5	200	210	2000	3000	400	57	120	7/8-14UNF	1 1/16-12UNF
GPM2FC026GK205	26	39	180	200	2000	2500	400	58	122	7/8-14UNF	1 1/16-12UNF
GPM2FC028GK205	28	42	180	200	1500	2500	400	59.5	125	7/8-14UNF	1 1/16-12UNF
GPM2FC030GK205	30	45	150	180	1500	2500	400	61.3	128.5	7/8-14UNF	1 5/16-12UNF

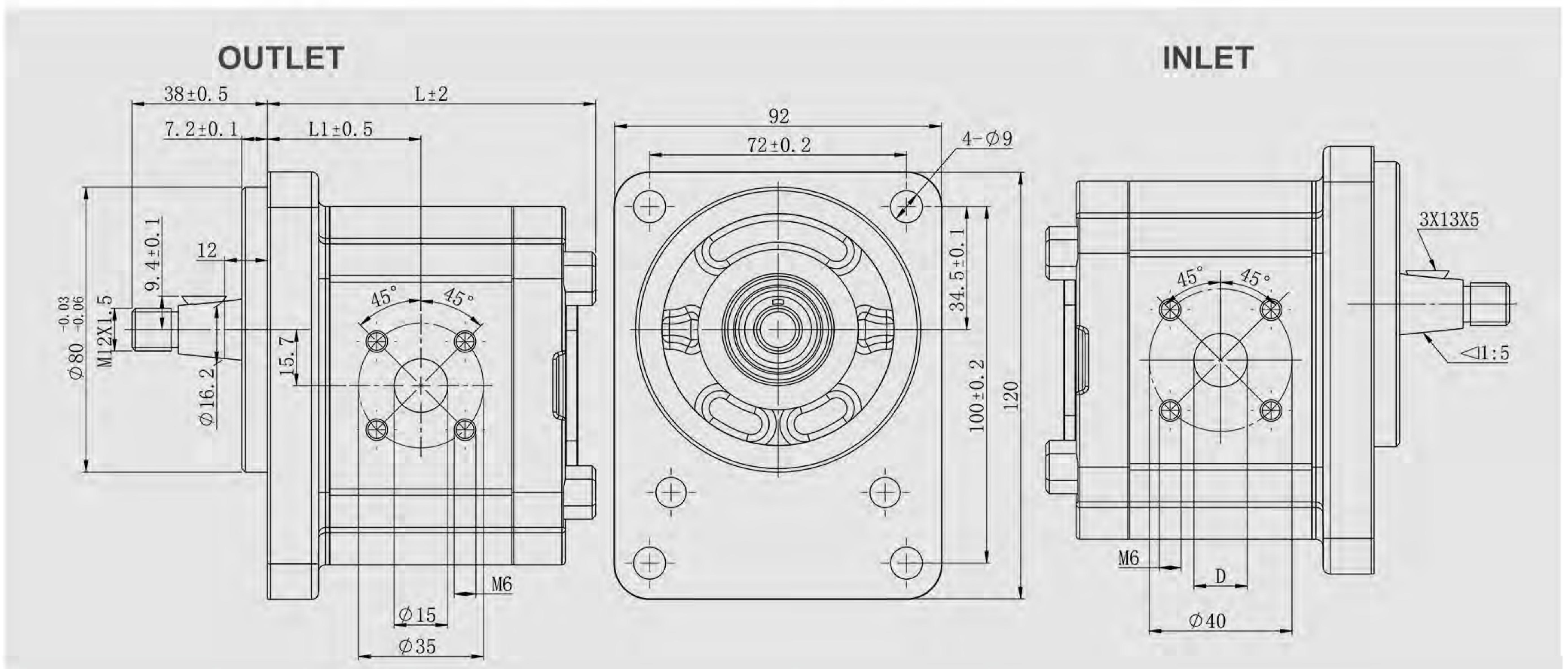
GPM2 Gear Pumps

“D” and “d” ports are machined in compliance with thread port with O-ring seal in truncated housing SAE J1926/1 (ISO J1926-1).



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm			
			Rated	Peak	Rated	Max	Min	L1	L	d	D
GPM2FC004CK405	4	6.0	200	280	2000	4000	800	40	86	7/8-14UNF	1 1/16-12UNF
GPM2FC006CK405	6	9.0	200	280	2000	4000	600	41.5	89	7/8-14UNF	1 1/16-12UNF
GPM2FC008CK405	8	12	200	280	2000	4000	600	43	92	7/8-14UNF	1 1/16-12UNF
GPM2FC010CK405	10	15	200	280	2000	3500	500	44.8	95.5	7/8-14UNF	1 1/16-12UNF
GPM2FC011CK405	11	16.5	200	280	2000	3000	500	45.5	97	7/8-14UNF	1 1/16-12UNF
GPM2FC012CK405	12	18	200	280	2000	3000	500	46.5	99	7/8-14UNF	1 1/16-12UNF
GPM2FC014CK405	14	21	200	260	2000	4000	500	48	102	7/8-14UNF	1 1/16-12UNF
GPM2FC016CK405	16	24	200	260	2000	4000	500	49.8	105.5	7/8-14UNF	1 1/16-12UNF
GPM2FC018CK405	18	27	200	260	2000	3600	400	51.5	109	7/8-14UNF	1 1/16-12UNF
GPM2FC020CK405	20	30	200	230	2000	3200	400	53	112	7/8-14UNF	1 1/16-12UNF
GPM2FC022CK405	22	33	200	230	2000	3000	400	54.8	115.5	7/8-14UNF	1 1/16-12UNF
GPM2FC025CK405	25	37.5	200	210	2000	3000	400	57	120	7/8-14UNF	1 1/16-12UNF
GPM2FC026CK405	26	39	180	200	2000	2500	400	58	122	7/8-14UNF	1 1/16-12UNF
GPM2FC028CK405	28	42	180	200	1500	2500	400	59.5	125	7/8-14UNF	1 1/16-12UNF
GPM2FC030CK405	30	45	150	180	1500	2500	400	61.3	128.5	7/8-14UNF	1 5/16-12UNF

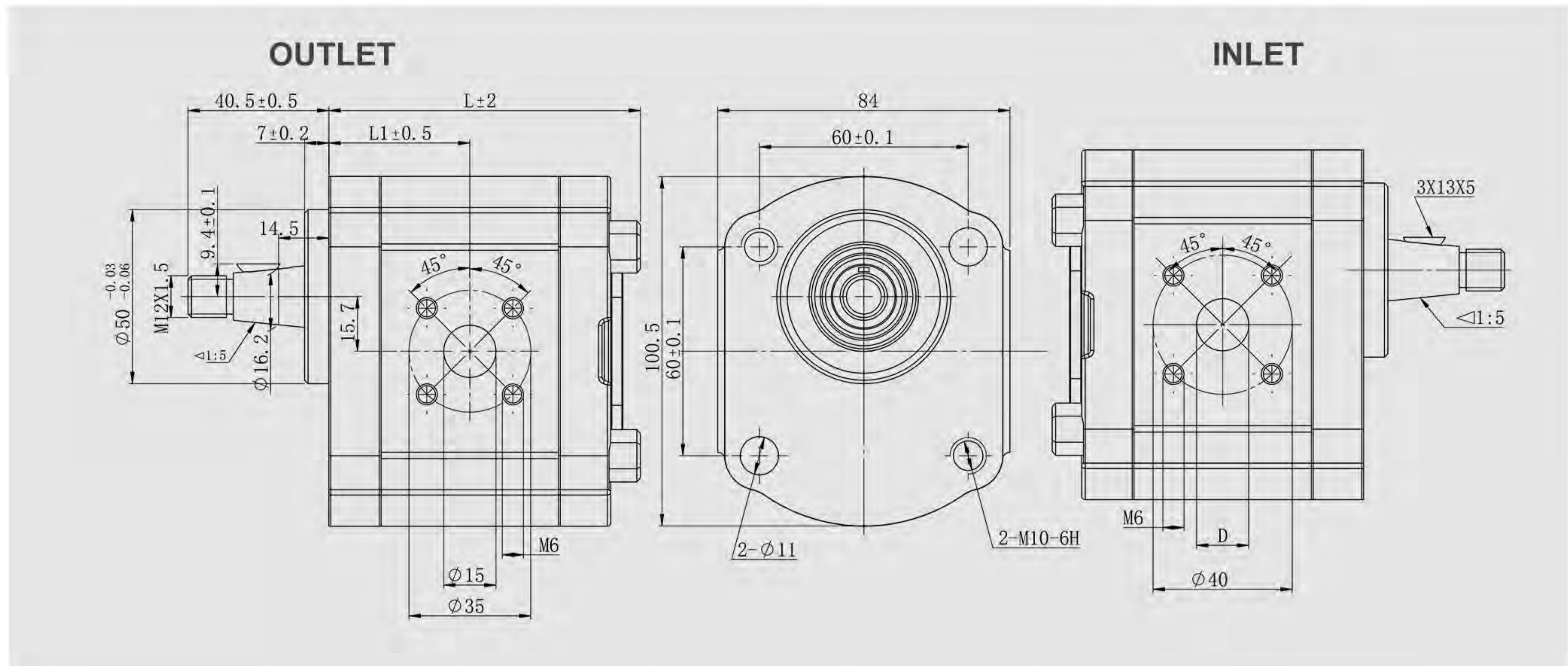
M6 thread depth 13mm, M8 thread depth 17mm,
 To mount the pump, n.4 M10 screws, with a torque wrench setting fixed at 70~75Nm.
 Shaft M12x1.25 nuts, with a torque wrench setting fixed at 50Nm.



MODEL	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm		
			Rated	Peak	Rated	Max	Min	L1	L	d
GPM2FC004ST06	4.0	6.0	200	280	2000	4000	800	40	86	15
GPM2FC006ST06	6	9.0	200	280	2000	4000	600	41.5	89	15
GPM2FC008ST06	8	12	200	280	2000	4000	600	43	92	15
GPM2FC010ST06	10	15	200	280	2000	3500	500	44.8	95.5	20
GPM2FC011ST05	11	16.5	200	280	2000	3000	500	45.5	97	20
GPM2FC012ST06	12	18	200	280	2000	3000	500	46.5	99	20
GPM2FC014ST06	14	21	200	260	2000	4000	500	48	102	20
GPM2FC016ST06	16	24	200	260	2000	4000	500	49.8	105.5	20
GPM2FC018ST06	18	27	200	260	2000	3600	400	51.5	109	20
GPM2FC020ST06	20	30	200	230	2000	3200	400	53	112	20
GPM2FC022ST06	22	33	200	230	2000	3000	400	54.8	115.5	20
GPM2FC025ST06	25	37.5	200	210	2000	3000	400	57	120	20
GPM2FC026ST06	26	39	180	200	2000	2500	400	58	122	20
GPM2FC028ST06	28	42	180	200	1500	2500	400	59.5	125	20
GPM2FC030ST06	30	45	150	180	1500	2500	400	61.3	128.5	20

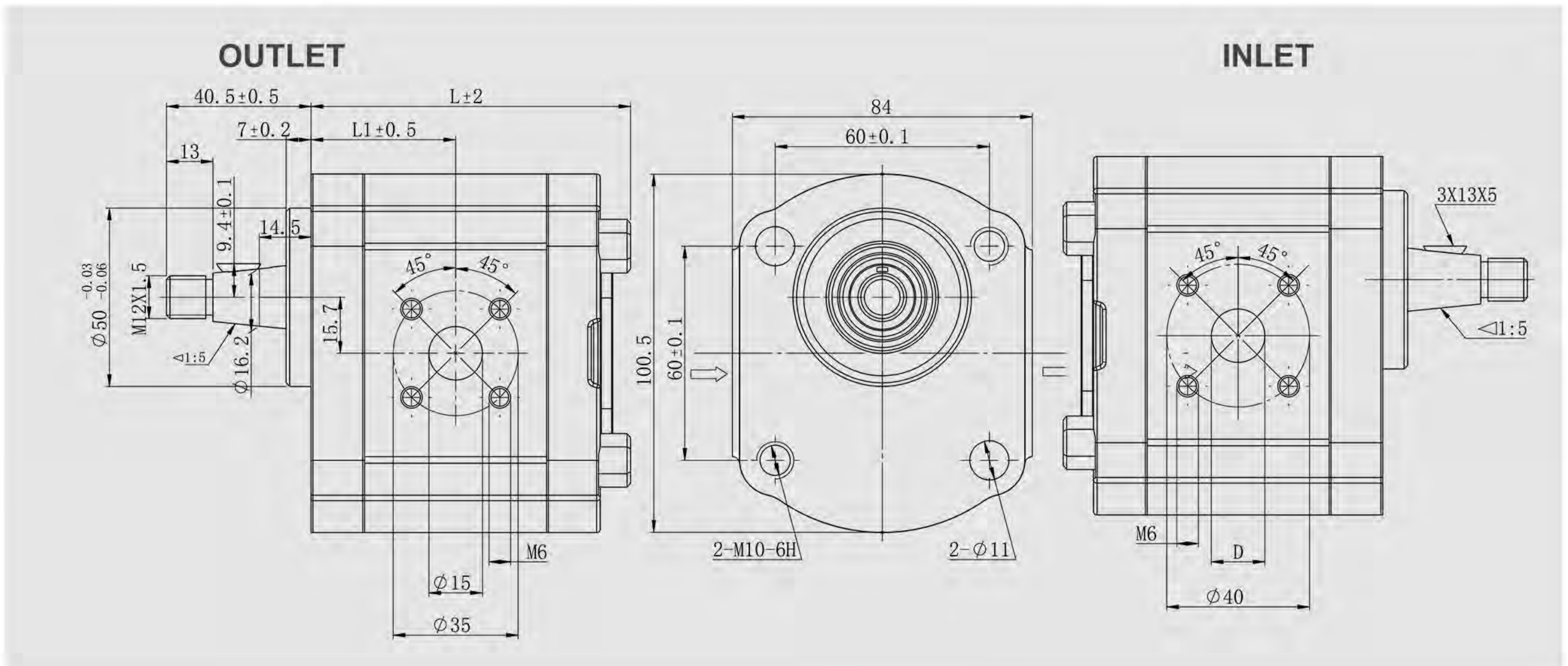
GPM2 Gear Pumps

M6 thread depth 13mm, M8 thread depth 17mm,
 To mount the pump, n.4 M10 screws, with a torque wrench setting fixed at 45~50Nm.
 Shaft M12x1.25 nuts, with a torque wrench setting fixed at 50Nm.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm		
			Rated	Peak	Rated	Max	Min	L1	L	d
GPM2FC004FT06	4.0	6.0	200	280	2000	4000	800	37.5	83.5	15
GPM2FC006FT06	6	9.0	200	280	2000	4000	600	39	86.5	15
GPM2FC008FT06	8	12	200	280	2000	4000	600	40.5	89.5	15
GPM2FC010FT06	10	15	200	280	2000	3500	500	42.3	93	20
GPM2FC011FT06	11	16.5	200	280	2000	3000	500	43	94.5	20
GPM2FC012FT06	12	18	200	280	2000	3000	500	44	96.5	20
GPM2FC014FT06	14	21	200	260	2000	4000	500	45.5	99.5	20
GPM2FC016FT06	16	24	200	260	2000	4000	500	47.3	103	20
GPM2FC018FT06	18	27	200	260	2000	3600	400	49	106.5	20
GPM2FC020FT06	20	30	200	230	2000	3200	400	50.5	109.5	20
GPM2FC022FT06	22	33	200	230	2000	3000	400	52.3	113	20
GPM2FC025FT06	25	37.5	200	210	2000	3000	400	54.5	117.5	20
GPM2FC026FT06	26	39	180	200	2000	2500	400	55.5	119.5	20
GPM2FC028FT06	28	42	180	200	1500	2500	400	57	122.5	20
GPM2FC030FT06	30	45	150	180	1500	2500	400	58.5	126	20

M6 thread depth 13mm, M8 thread depth 17mm,
 To mount the pump, n.4 M10 screws, with a torque wrench setting fixed at 45~50Nm.
 Shaft M12x1.25 nuts, with a torque wrench setting fixed at 50Nm.

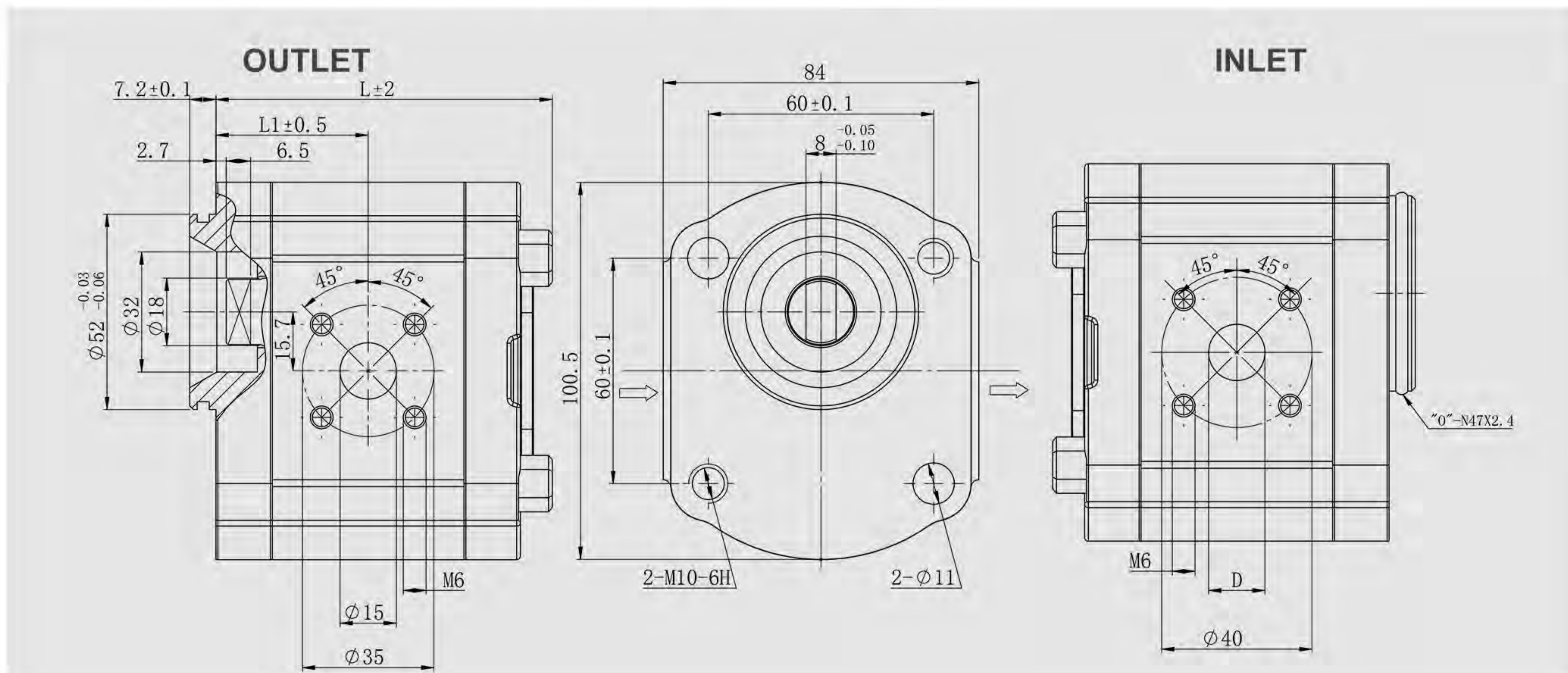


Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm		
			Rated	Peak	Rated	Max	Min	L1	L	d
GPM2FC004JT06	4.0	6.0	200	280	2000	4000	800	37.5	83.5	15
GPM2FC006JT06	6	9.0	200	280	2000	4000	600	39	86.5	15
GPM2FC008JT06	8	12	200	280	2000	4000	600	40.5	89.5	15
GPM2FC010JT06	10	15	200	280	2000	3500	500	42.3	93	20
GPM2FC011JT05	11	16.5	200	280	2000	3000	500	43	94.5	20
GPM2FC012JT06	12	18	200	280	2000	3000	500	44	96.5	20
GPM2FC014JT06	14	21	200	260	2000	4000	500	45.5	99.5	20
GPM2FC016JT06	16	24	200	260	2000	4000	500	47.3	103	20
GPM2FC018JT06	18	27	200	260	2000	3600	400	49	106.5	20
GPM2FC020JT06	20	30	200	230	2000	3200	400	50.5	109.5	20
GPM2FC022JT06	22	33	200	230	2000	3000	400	52.3	113	20
GPM2FC025JT06	25	37.5	200	210	2000	3000	400	54.5	117.5	20
GPM2FC026JT06	26	39	180	200	2000	2500	400	55.5	119.5	20
GPM2FC028JT06	28	42	180	200	1500	2500	400	57	122.5	20
GPM2FC030JT06	30	45	150	180	1500	2500	400	58.5	126	20

GPM2 Gear Pumps



M6 thread depth 13mm, M8 thread depth 17mm,
 To mount the pump, n.2 M10 screws, with a torque wrench setting fixed at 45~50Nm.
 Shaft M12x1.25 nuts, with a torque coupling max torque 70Nm.

