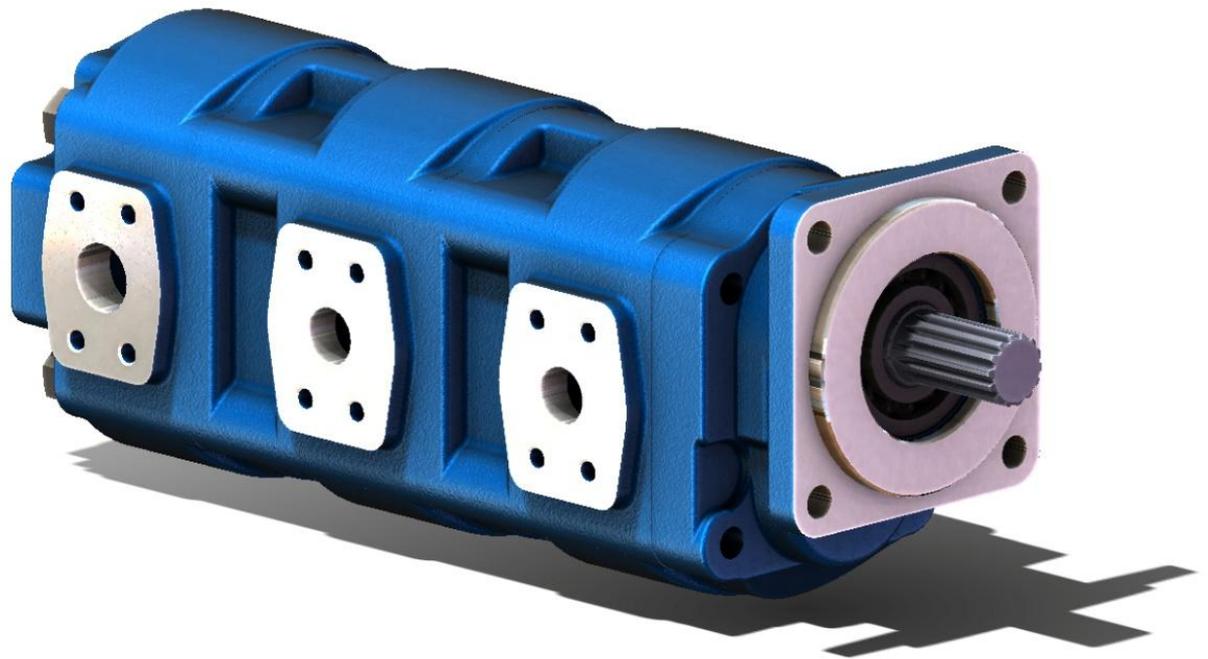


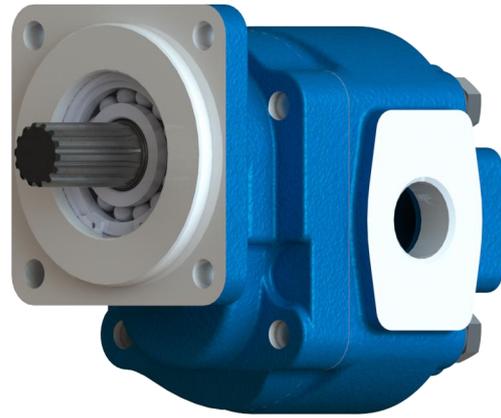
OEM
HYDRAULICS



**HIGH PRESSURE CAST IRON GEAR PUMP
SERIES GP60**

PRODUCT FEATURES

产品优势



- Heavy duty special DU bearing with long working life
使用喷涂特殊专利涂层的 DU 轴承可在重负载下具有长久的工作寿命
- Max working pressure up to 4567PSI/315bar
最高工作压力可达4567磅力/平方英寸（35 兆帕）
- Displacement from 25 to 135cc/rev
可选排量范围从每转 25 毫升直到每转 135 毫升
- High strength cast iron body with special designed structure
采用自主研发专利设计的内部结构，并采用高强度的蠕墨铸铁材质壳体
- High precision carburizing&quenching gears with extra hardness
高精度齿轮，特殊材质经过渗碳淬火达到超高硬度
- Copper pressure balanced wear plates maintain high pump efficiency throughout all operating ranges
铜质双金属压力平衡补偿板可在工作寿命内持续保证高容积效率
- 100% factory tested
产品出厂前 100%进行性能检测和跑合试验
- Customized mounting size and oil ports
安装尺寸和进出油口可根据客户需要定制生产

TECHNICAL SPECIFICATIONS

技术参数

Model 型号	Displacement 排量	Flow rate 流量 @1500RPM	Pressure 压力			Rotate Speed 转速		Input power @250bar &1500rpm 25MPa/1500 转 时的输入功率
			P1	P2	P3	Max 最高	Min 最低	
	cm ³ /rev	l/min	bar			rpm		kW
GP60.20	20	30	200	230	250	3000	350	11
GP60.25	25	37.5	200	230	250	3000	350	14
GP60.32	32	48	250	270	290	3000	350	17
GP60.40	40	60	250	270	290	3000	350	22
GP60.45	45	67.5	250	270	290	3000	350	25
GP60.50	50	75	280	315	350	3000	350	28
GP60.63	63	94.5	280	315	350	3000	350	35
GP60.70	70	105	280	315	350	3000	350	40
GP60.80	80	120	280	315	350	3000	350	45
GP60.90	90	135	280	315	350	3000	350	50
GP60.100	100	150	280	315	350	3000	350	56
GP60.112	112	168	280	315	350	3000	350	63
GP60.125	125	185	280	315	350	3000	350	70
GP60.135	135	200	250	270	290	3000	350	75