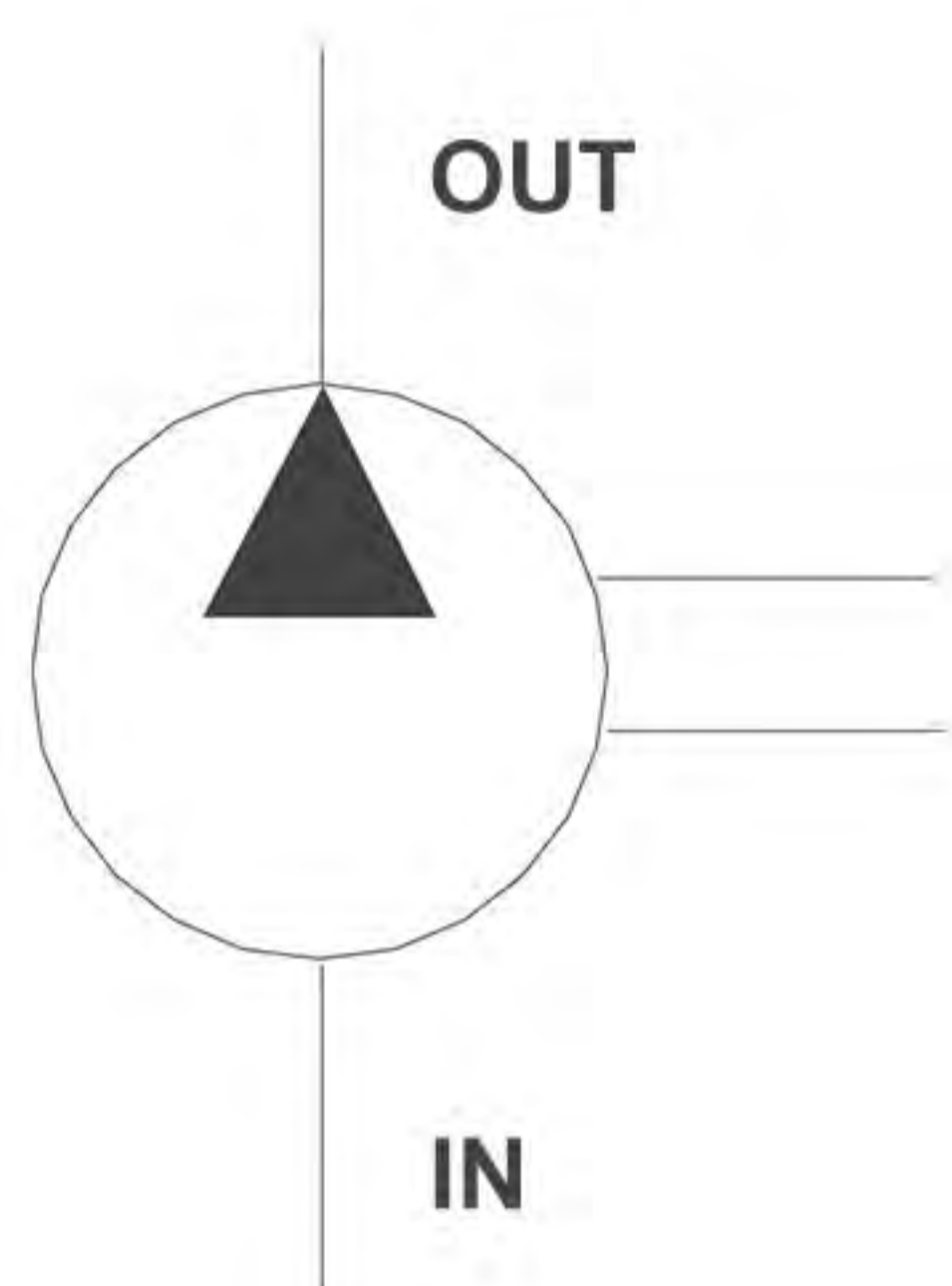


Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm		
			Rated	Peak	Rated	Max	Min	L1	L	d
GPM2FC004DR06	4.0	6.0	200	280	2000	4000	800	37.3	83.5	15
GPM2FC006DR06	6	9.0	200	280	2000	4000	600	39	86.6	15
GPM2FC008DR06	8	12	200	280	2000	4000	600	40.5	89.5	15
GPM2FC010DR06	10	15	200	280	2000	3500	500	42.3	93	20
GPM2FC011DR05	11	16.5	200	280	2000	3000	500	43	94.5	20
GPM2FC012DR06	12	18	200	280	2000	3000	500	44	96.5	20
GPM2FC014DR06	14	21	200	260	2000	4000	500	45.5	99.5	20
GPM2FC016DR06	16	24	200	260	2000	4000	500	47.3	103	20
GPM2FC018DR06	18	27	200	260	2000	3600	400	49	106.5	20
GPM2FC020DR06	20	30	200	230	2000	3200	400	50.5	109.5	20
GPM2FC022DR06	22	33	200	230	2000	3000	400	52.3	113	20
GPM2FC025DR06	25	37.5	200	210	2000	3000	400	54.5	117.5	20
GPM2FC026DR06	26	39	180	200	2000	2500	400	55.5	119.5	20
GPM2FC028DR06	28	42	180	200	1500	2500	400	57	122.5	20
GPM2FC030DR06	30	45	150	180	1500	2500	400	58.5	126	20

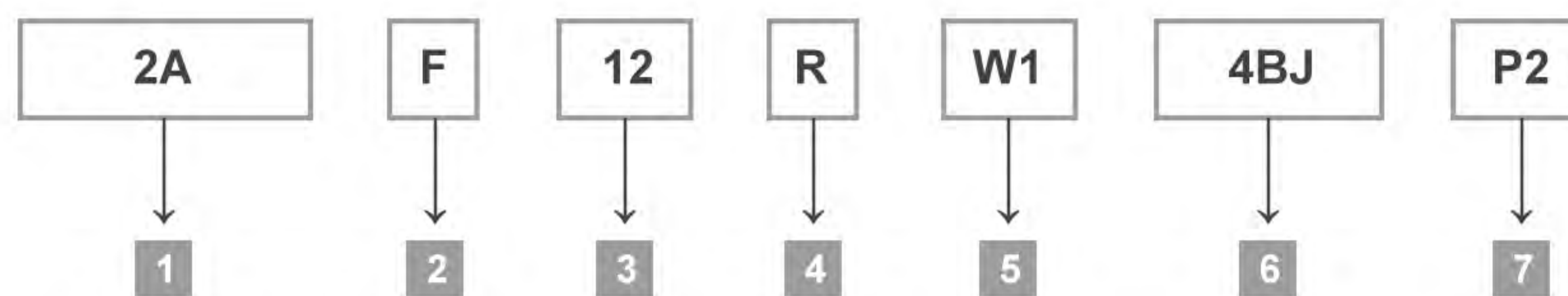
- ▶ Displacement : 2~12 cc/rev
- ▶ Max. Pressure : 250 kgf/cm²(3500psi)
- ▶ Flange : JIS 4-bolt



SCHEMATIC SYMBOL



ORDER CODES



1	Model Name	2A
2	Mounting	F flange type L foot type
3	Delivery Capacity	2, 25, 3, 4, 5, 6, 8, 9, 11, 12
4	Rotation Direction	R clockwise L counter - clockwise
5	Shaft Type *	W :tang shaft X :straight shaft Y :spline shaft Z :taper shaft
6	Flange Mounting Type	4BJ JIS 4-bolt
7	Inlet and Outlet *	F : flange type(F1) G :G, BSP, PF(G1~G2) P : PT(P1~P2)

* The dimension of shafts and inlet & outlet sizes please refer to Page 15.

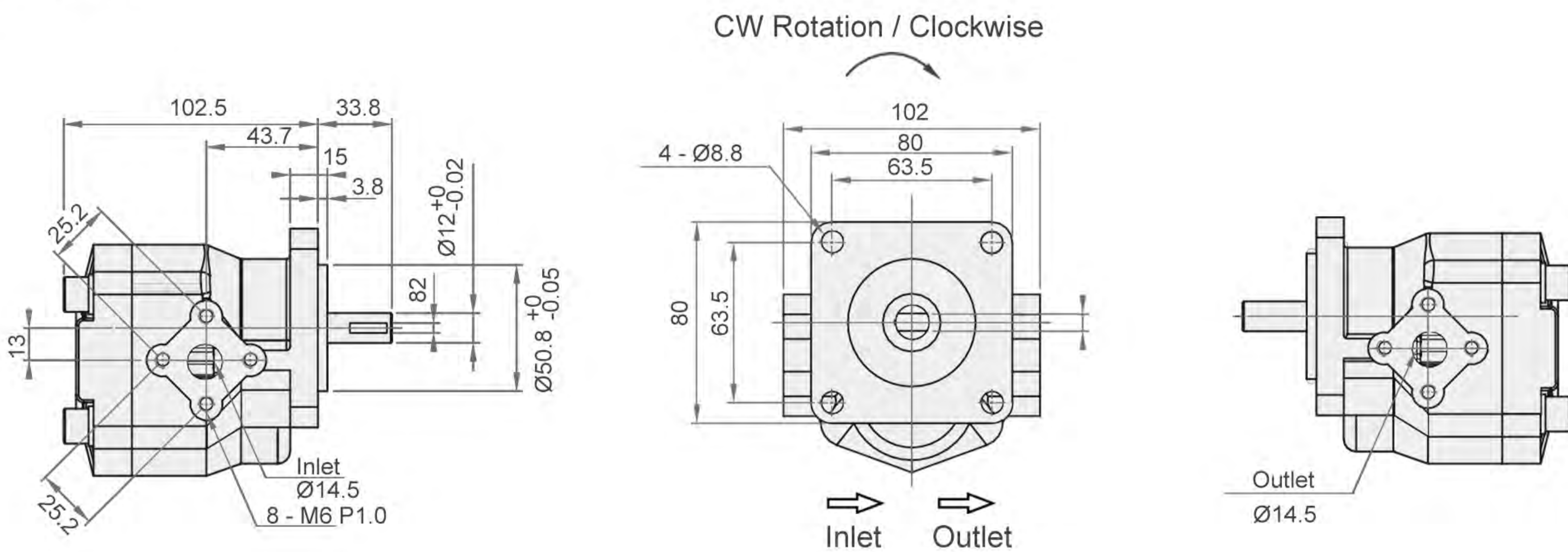
2A Gear Pump

Model	Accurate Displacement Capacity (cc/rev)	Operational Pressure (kgf/cm ²)	Max. Pressure (kgf/cm ²)	Speed (r.p.m.)			Weight kg
				Rated	Max	Min	
2A-2	2	210	250	1800	5000	1000	1.69
2A-25	2.5	210	250	1800	5000	850	1.7
2A-3	3	210	250	1800	5000	850	1.7
2A-4	4	210	250	1800	4500	800	1.71
2A-5	5	210	250	1800	3500	700	1.71
2A-6	6	210	250	1800	3500	700	1.72
2A-8	7.5	210	250	1800	3000	600	1.74
2A-9	9	210	250	1800	2500	550	1.74
2A-11	10.5	210	250	1800	2000	500	1.74
2A-12	12	175	210	1800	2000	500	1.76

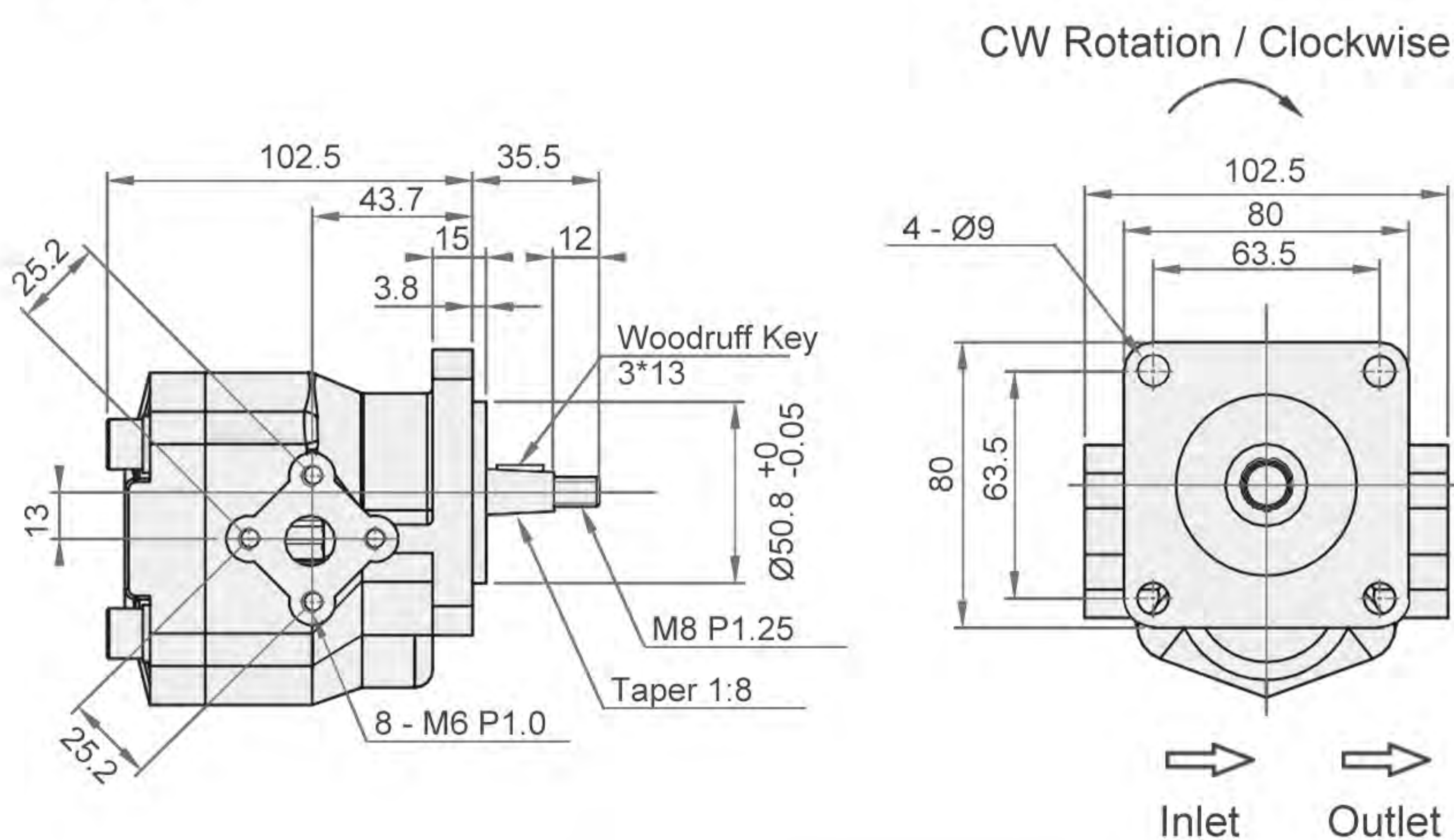
* HGP-2A-25 and HGP-2A-5 do not belong to regular products. Customized service can be provided.

DIMENSIONS (UNIT : MM)

2A-F-X-4BJ

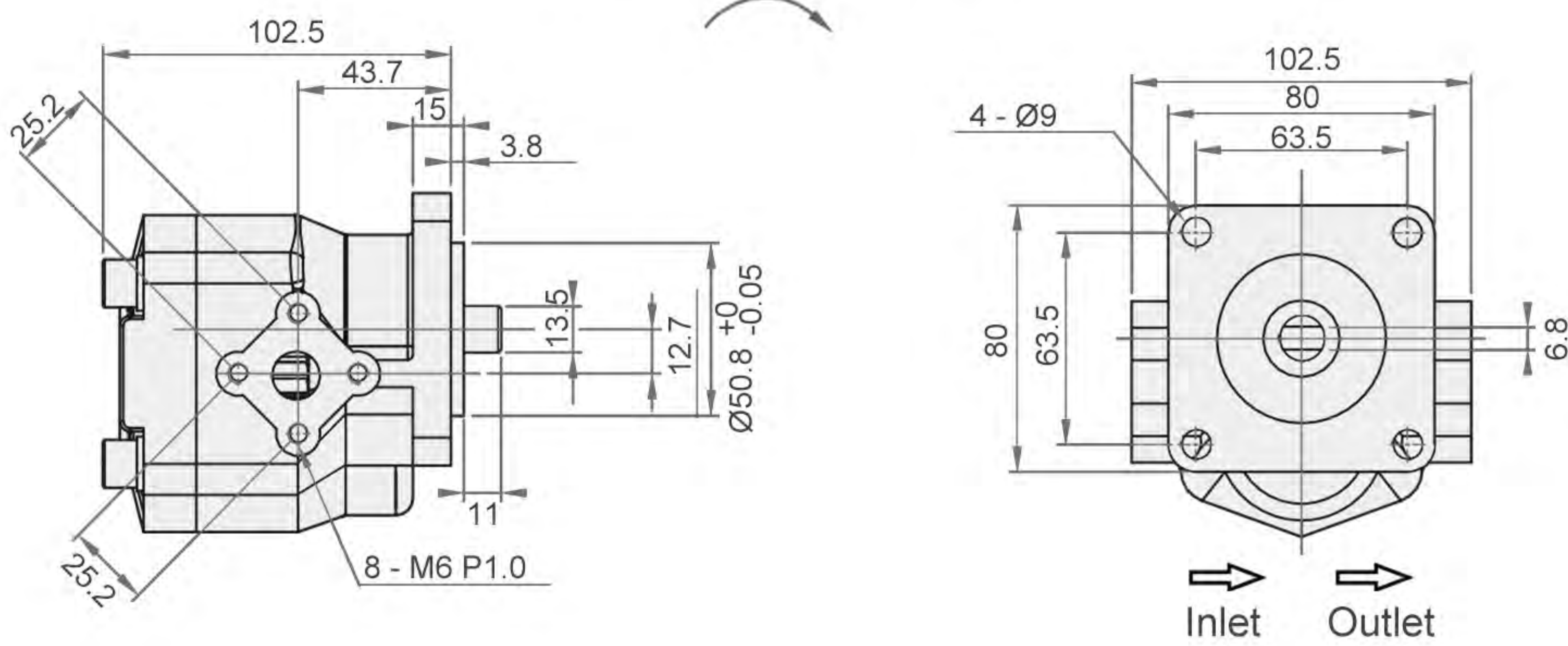


2A-F-Z-4BJ

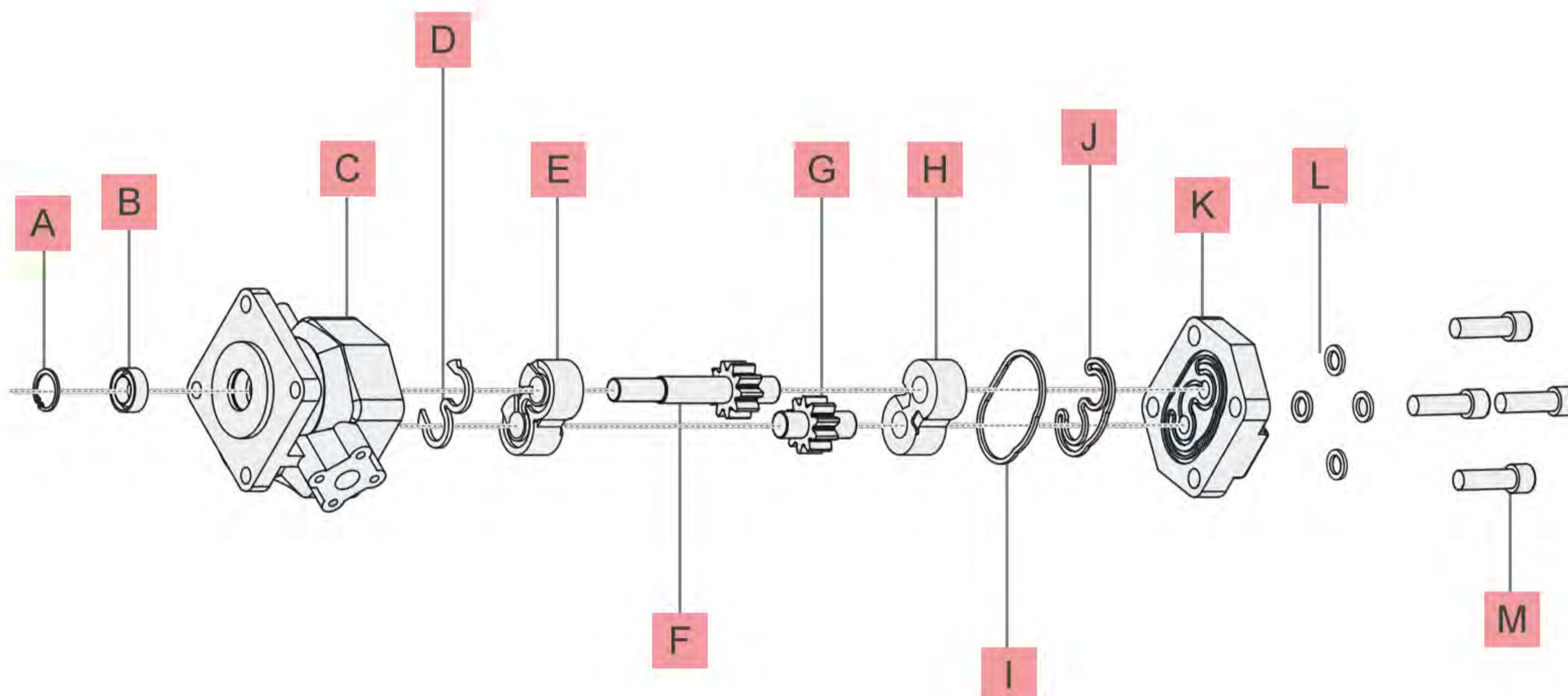


2A-F-W-4BJ

CW Rotation / Clockwise



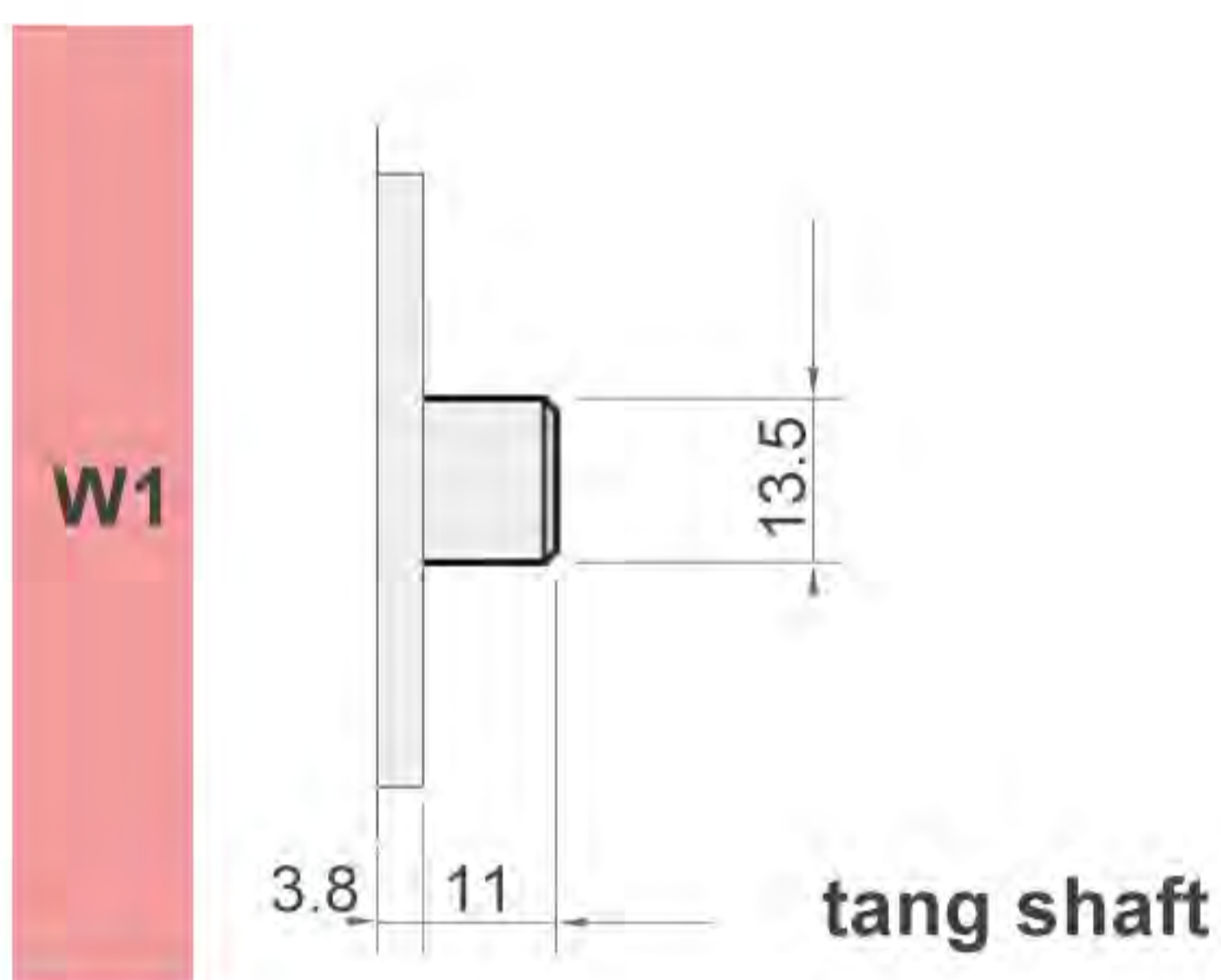
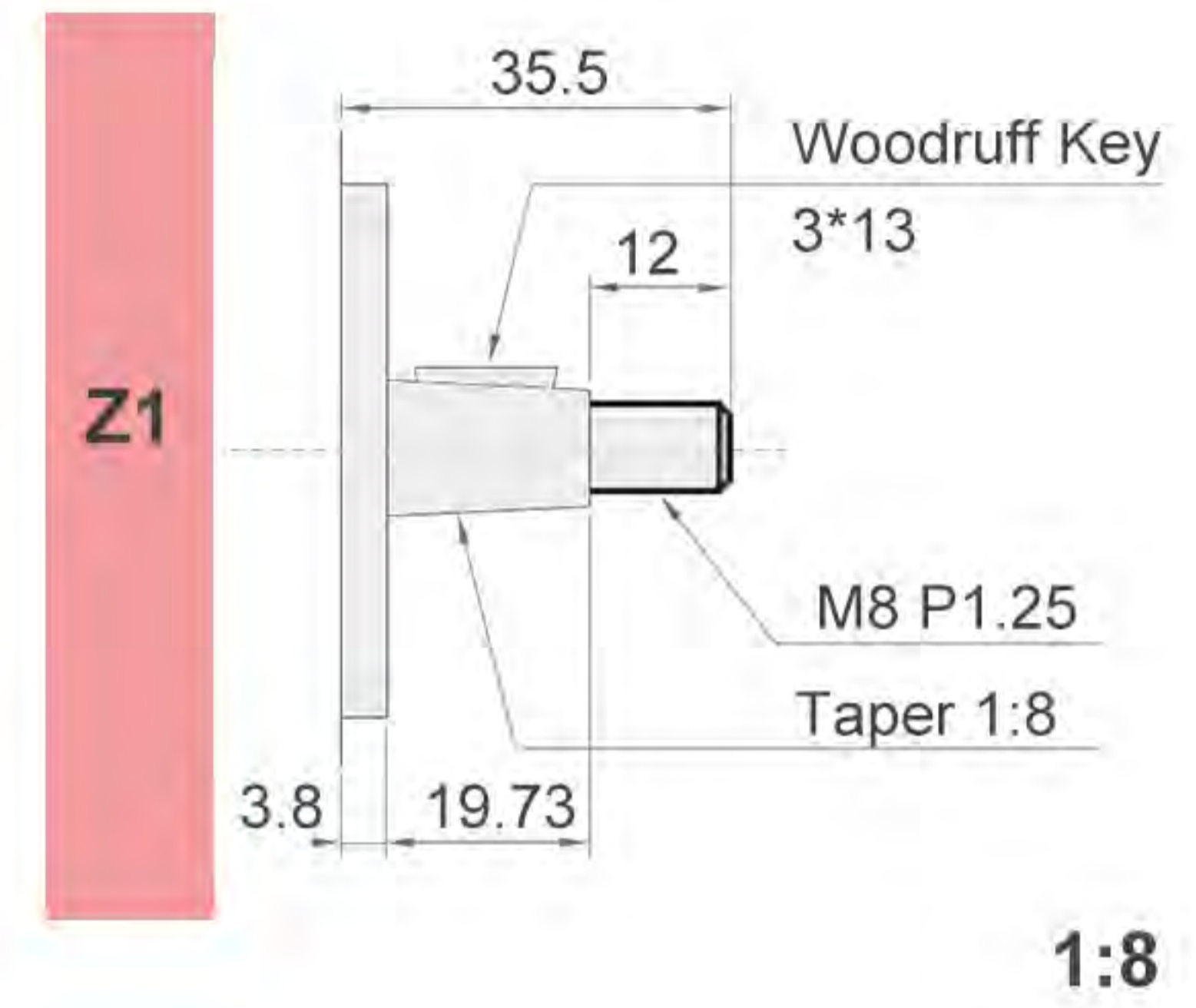
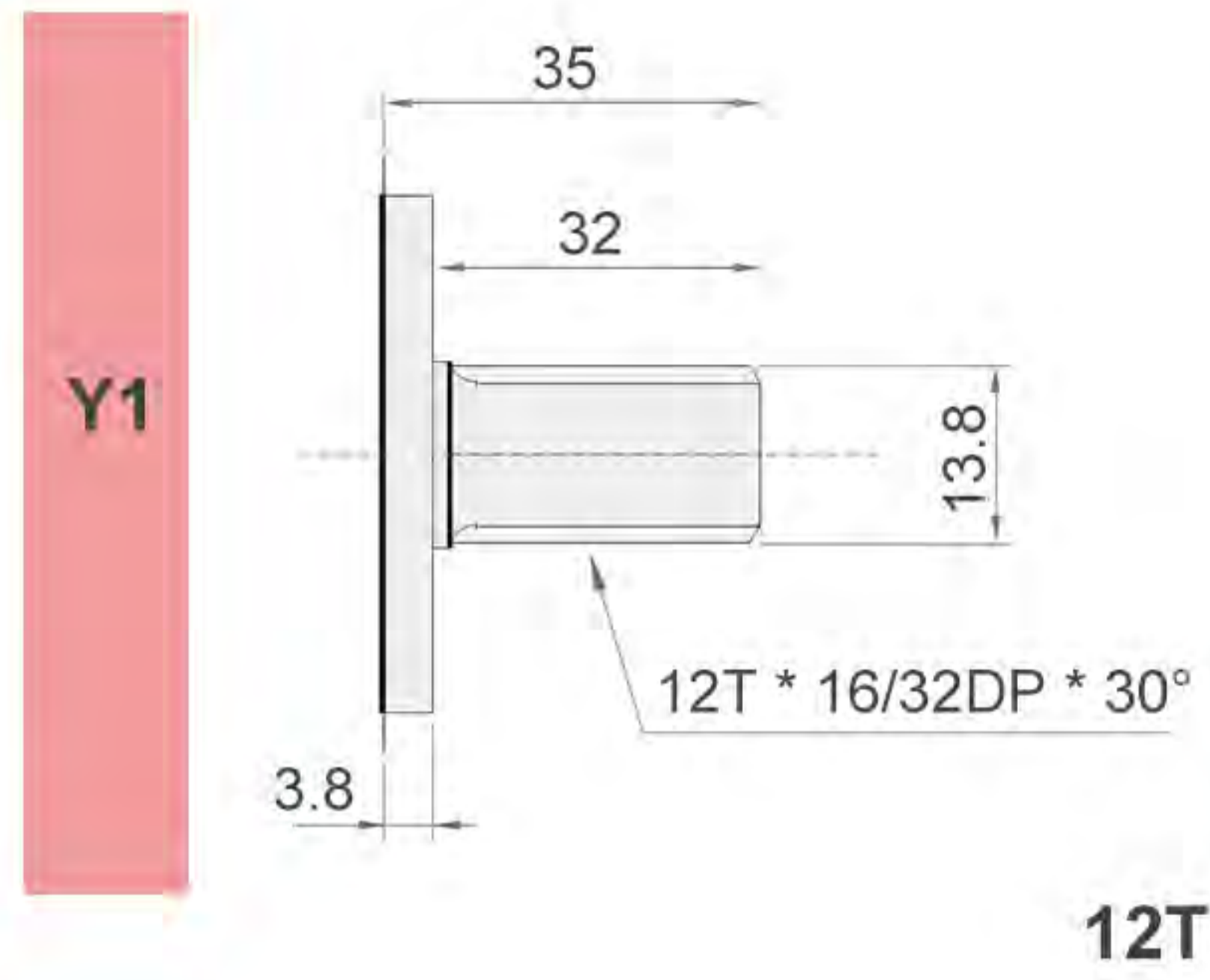
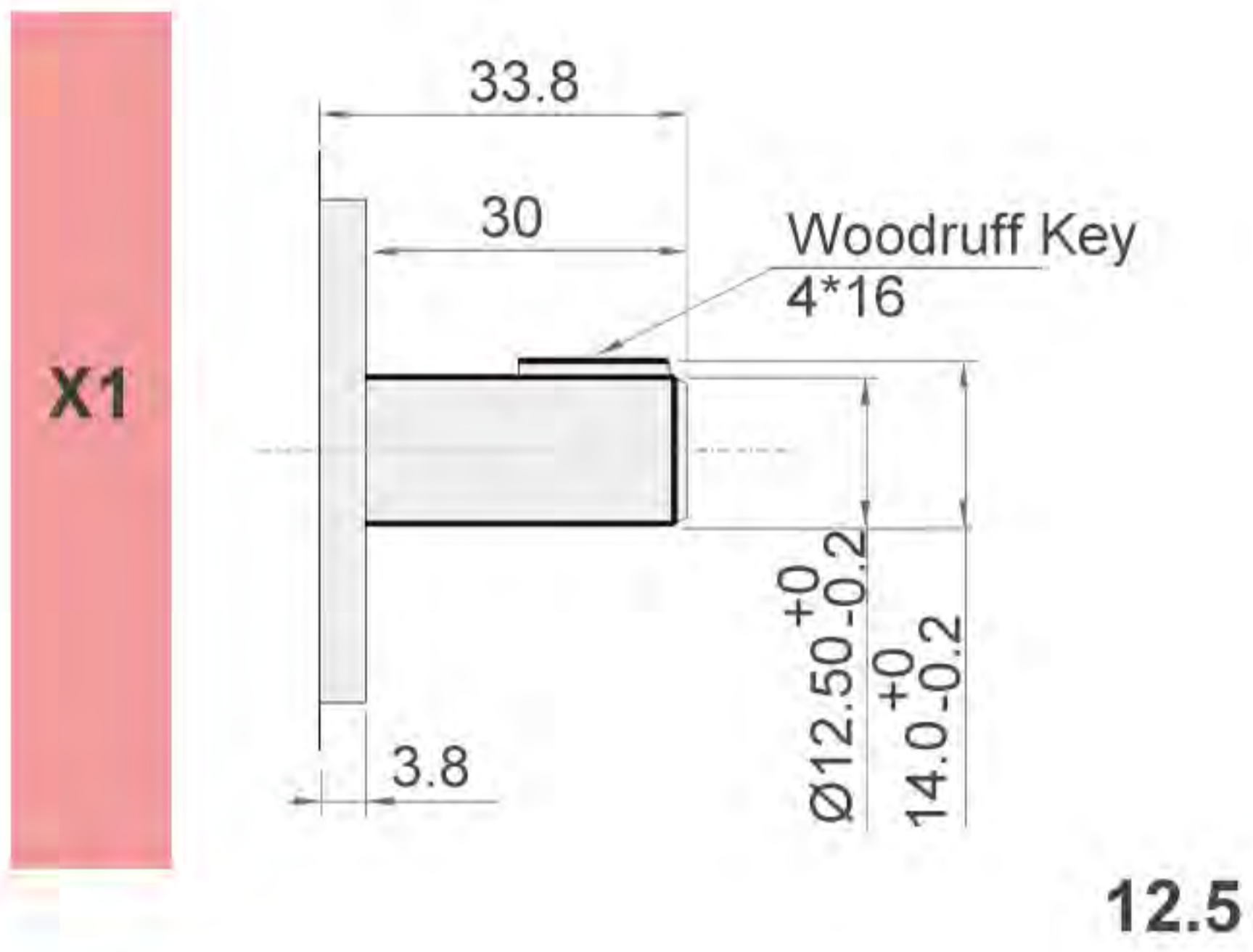
DECOMPOSITION CHARTS



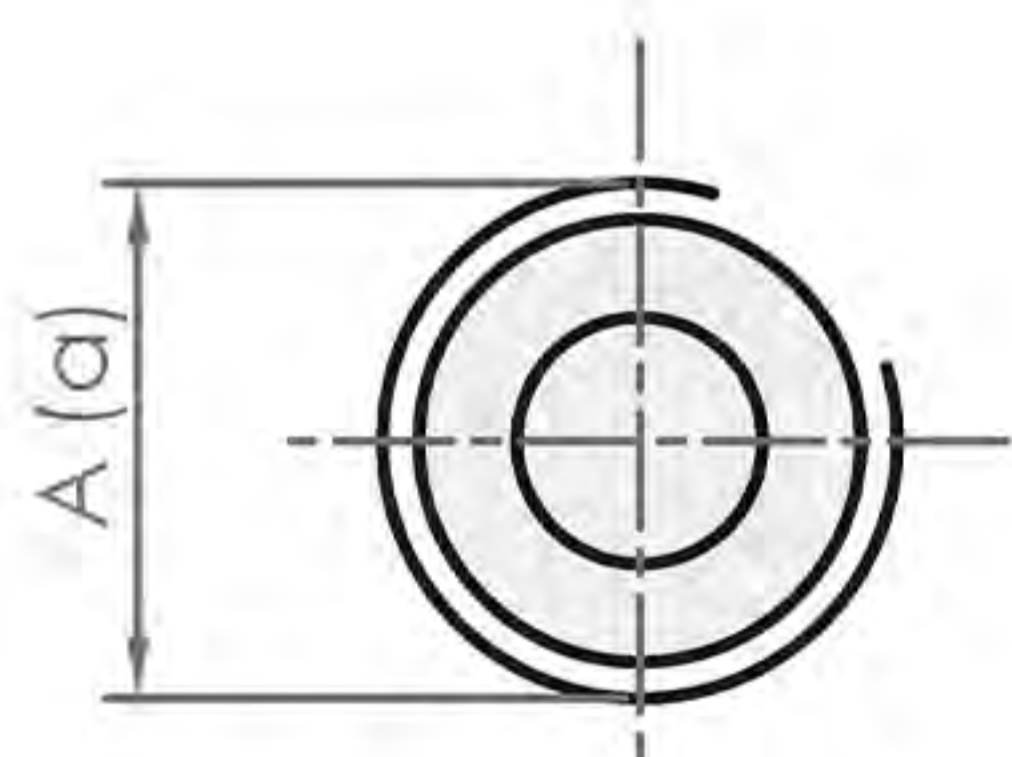
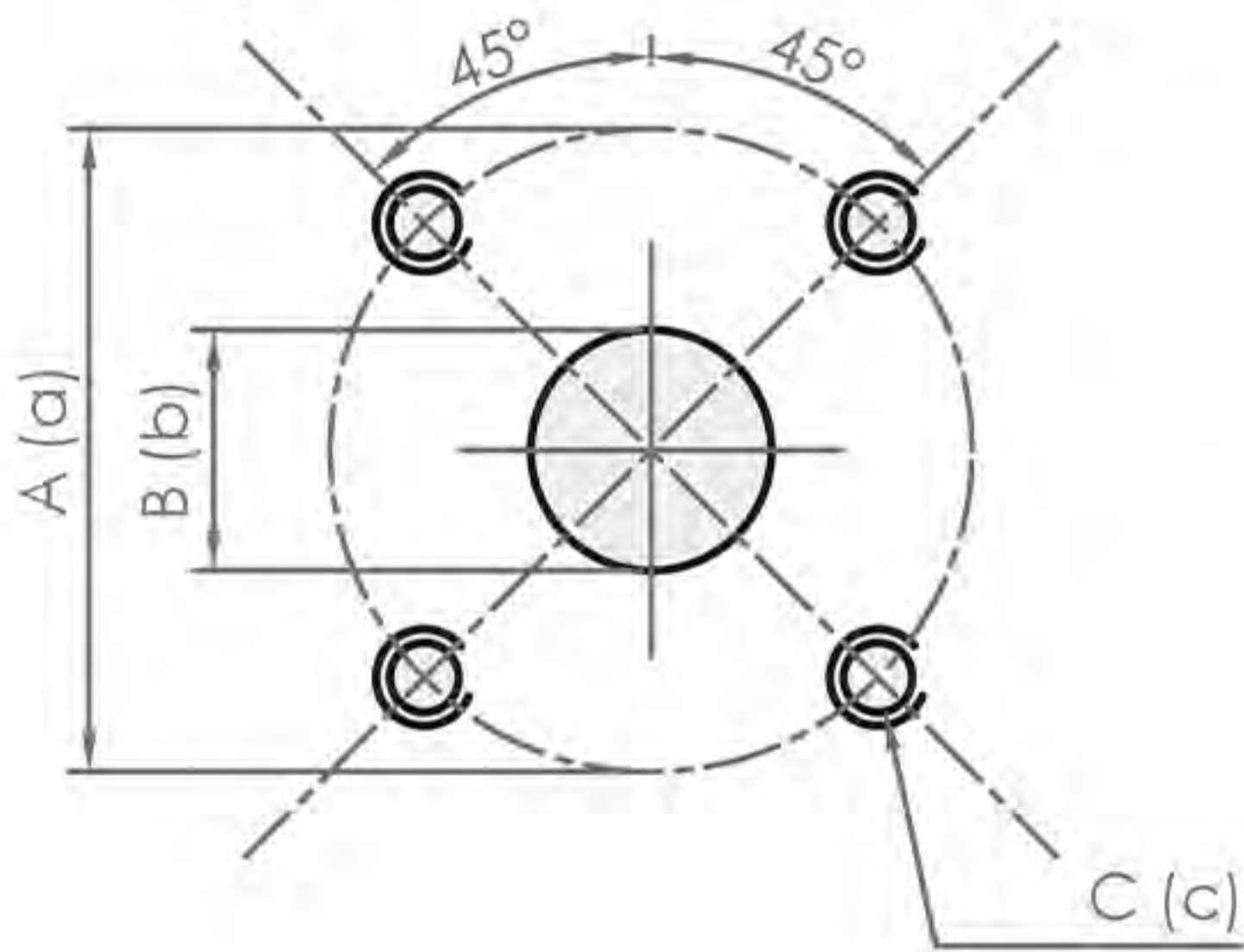
Item No.	Part Descriptions	Q'ty	Item No.	Part Descriptions	Q'ty
A	C-ring	1	I	O-ring	1
B	Shaft seal	1	J	Back-up ring	1
C	Housing	1	K	Rear cover	1
D	Bush lobe seal	1	L	Bolt washer	4
E	Matching bearing	1	M	Bolt	4
F	Drive gear	1			
G	Drive gear	1			
H	Matching bearing	1			

ADDITIONAL DIMENSION

Dimension of Shaft



Inlet and Outlet Size



Flange Type

Code	Inlet			Outlet		
	A	B	C	a	b	c
F1	30	14.5	M6	35	14.5	M6

G, BSP, PF

Code	Inlet	Outlet
	A	a
G1	G 3/8"	G 3/8"
G2	G 1/2"	G 1/2"

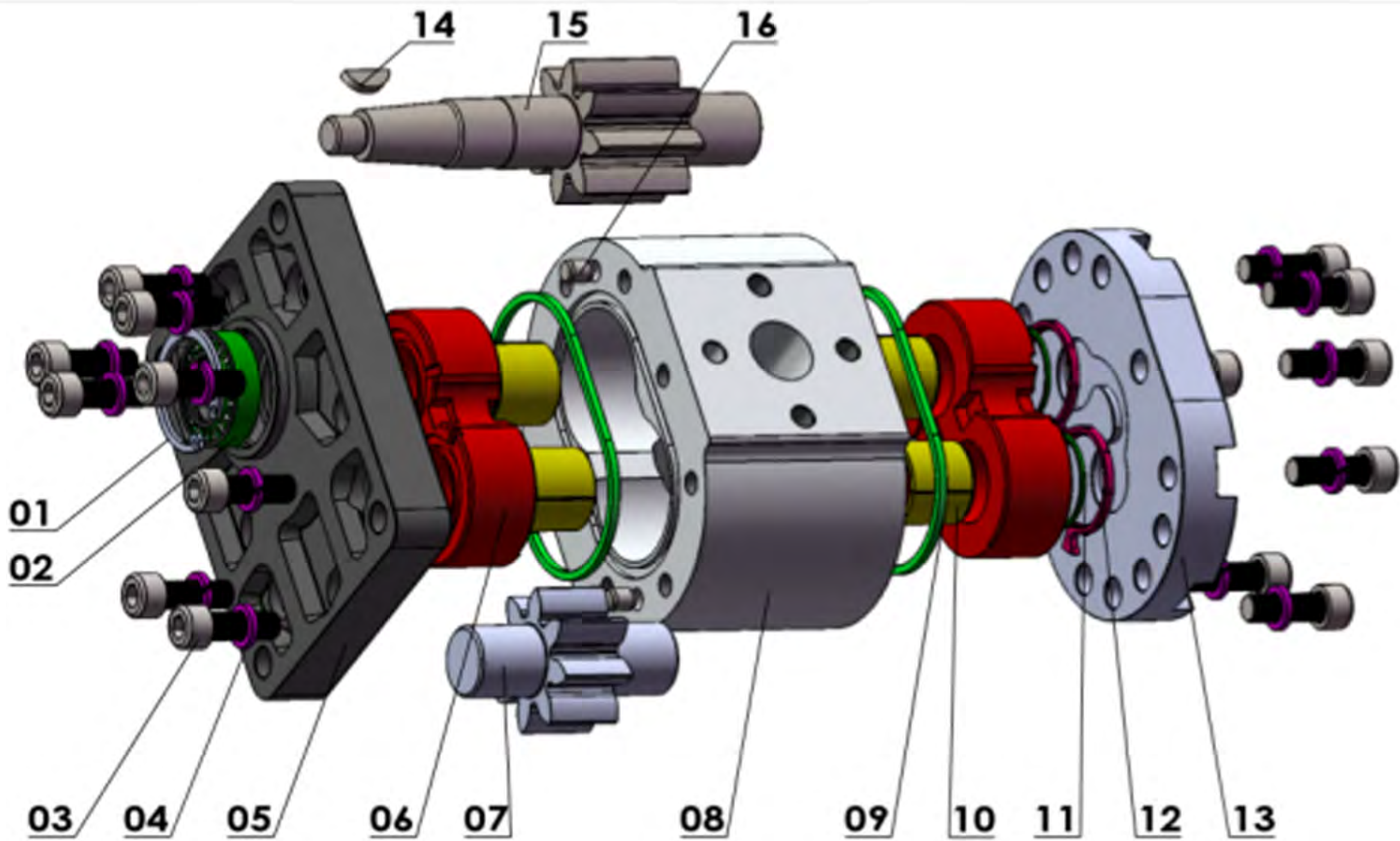
PT

Code	Inlet	Outlet
	A	a
P1	3/8" PT	3/8" PT
P2	1/2" PT	1/2" PT

How To Order GPM3.0

GPM3	F	C	16	B	S	01									
Pump Series GPM3	Pressure (bar)	Rotation	Displacement (ml/r)	Mounting flange type	Drive Shaft	Port Type	Supported Bearing	Rear cover with valves		Seals					
F:200	A: Anticlockwise		16	B	Omit-1:8 tape	01	Omit: Not Required	Code	Valve Type	Omit: Range=-10°C +80°C					
			20	G		02									
G:250	C: Clockwise		25	S	T: Tape 1:5	03	O: Required	-	Omit (standard rear cover)	V: Range=-10°C +120°C					
			28	R		04									
			32	F	S5: SAE 13T	05					V	Relief Valve	H: Range=-40°C +80°C		
			40			06									
			46		S1: SAE 11T	07									
			50			08									
			52		S2: SAE 15T	09									
			55			10									
			63		S6: 6 Teeth										
			66		K:22.22mm key shaft									Z	Flow Control Valve
			80		K2:25.4mm key shaft										
						L	Loading Sensing Valve								
						P	Rear Cover with outlet								
						R	Rear Cover with inlet and outlet								

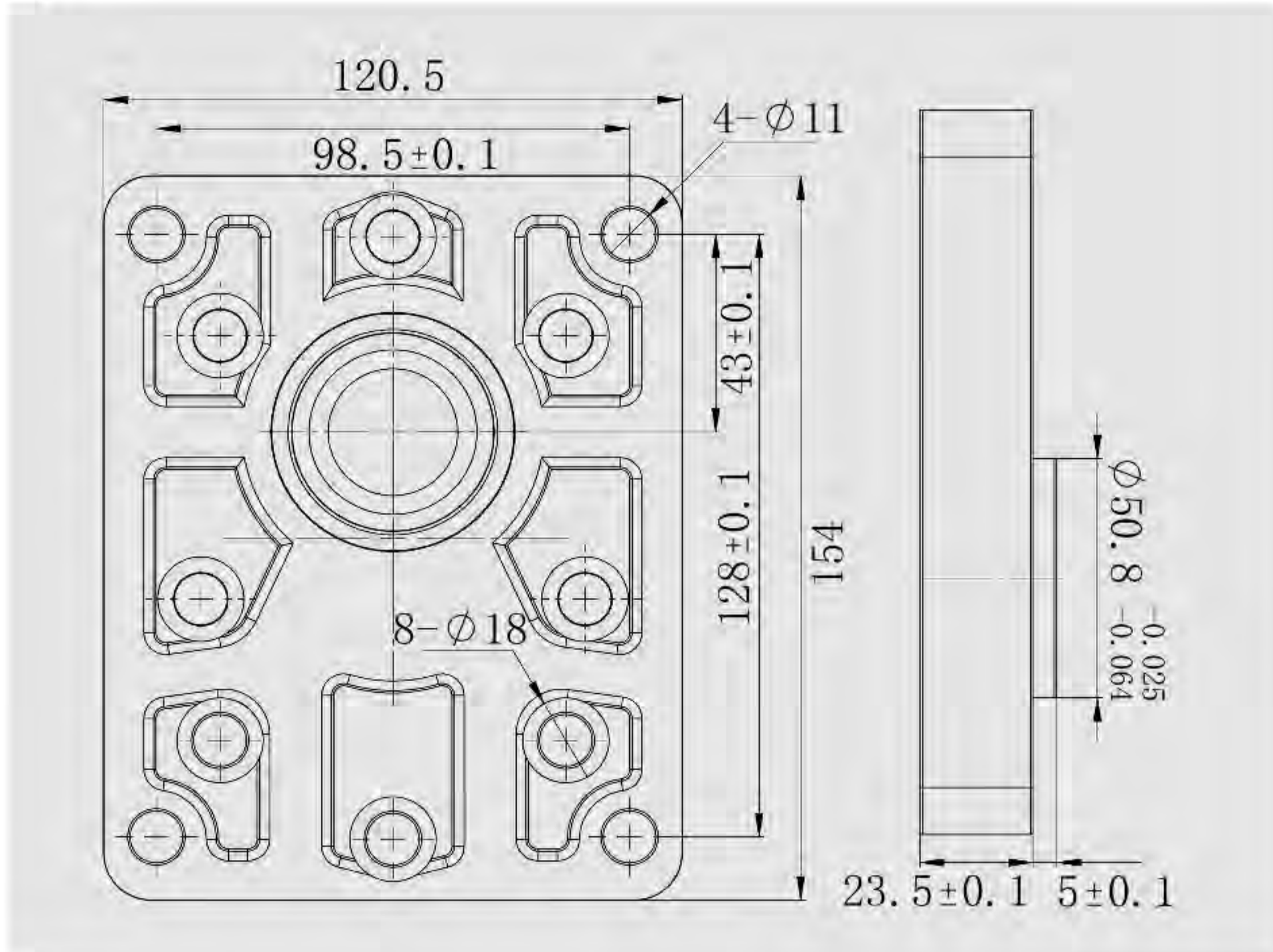
MODEL	Displacement cm ³ /rev	Flow at 1500rpm L/min	Max Pressure bar	Min Speed rpm	Max Speed rpm
GPM3FC016	16	24	270	600	3500
GPM3FC020	20	30	270	600	3500
GPM3FC025	25	37.5	270	600	3000
GPM3FC028	28	42	270	600	3000
GPM3FC032	32	48	260	600	3000
GPM3FC040	40	60	250	600	2800
GPM3FC046	46	69	230	600	2800
GPM3FC050	50	75	210	600	2800
GPM3FC052	52	78	200	600	2500
GPM3FC055	55	82.5	200	600	2300
GPM3FC063	63	94.5	180	600	2300
GPM3FC066	66	99	180	600	2000
GPM3FC080	80	120	160	600	2000



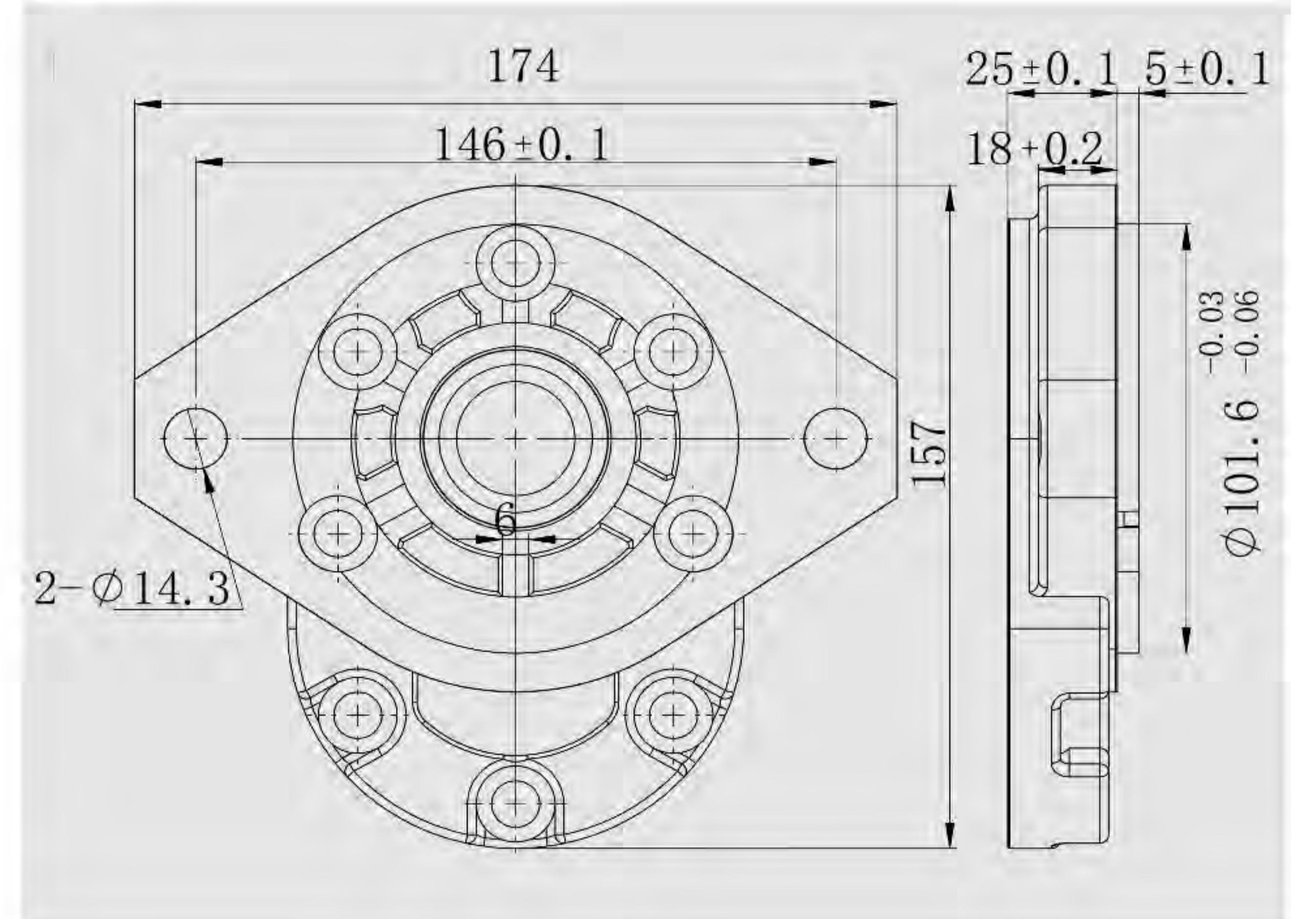
BASIC PUMP'S PARTS

- | | | | | | |
|----|-------------------|----|---------------------|----|-----------------|
| 01 | Stop Ring | 07 | Gear | 12 | Axial zone seal |
| 02 | Rotary Shaft Seal | 08 | Pump Housing | 13 | Rear Cover |
| 03 | Bolts | 09 | Housing Seals | 14 | Moon Pin |
| 04 | Washer | 10 | Sliding Bearings | 15 | Driving Gear |
| 05 | Front Flange seal | 11 | Anti-Extrusion Seal | 16 | Pins |
| 06 | Bearings | | | | |

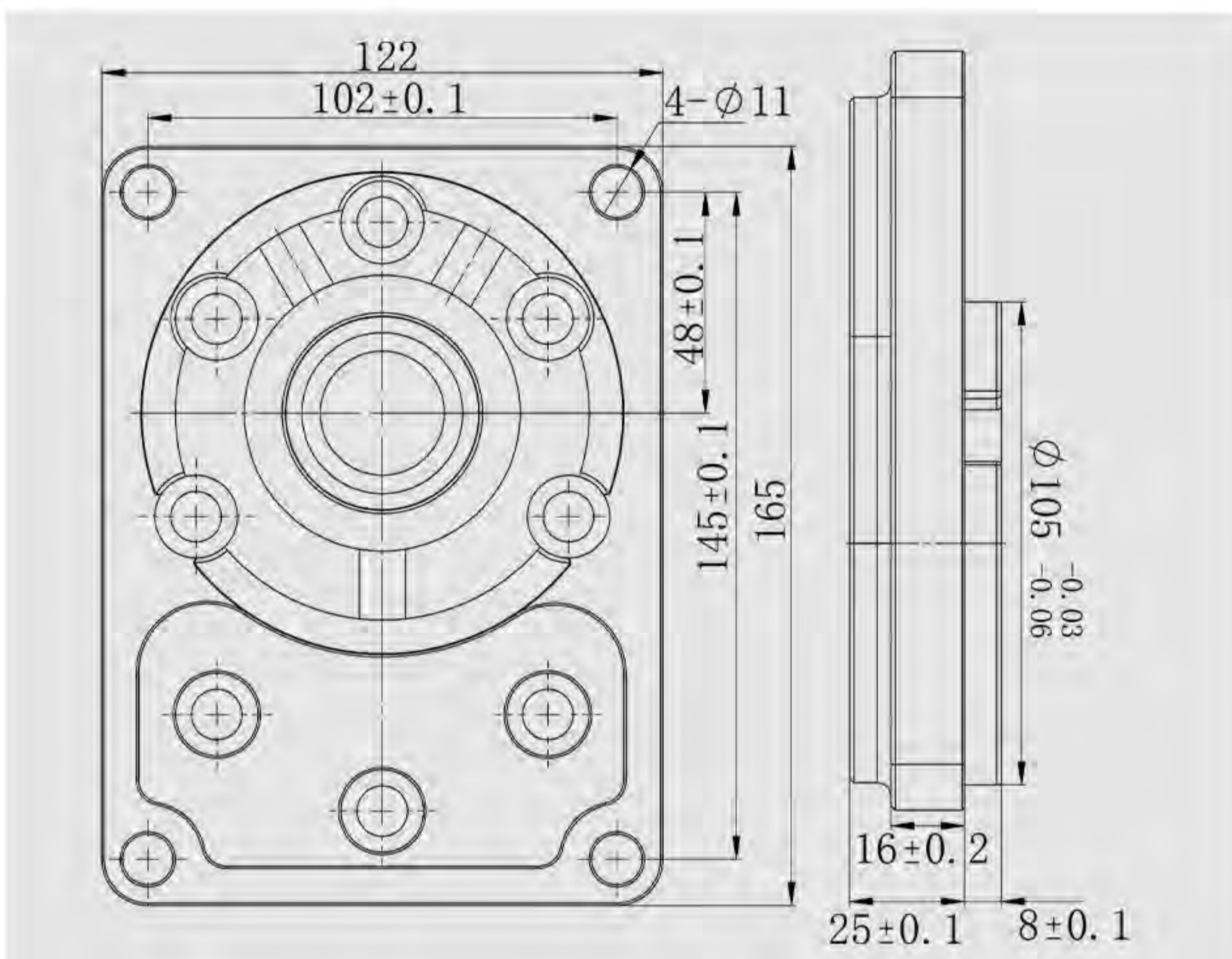
B



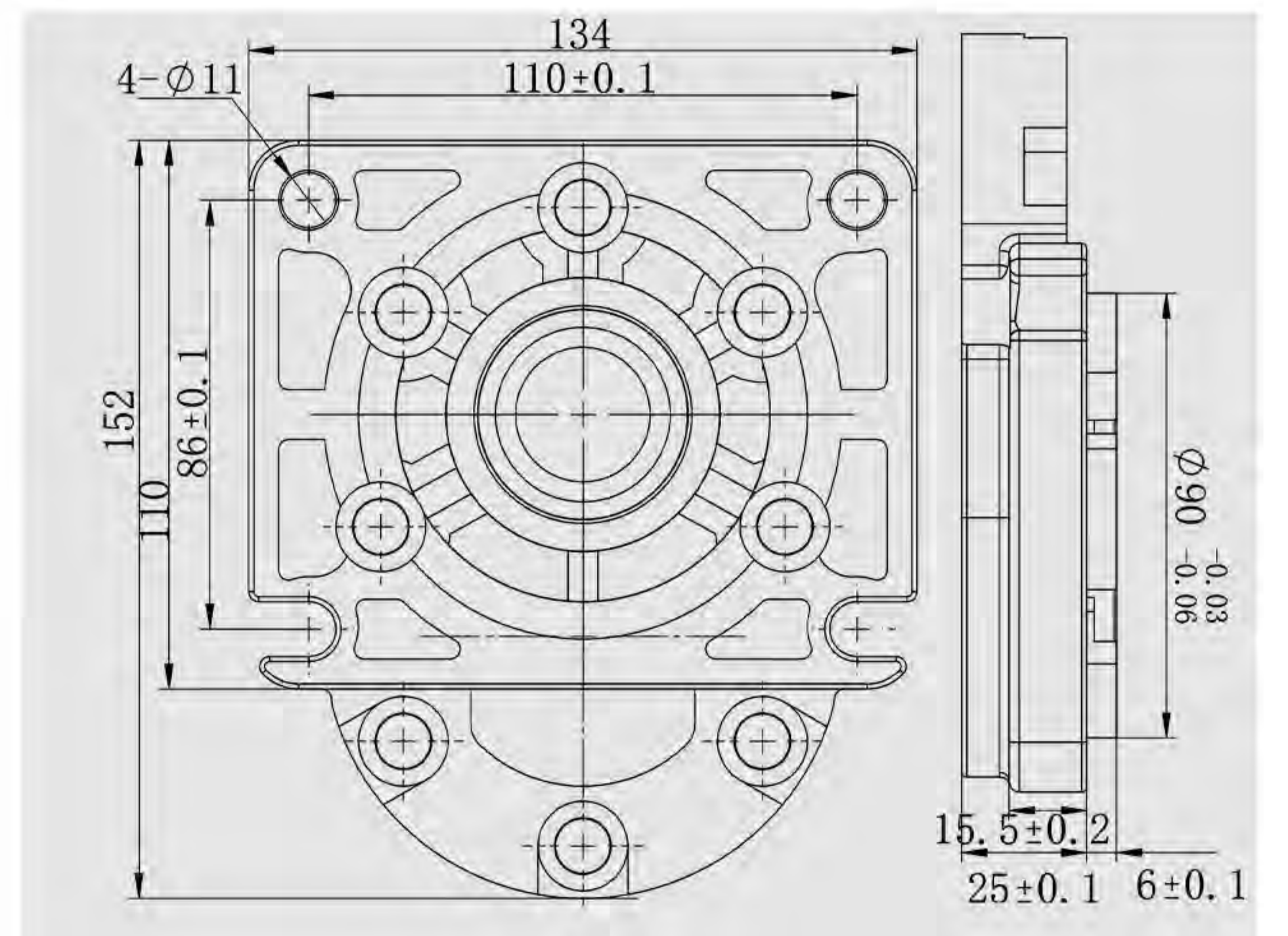
G



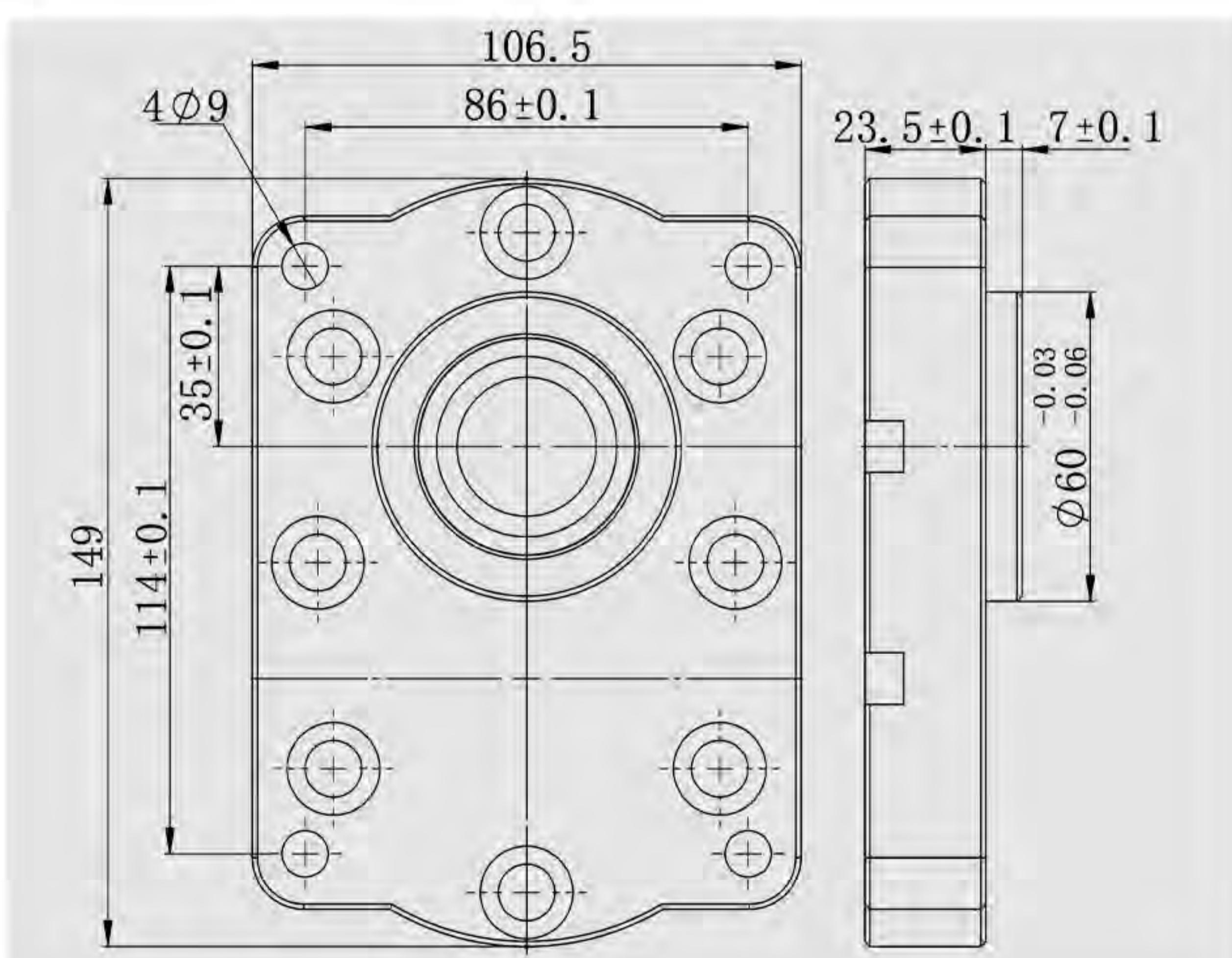
S



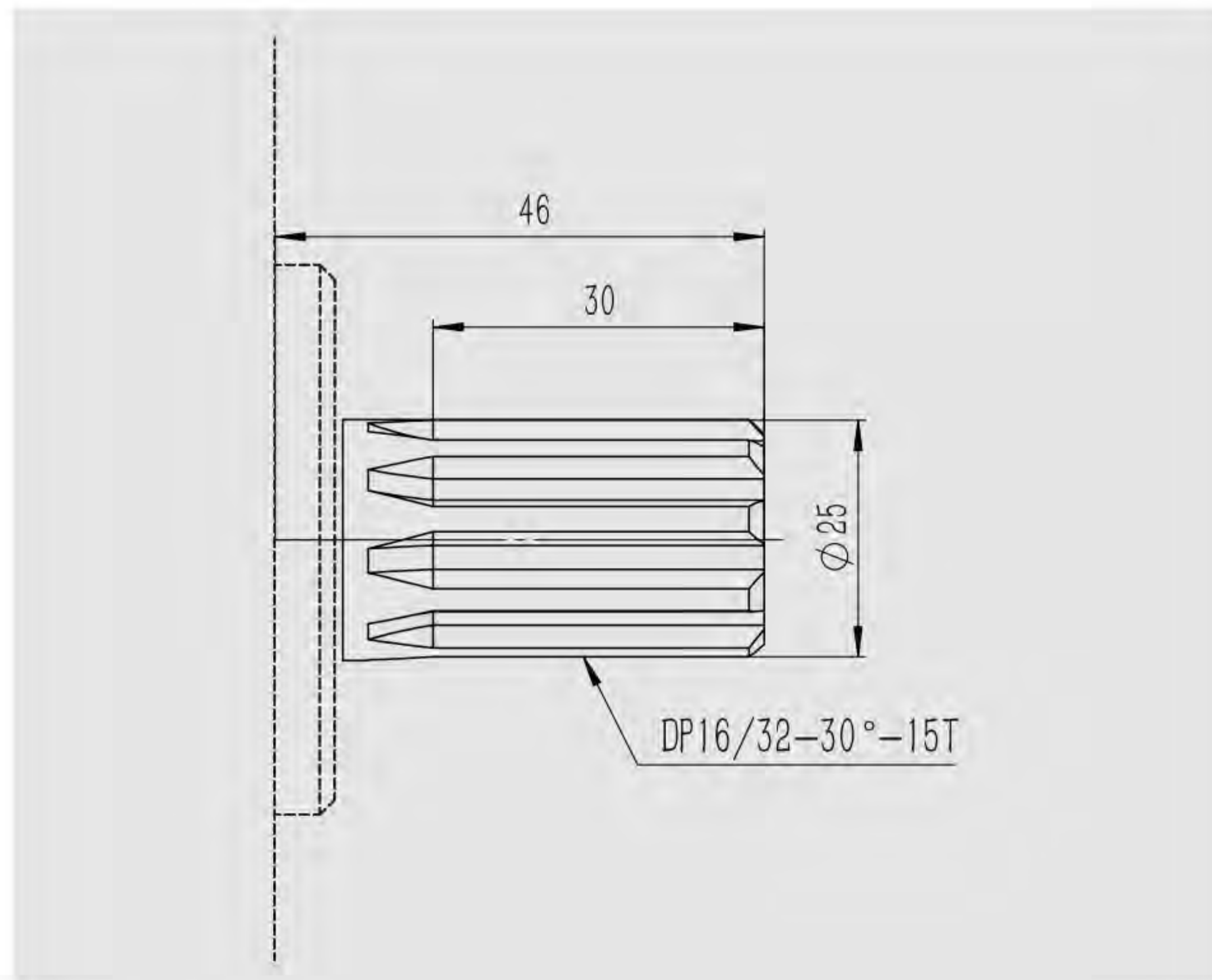
R



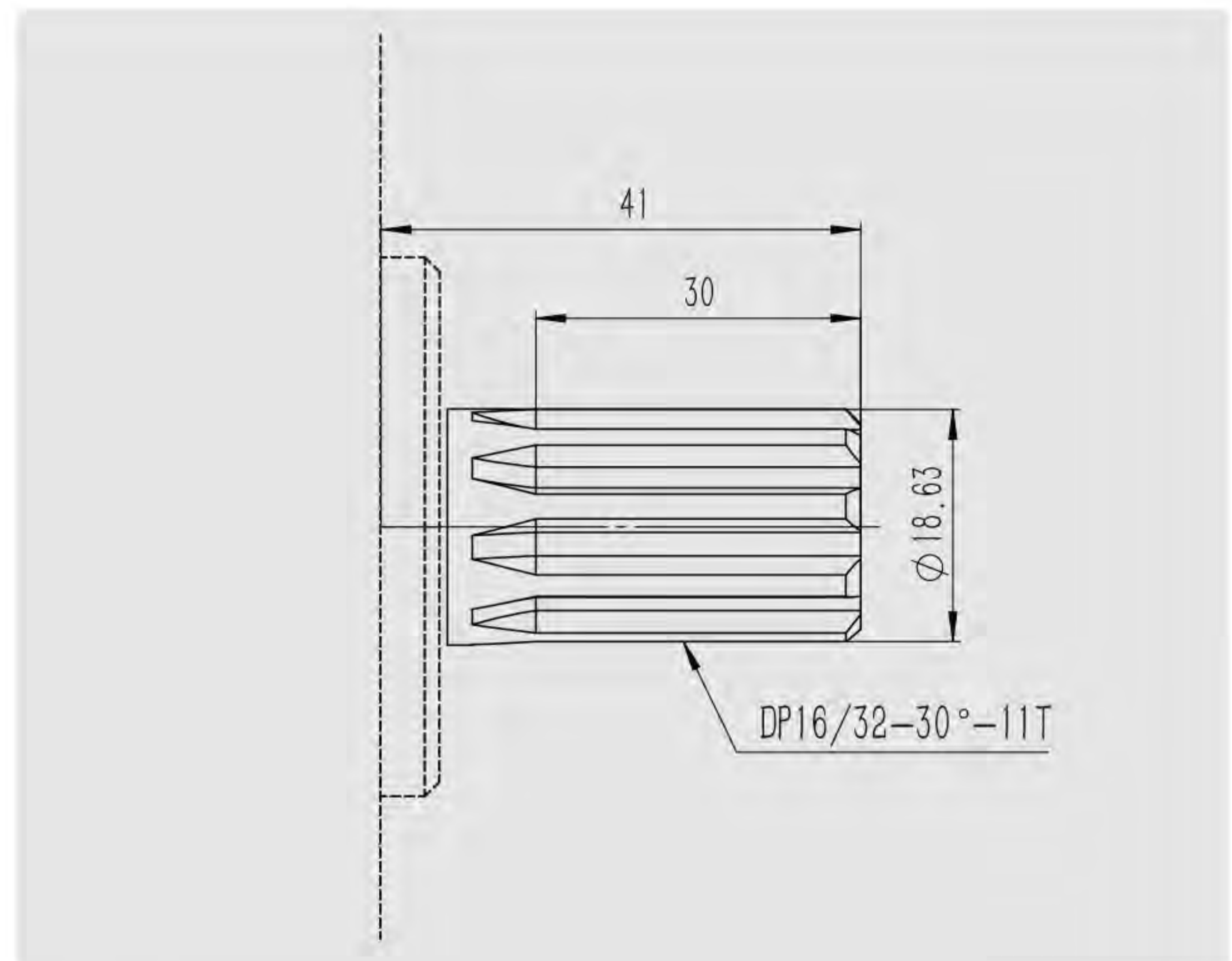
F



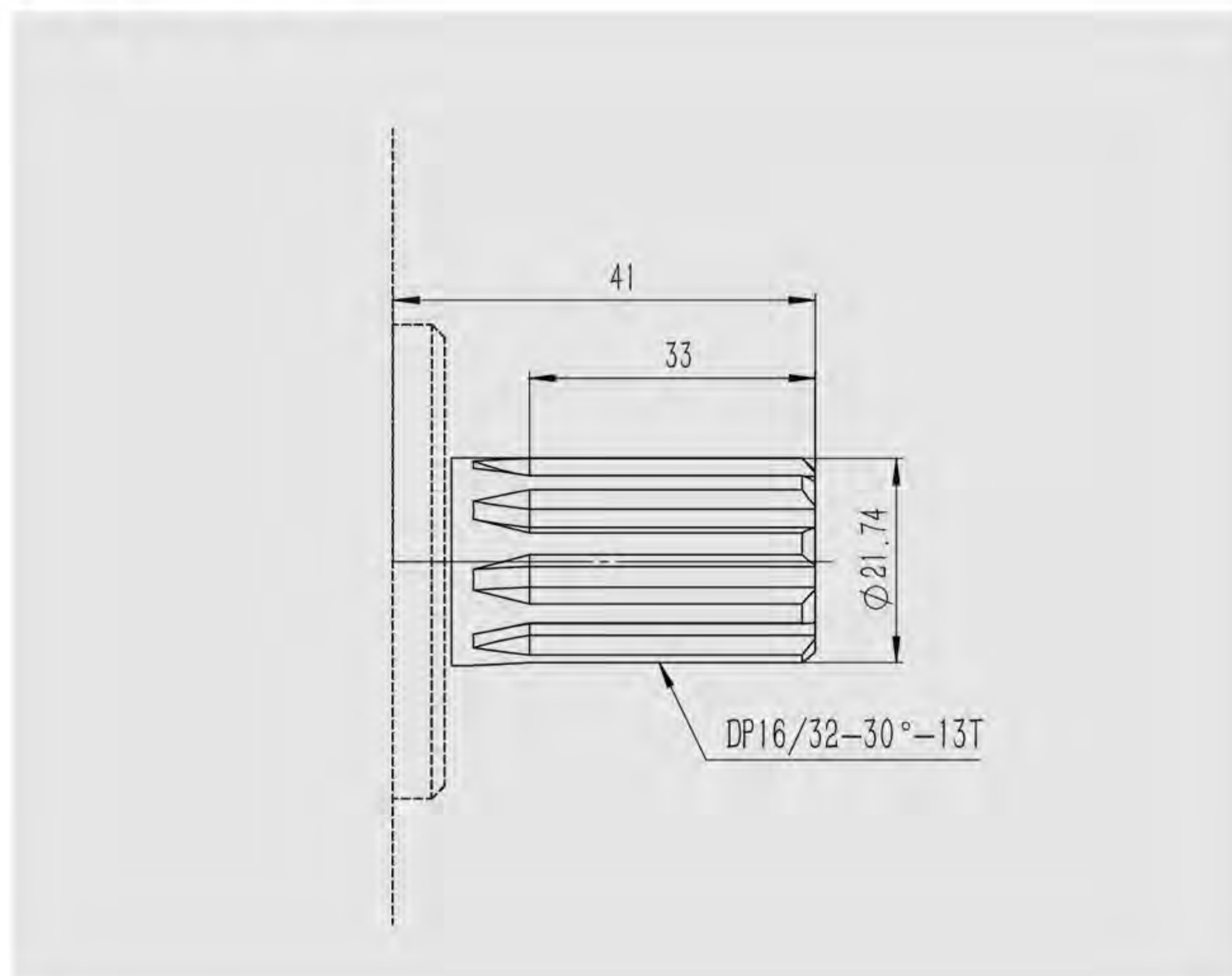
S2:15Teeth



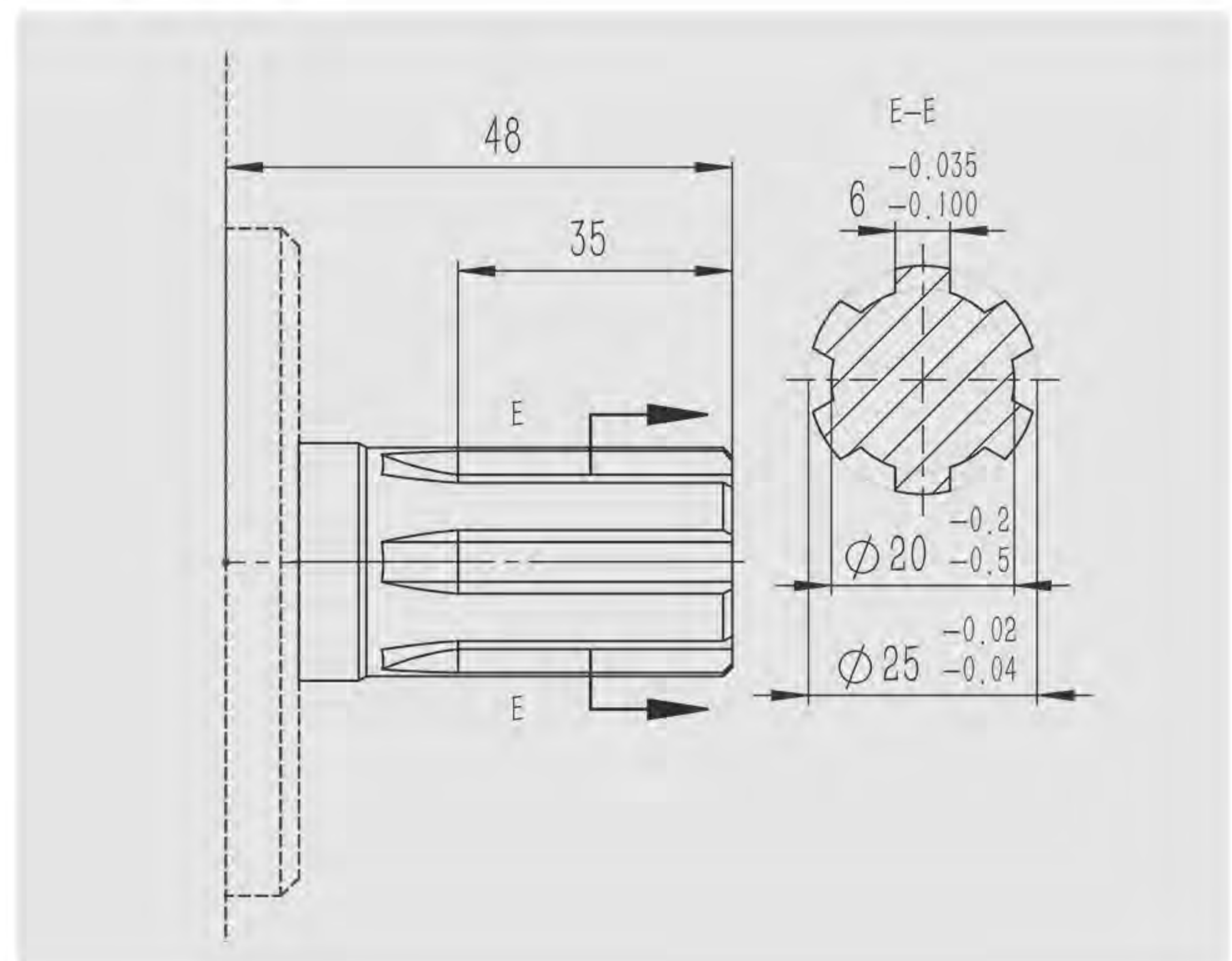
S1:11Teeth



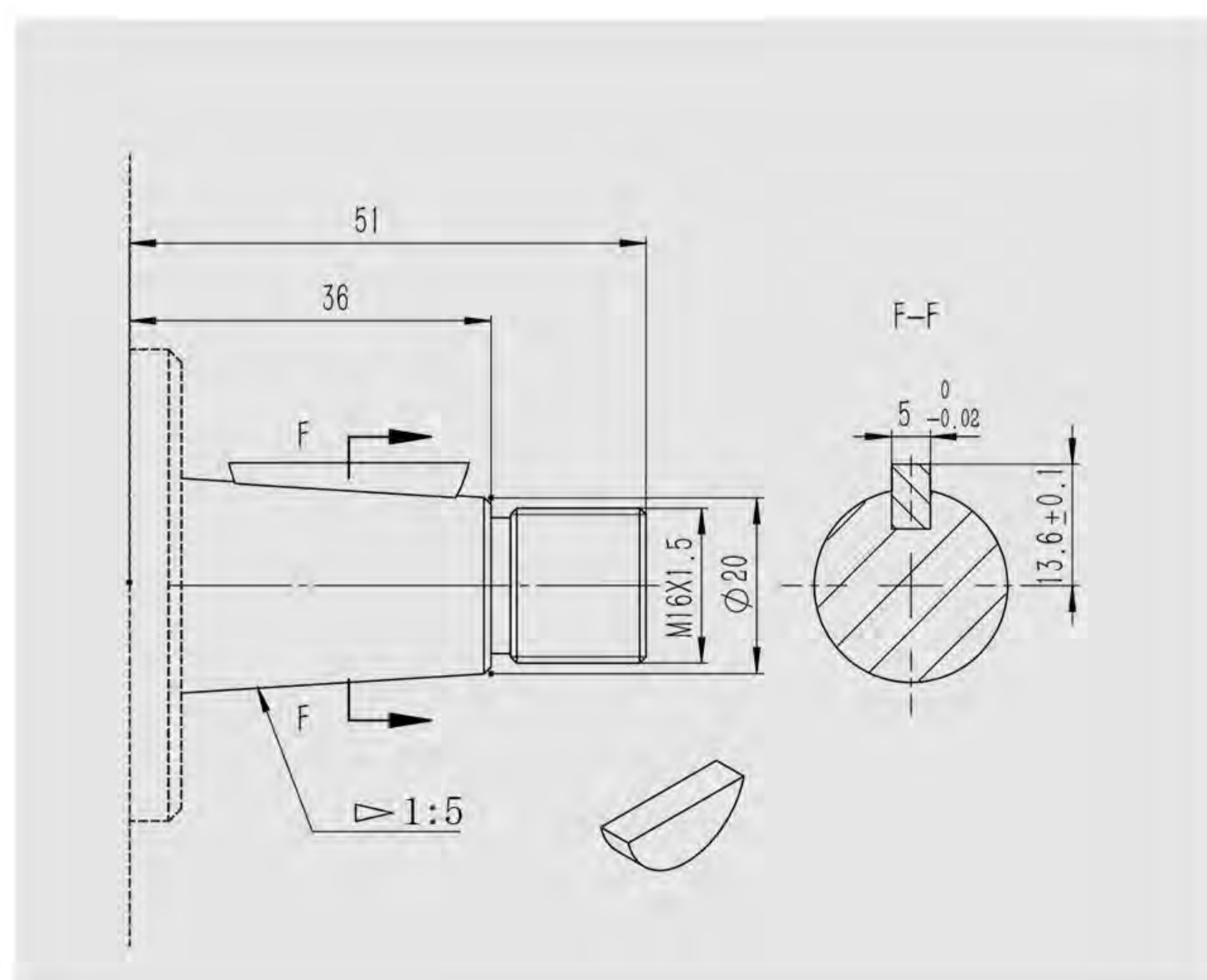
S5:13Teeth



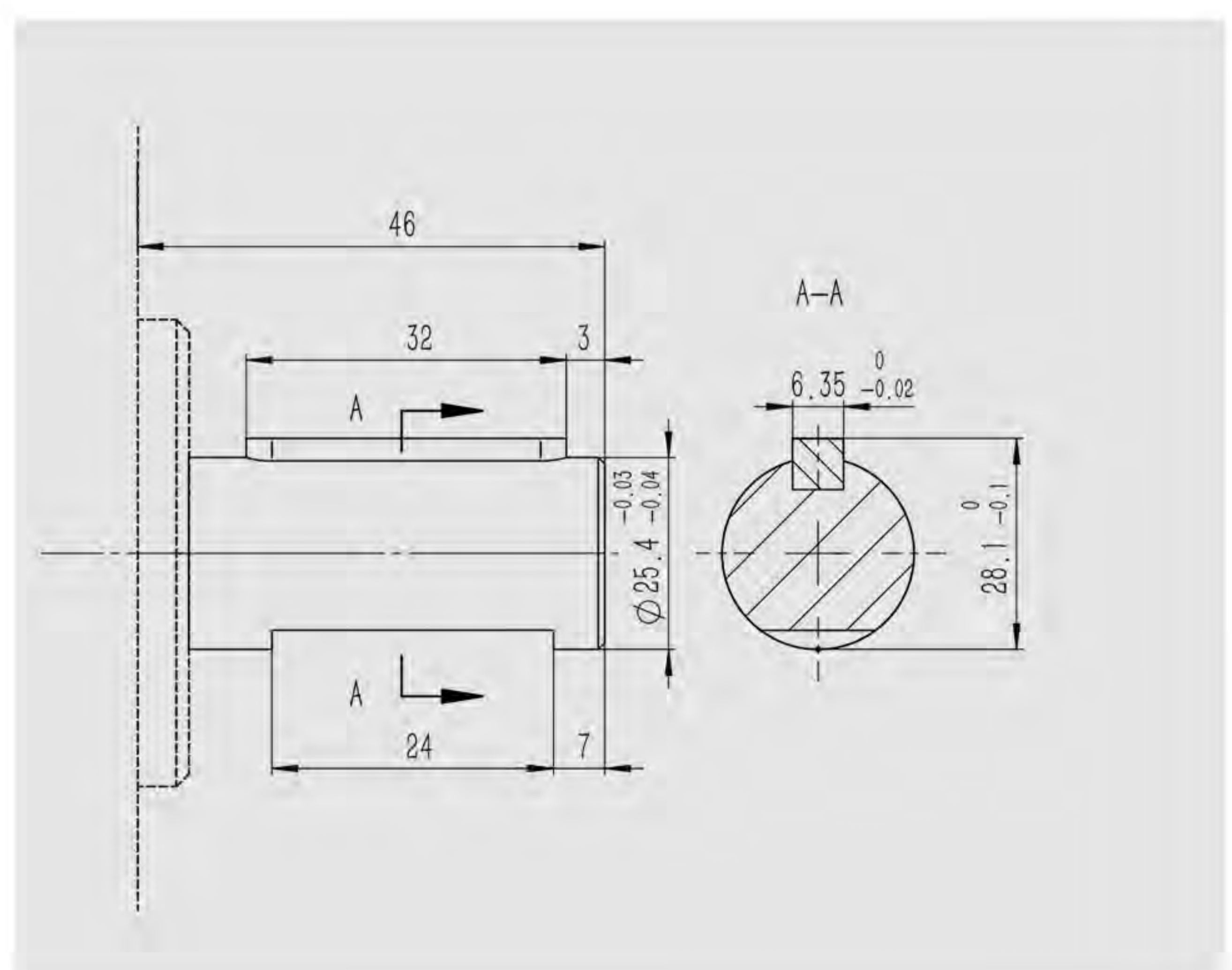
S6:6Teeth



T: 1: 5

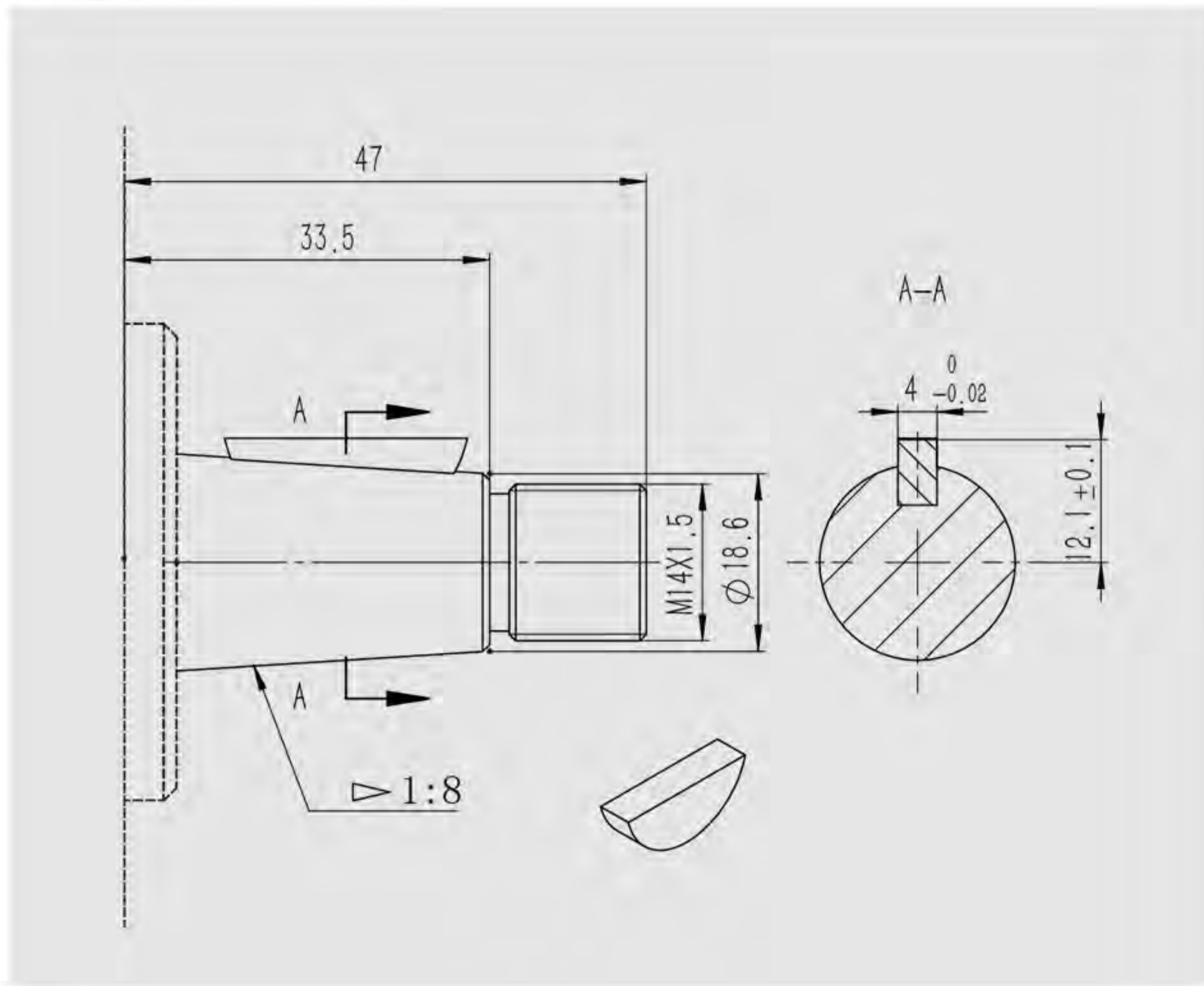


K2 Φ 25.4mm

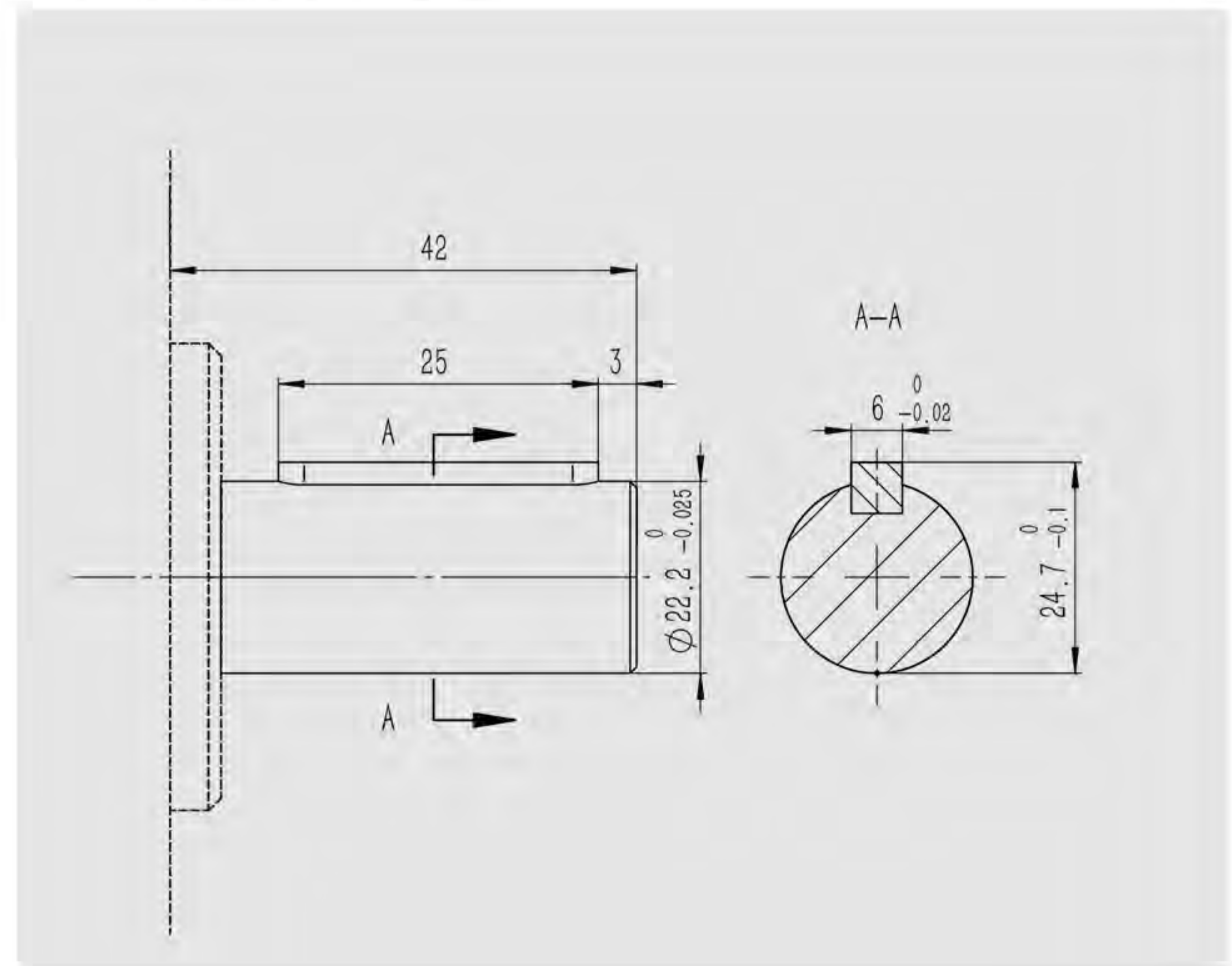


Drive Shaft Type

Omit: Tape 1:8

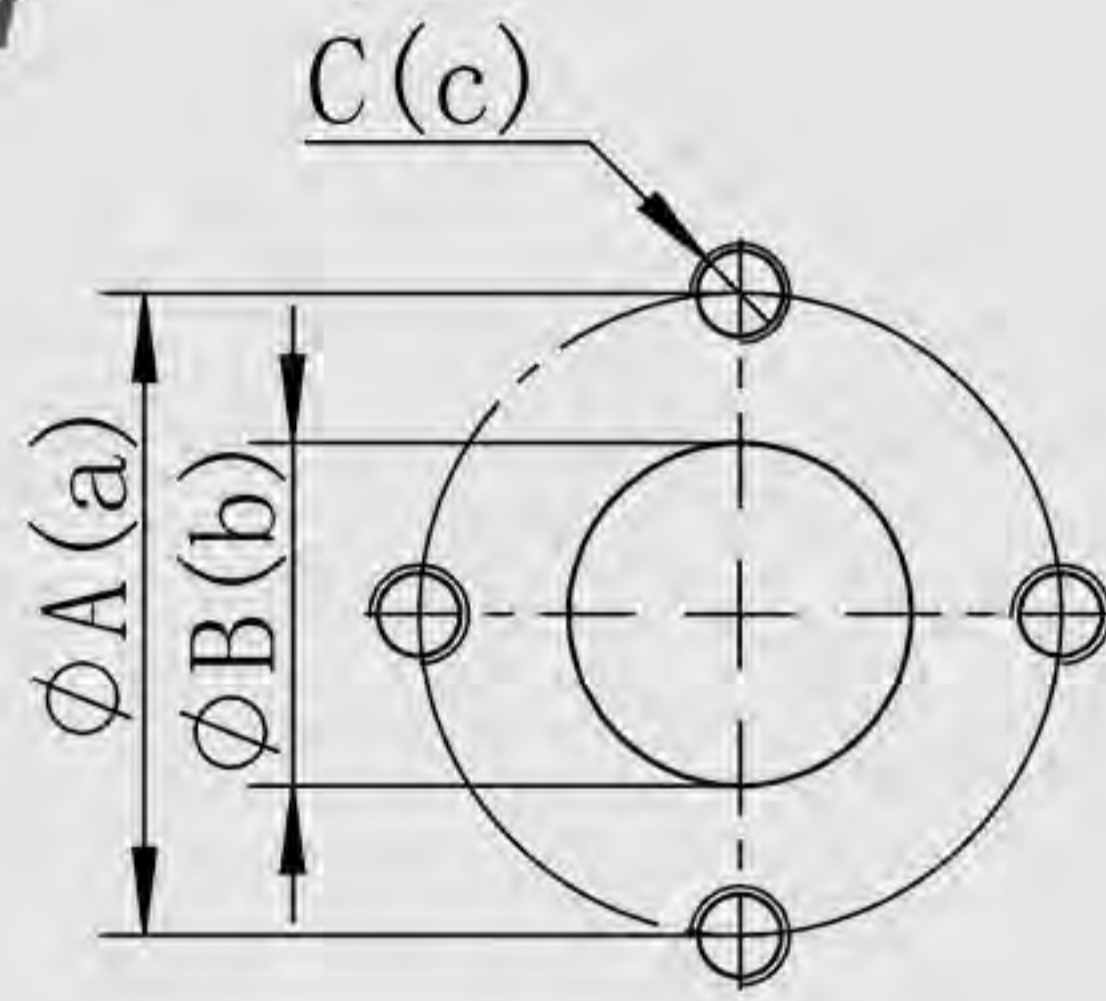


K: $\phi 22.22$ mm



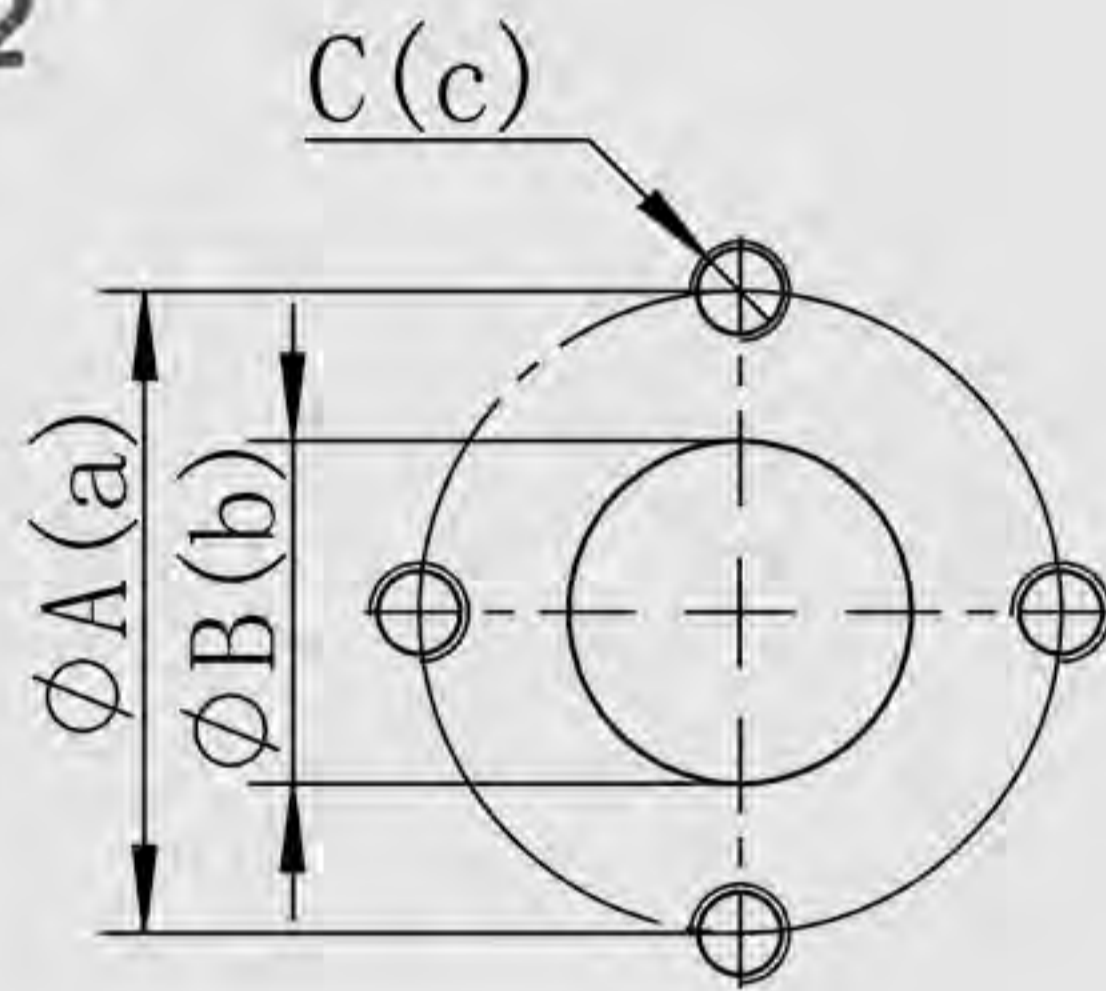
Port Size

Code: 01



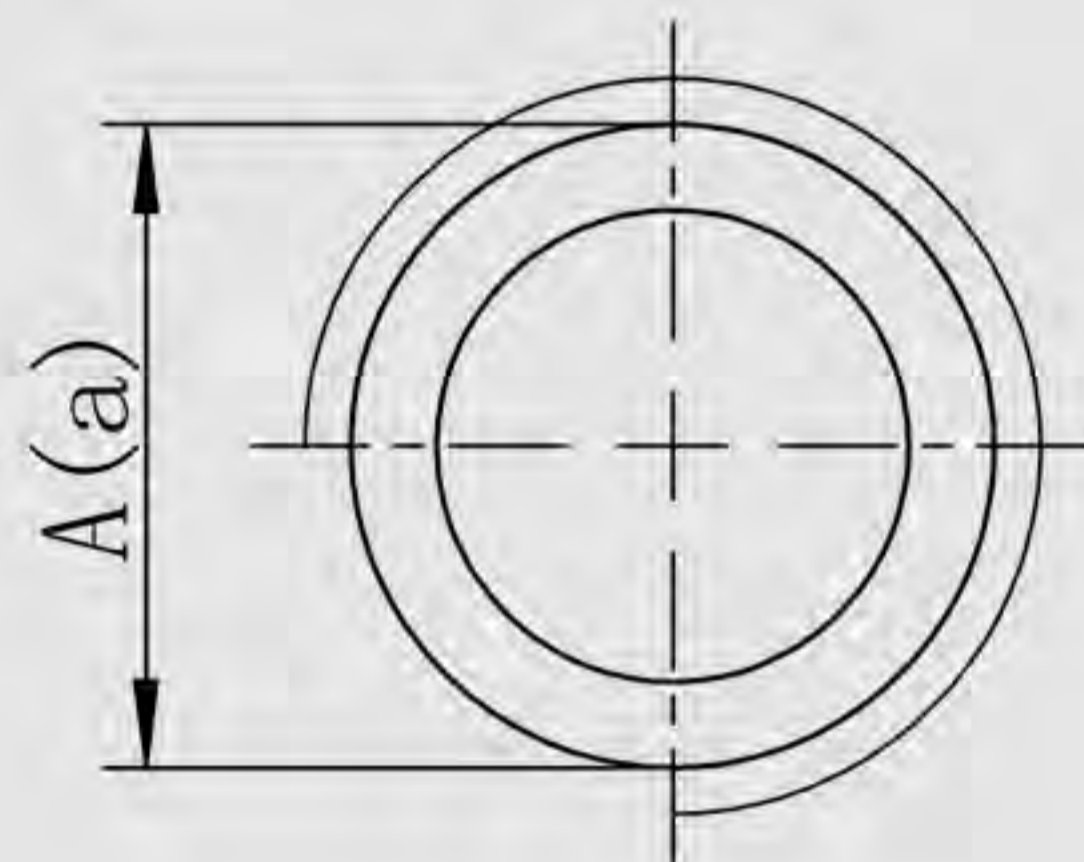
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM3*016~020	51	24	M10	51	19	M10
GPM3*025~040	56	27	M10	56	19	M10
GPM3*046~055	56	27	M10	56	27	M10
GPM3*063~080	62	33	M10	51	27	M10

Code: 02



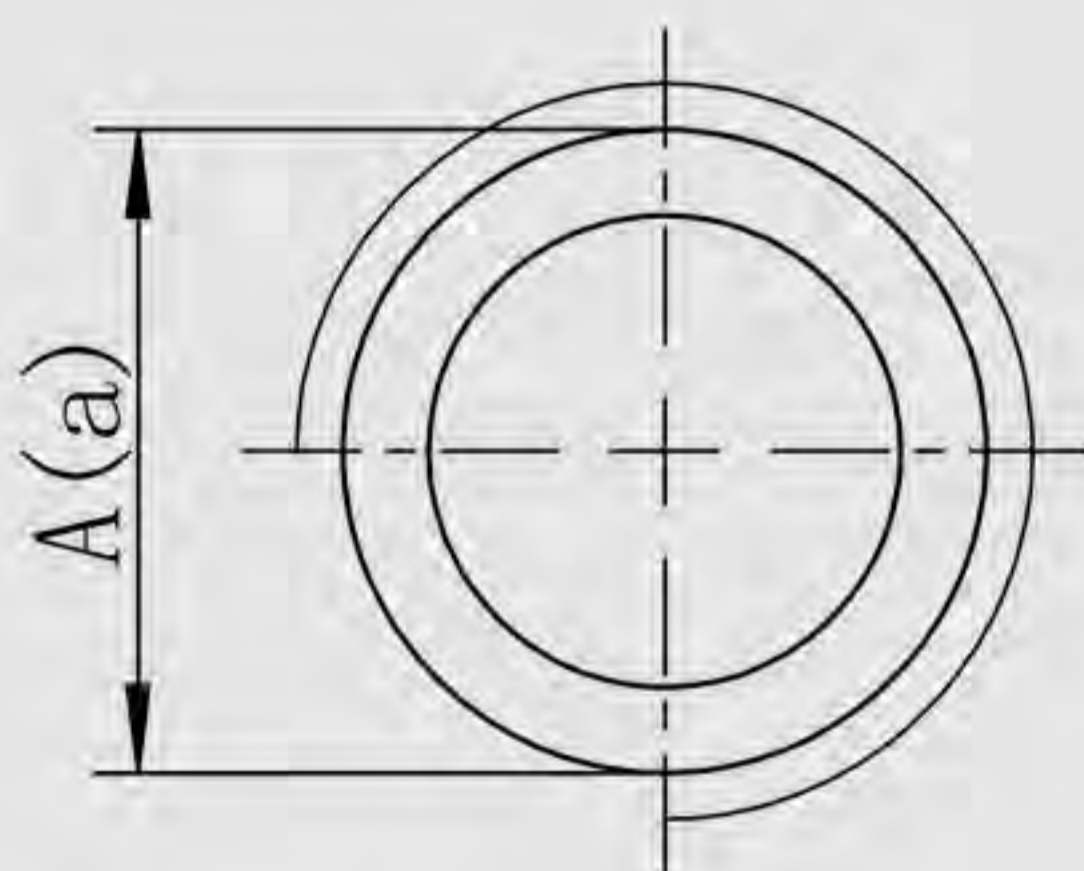
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM3*016~025	40	19	M8	40	19	M8
GPM3*028~052	51	27	M10	40	19	M8

Code: 03



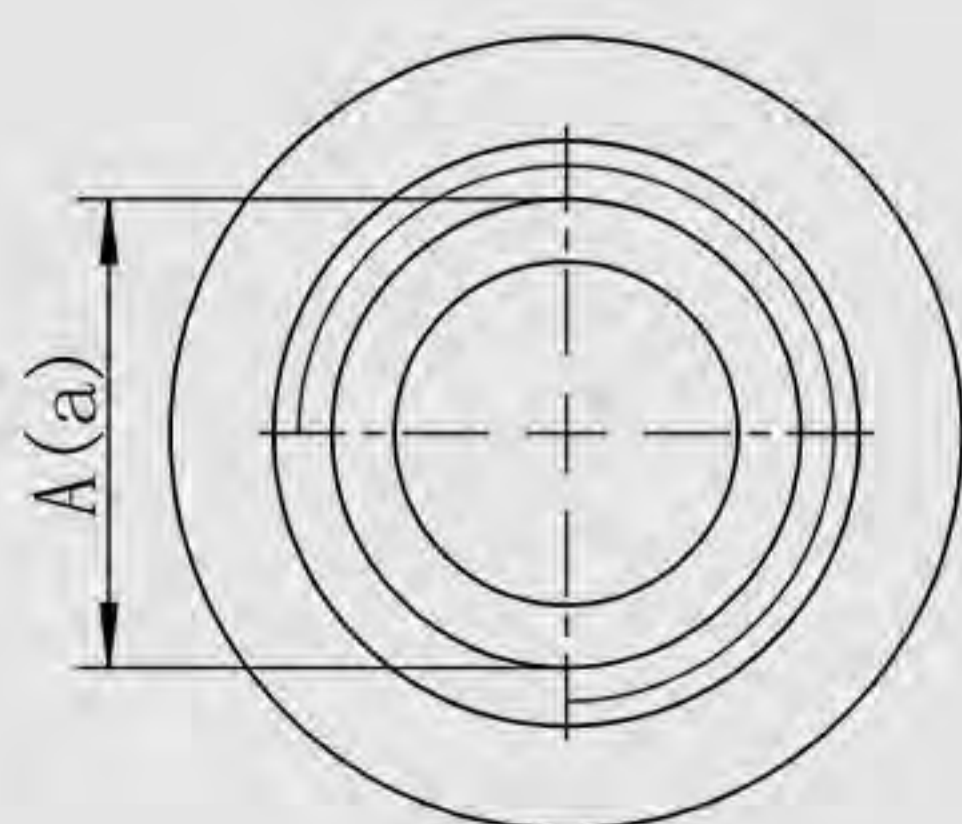
Type	Inlet	Outlet
	A	a
GPM3*016~025	G3/4	G3/4
GPM3*028~040	G1	G3/4
GPM3*046~055	G 1 1/4	G1
GPM3*063~080	G1 1/2	G 1 1/4

Code: 04



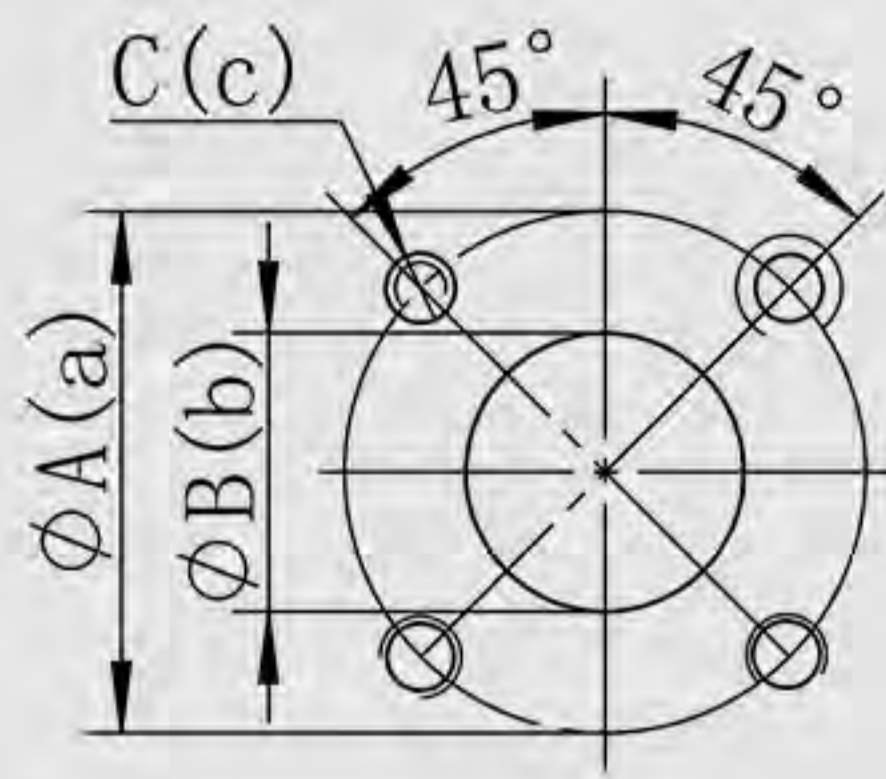
Type	Inlet	Outlet
	A	a
GPM3*016~025	Rc3/4	Rc3/4
GPM3*028~040	Rc1	Rc3/4
GPM3*046~055	Rc1 1/4	Rc1
GPM3*063~080	Rc1 1/2	Rc1 1/4

Code: 05



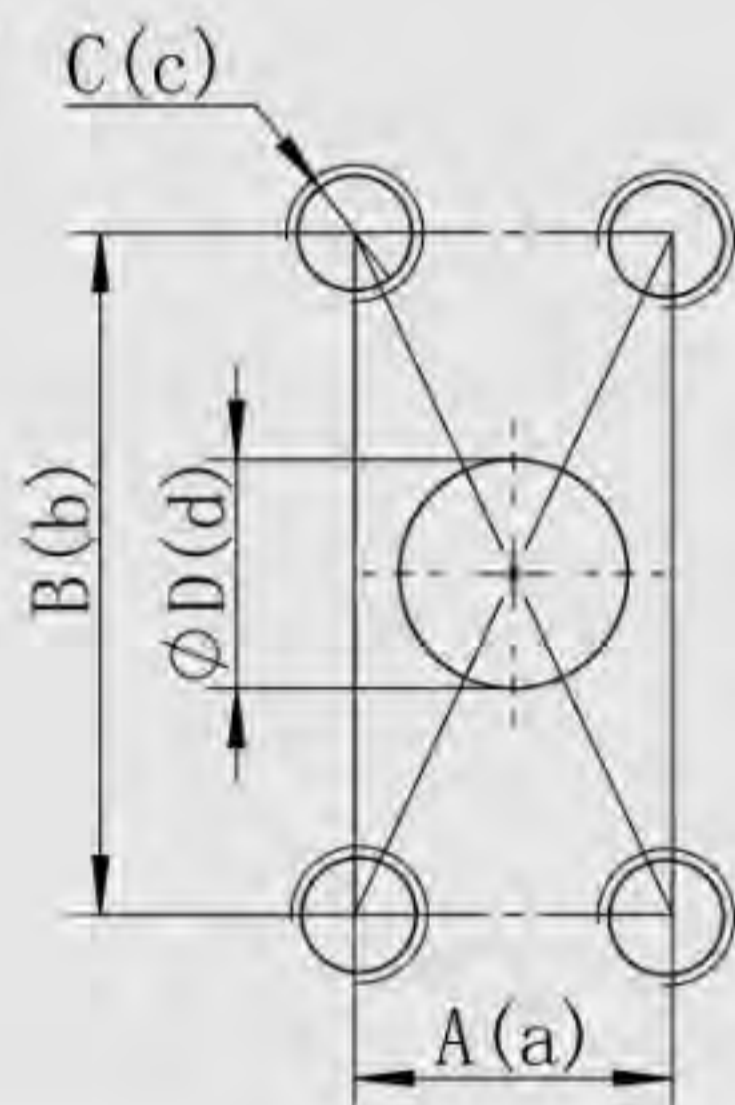
Type	Inlet	Outlet
	A	a
GPM3*016~040	1 5/16-12UNF	1 1/16-12UNF
GPM3*046~055	1 5/8-12UNF	1 5/16-12UNF
GPM3*063~080	1 7/8-12UNF	1 5/16-12UNF

Code: 06



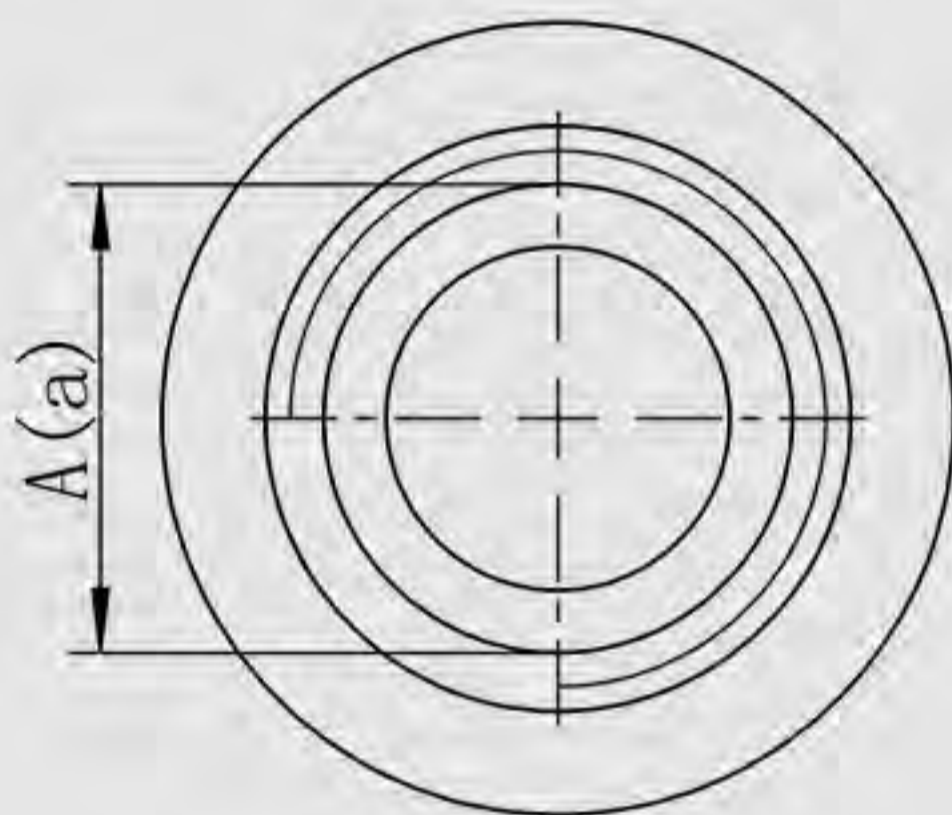
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM3*016~052	55	27	M8	55	19	M8

Code: 07



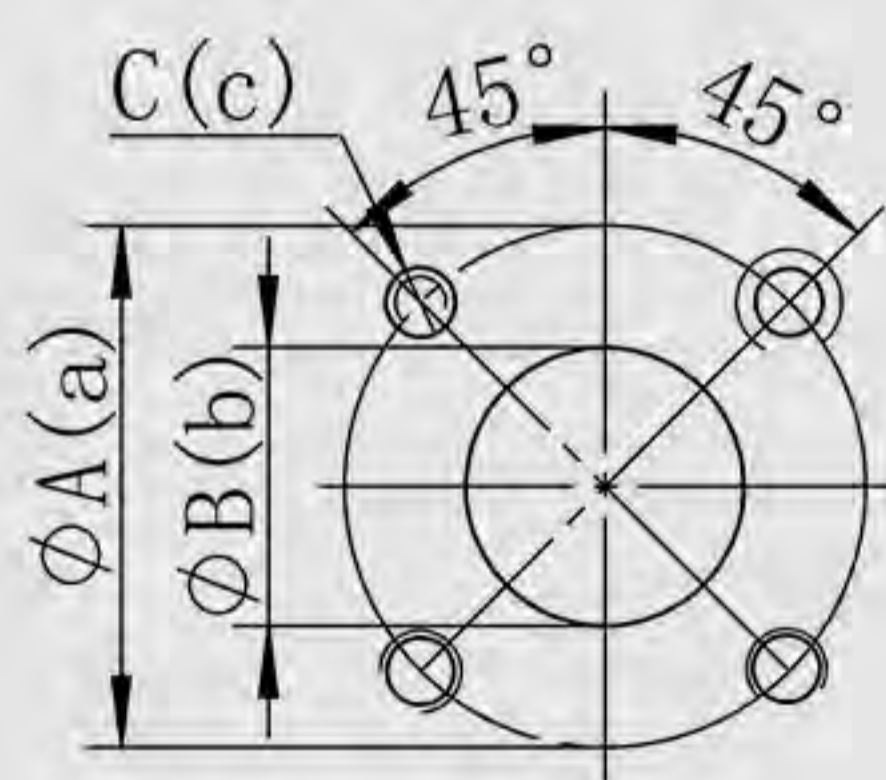
Type	Inlet				Outlet			
	A	B	C	D	a	b	c	d
GPM3*016~020	26.2	52.4	3/8-16UNC	24	22.2	47.6	3/8-16UNC	21
GPM3*025~055	26.2	52.4	3/8-16UNC	27	22.2	47.6	3/8-16UNC	21
GPM3*063~080	30.2	58.7	7/16-14UNC	33	26.2	52.4	3/8-16UNC	27

Code: 08



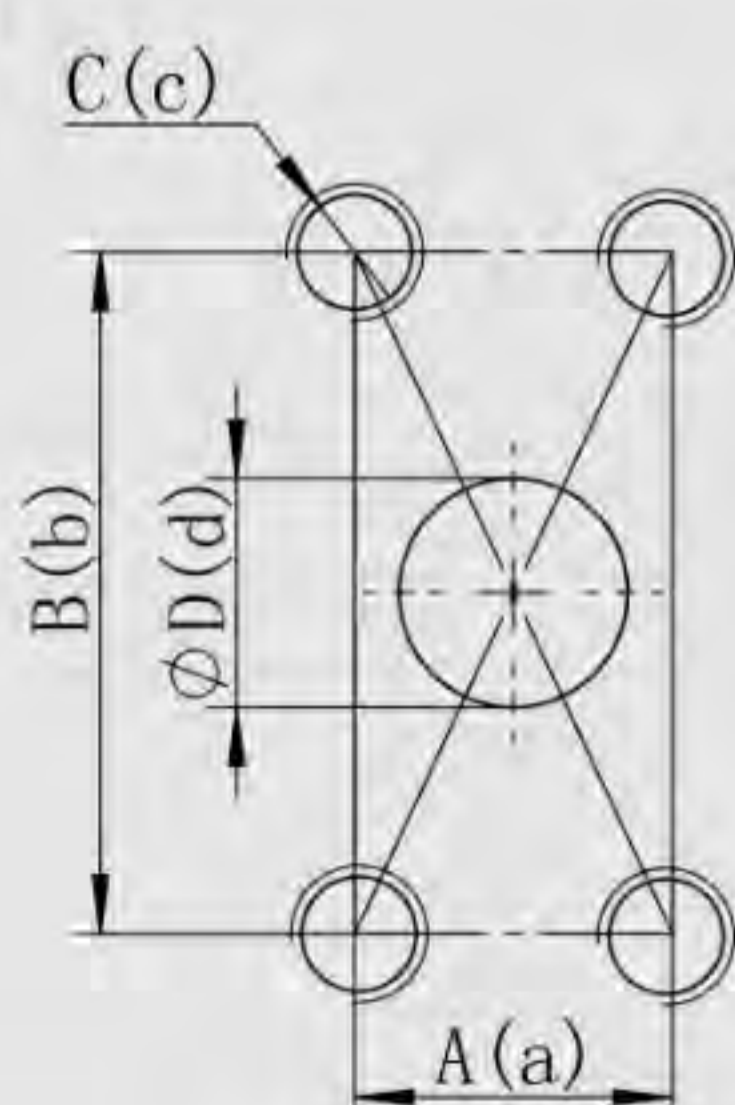
Type	Inlet	Outlet
	A	a
GPM3*016-025	3/4NPT	3/4NPT
GPM3*028-040	1NPT	3/4NPT
GPM3*046-055	1 1/4NPT	1NPT
GPM3*063-080	1 1/2NPT	1 1/4NPT

Code: 09



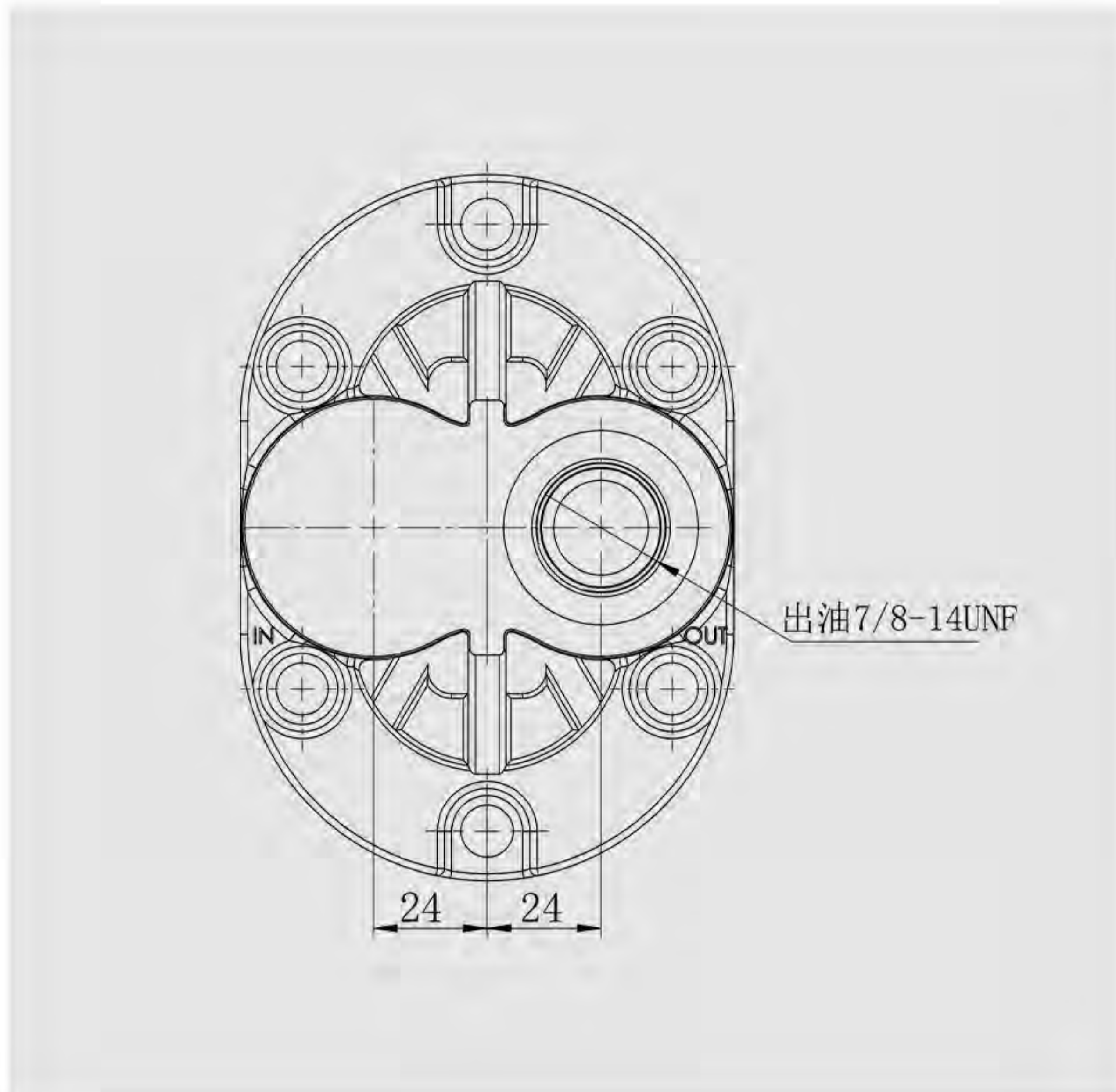
Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM3*016~080	46	22	M8	46	22	M8

Code: 10

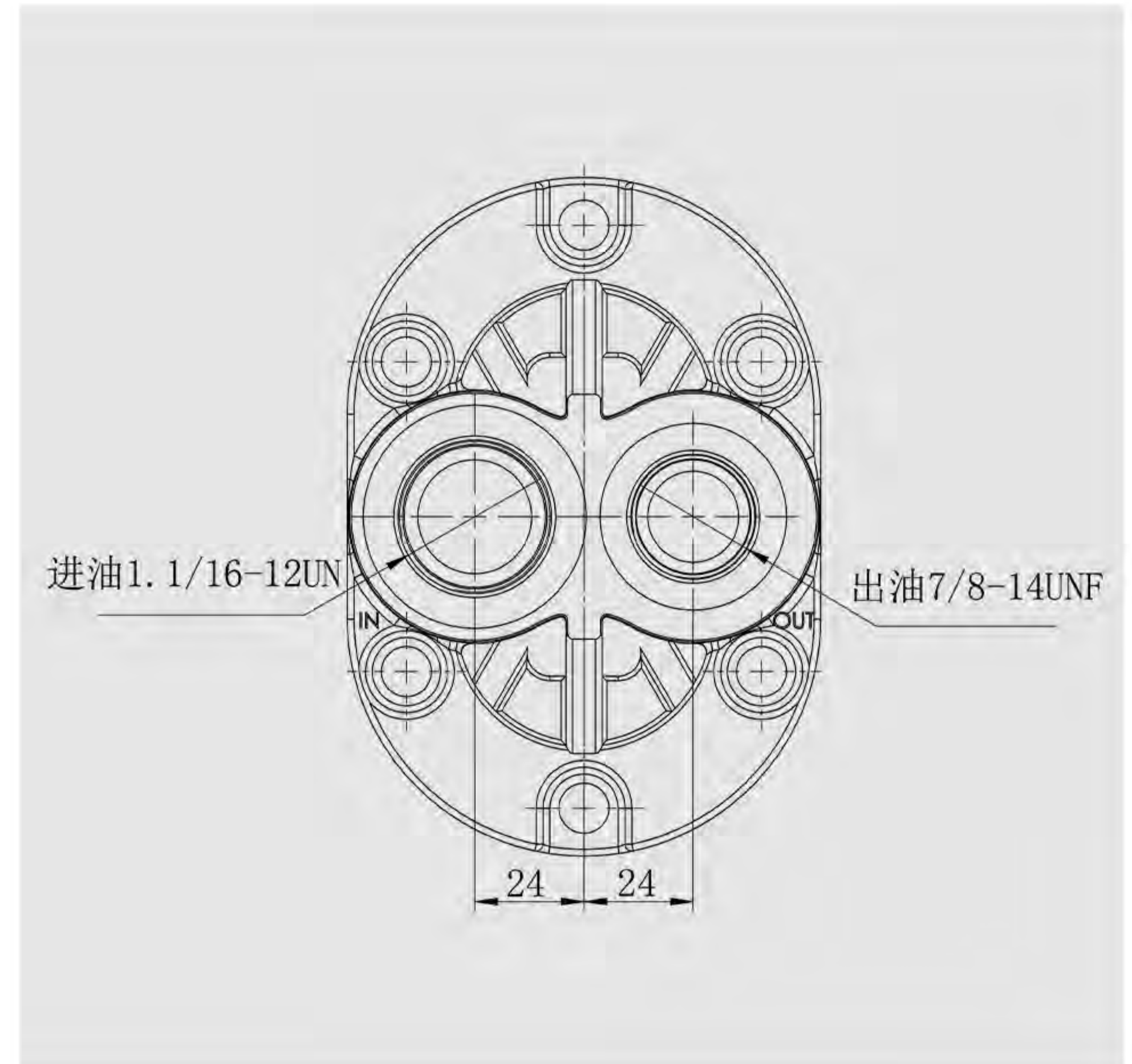


Type	Inlet			Outlet		
	A	B	C	a	b	c
GPM3*016~080	51	27	M10	40	19	M8

Type: P (rear cover with outlet)



Type: R (rear cover with inlet and outlet)

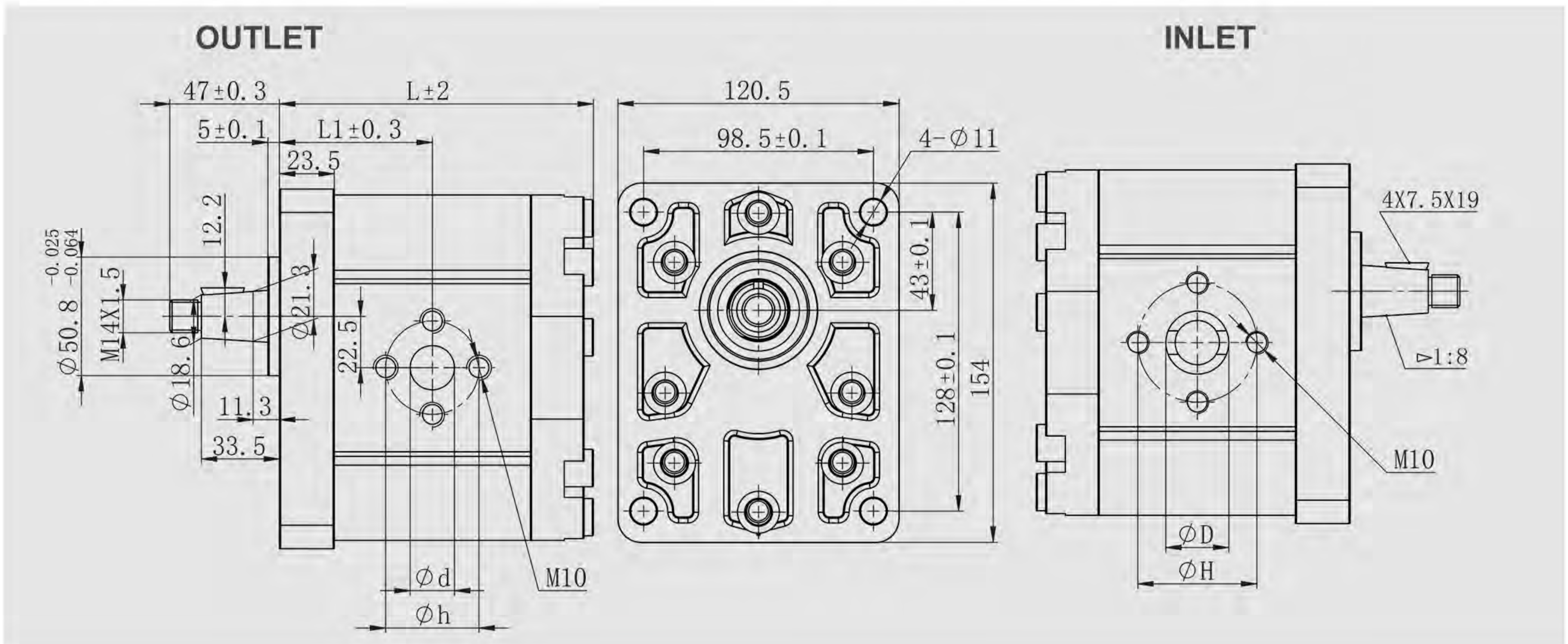


M10 thread depth 18mm.

To mount the pump, n.8 M10 screws,

With a torque wrench setting fixed at $47 \pm 3 \text{Nm}$.

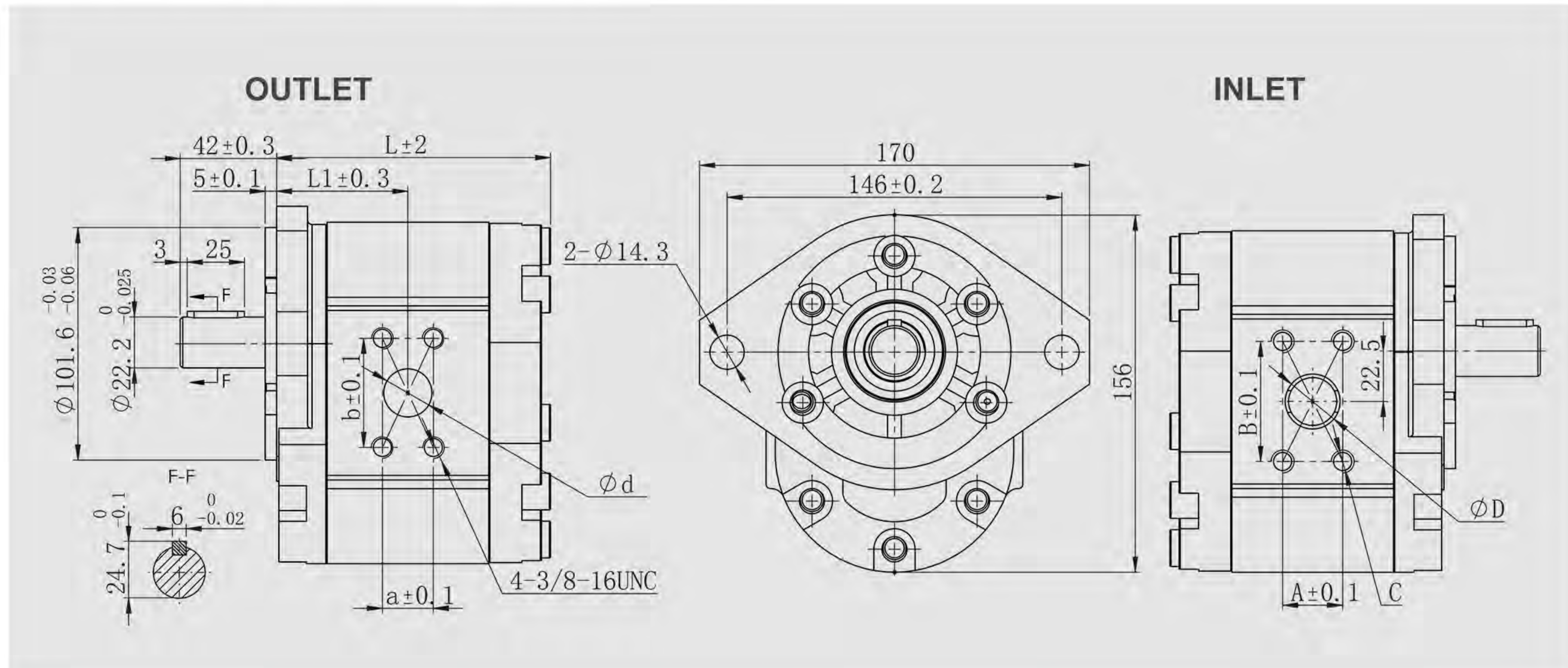
Shaft M14X1.5 nuts, with a torque wrench setting fixed at 80Nm.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm					
			Rated	Peak	Rated	Max	Min	L1	L	d	D	h	H
GPM3FC016B01	16	24	200	270	2000	3500	600	57.5	116.5	19	24	51	51
GPM3FC020B01	20	30	200	270	2000	3500	600	58.8	119	19	24	51	51
GPM3FC025B01	25	37.5	200	270	2000	3000	600	60.5	122.5	19	27	56	56
GPM3FC028B01	28	42	200	270	2000	3000	600	62	125.5	19	27	56	56
GPM3FC032B01	32	48	200	260	2000	3000	600	63	127.5	19	27	56	56
GPM3FC040B01	40	60	160	250	2000	2800	600	66.5	134.5	19	27	56	56
GPM3FC046B01	46	69	160	230	2000	2800	600	68.8	139	27	27	56	56
GPM3FC050B01	50	75	160	210	1500	2800	600	70	141.5	27	33	56	56
GPM3FC052B01	52	78	150	200	1500	2500	600	71	143.5	27	33	56	56
GPM3FC055B01	55	82.5	140	200	1500	2300	600	72	145.5	27	33	56	56
GPM3FC063B01	63	94.5	140	180	1500	2300	600	74	149.5	27	33	51	62
GPM3FC066B01	66	99	140	180	1500	2000	600	76.3	154	27	33	51	62
GPM3FC080B01	80	120	140	160	1500	2000	600	81.5	164.5	27	33	51	62

GPM3 Gear Pumps

M10 thread depth 18mm.
 To mount the pump, n.8 M10 screws,
 With a torque wrench setting fixed at $47 \pm 3 \text{Nm}$.



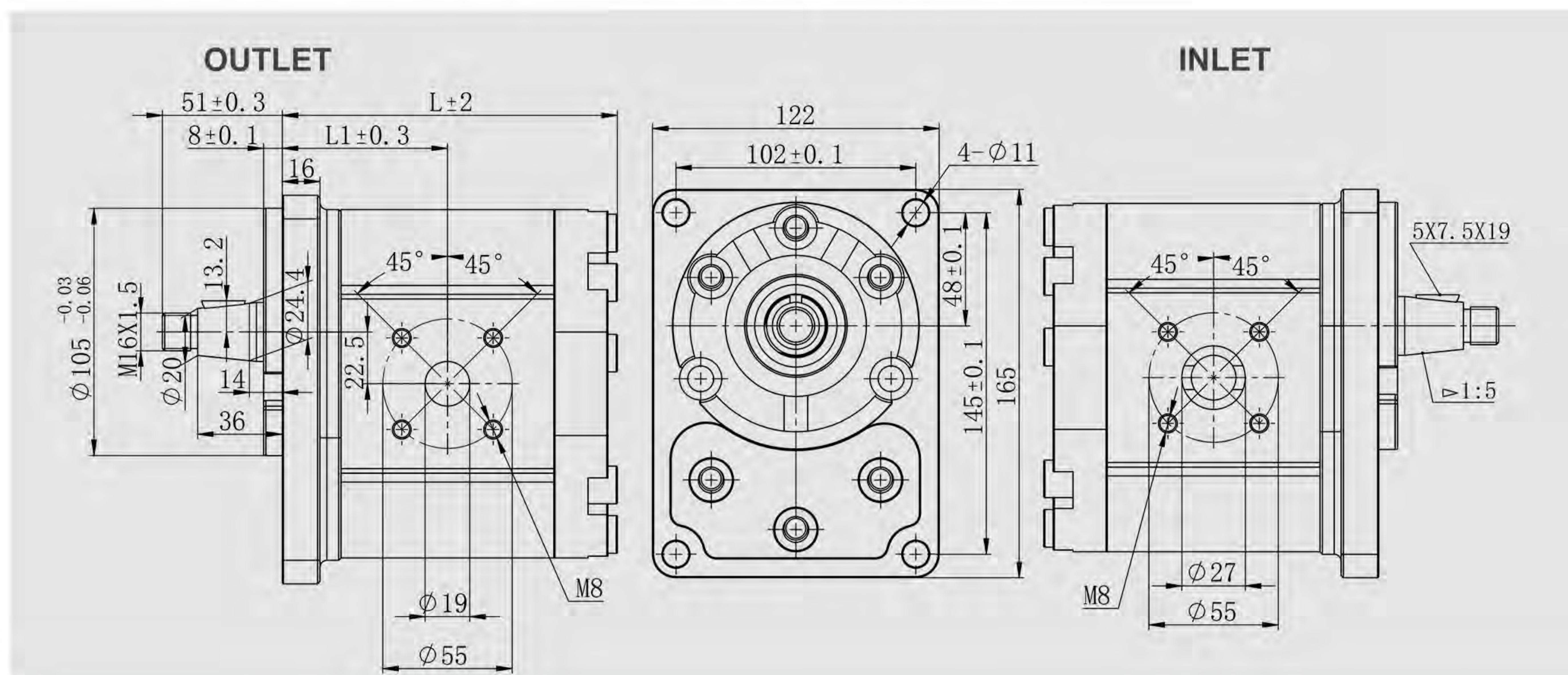
Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm								
			Rated	Peak	Rated	Max	Min	L1	L	A	B	C	D	a	b	d
GPM3FC016GK07	16	24	200	270	2000	3500	600	59	118	26.2	52.4	3/8-16UNC	24	22.2	47.6	21
GPM3FC020GK07	20	30	200	270	2000	3500	600	60.3	120.5	26.2	52.4	3/8-16UNC	24	22.2	47.6	21
GPM3FC025GK07	25	37.5	200	270	2000	3000	600	62	124	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC028GK07	28	42	200	270	2000	3000	600	63.5	127	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC032GK07	32	48	200	260	2000	3000	600	64.5	129	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC040GK07	40	60	160	250	2000	2800	600	68	136	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC046GK07	46	69	160	230	2000	2800	600	70.3	140.5	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC050GK07	50	75	160	210	1500	2800	600	71.5	143	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC052GK07	52	78	150	200	1500	2500	600	72.5	145	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC055GK07	55	82.5	140	200	1500	2300	600	73.5	147	26.2	52.4	3/8-16UNC	27	22.2	47.6	21
GPM3FC063GK07	63	94.5	140	180	1500	2300	600	75.5	151	26.2	52.4	7/16-14UNC	33	26.2	52.4	27
GPM3FC066GK07	66	99	140	180	1500	2000	600	77.8	155.5	30.2	58.7	7/16-14UNC	33	26.2	52.4	27
GPM3FC080GK07	80	120	140	160	1500	2000	600	83	166	30.2	58.7	7/16-14UNC	33	26.2	52.4	27

M10 thread depth 18mm.

To mount the pump, n.8 M10 screws,

With a torque wrench setting fixed at $47 \pm 3 \text{Nm}$.

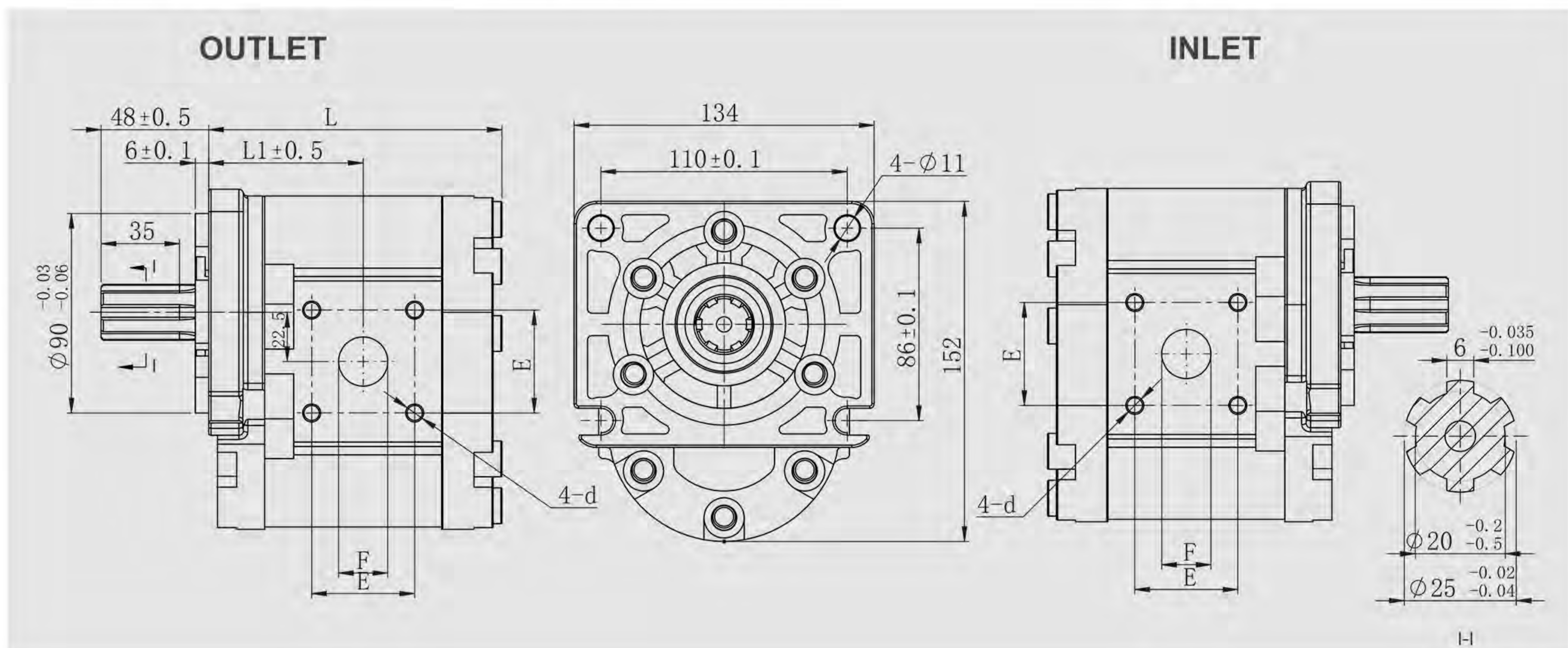
Shaft M16X1.5 nuts, with a torque wrench setting fixed at 80Nm.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm	
			Rated	Peak	Rated	Max	Min	L1	L
GPM3FC016ST06	16	24	200	270	2000	3500	600	59	118
GPM3FC020ST06	20	30	200	270	2000	3500	600	60.3	120.5
GPM3FC025ST06	25	37.5	200	270	2000	3000	600	62	124
GPM3FC028ST06	28	42	200	270	2000	3000	600	63.5	127
GPM3FC032ST06	32	48	200	260	2000	3000	600	64.5	129
GPM3FC040ST06	40	60	160	250	2000	2800	600	68	136
GPM3FC046ST06	46	69	160	230	2000	2800	600	70.3	140.5
GPM3FC050ST06	50	75	160	210	1500	2800	600	71.5	143
GPM3FC052ST06	52	78	150	200	1500	2500	600	72.5	145

GPM3 Gear Pumps

M10 thread depth 18mm.
 To mount the pump, n.8 M10 screws,
 With a torque wrench setting fixed at $47 \pm 3 \text{Nm}$.



Model	Displacement cm ³ /rev	Flow At 1500rpm	Pressure		Speed r/min			Dimensions mm				
			Rated	Peak	Rated	Max	Min	L1	L	E	F	d
GPM3FC020RS609	20	30	200	270	2000	3500	600	65	122.5	46	20	M8
GPM3FC020RS609	25	37.5	200	270	2000	3500	600	68	126	46	20	M8
GPM3FC020RS609	28	42	200	270	2000	3000	600	70	129	46	20	M8
GPM3FC020RS609	32	48	200	260	2000	3000	600	70	131	46	22	M8
GPM3FC020RS609	40	60	160	250	2000	2800	600	75	138	46	22	M8
GPM3FC020RS609	46	69	160	230	2000	2800	600	77	142.5	54	27	M10
GPM3FC020RS609	50	75	160	210	1500	2800	600	77	145	54	27	M10
GPM3FC020RS609	52	78	150	200	1500	2500	600	77	147	54	27	M10
GPM3FC020RS609	55	82.5	140	200	1500	2300	600	77	149	54	27	M10
GPM3FC020RS609	63	94.5	140	180	1500	2300	600	77	153	54	27	M10
GPM3FC020RS609	66	99	140	180	1500	2000	600	77	157.5	54	27	M10
GPM3FC020RS609	80	120	140	160	1500	2000	600	83	168	54	27	M10

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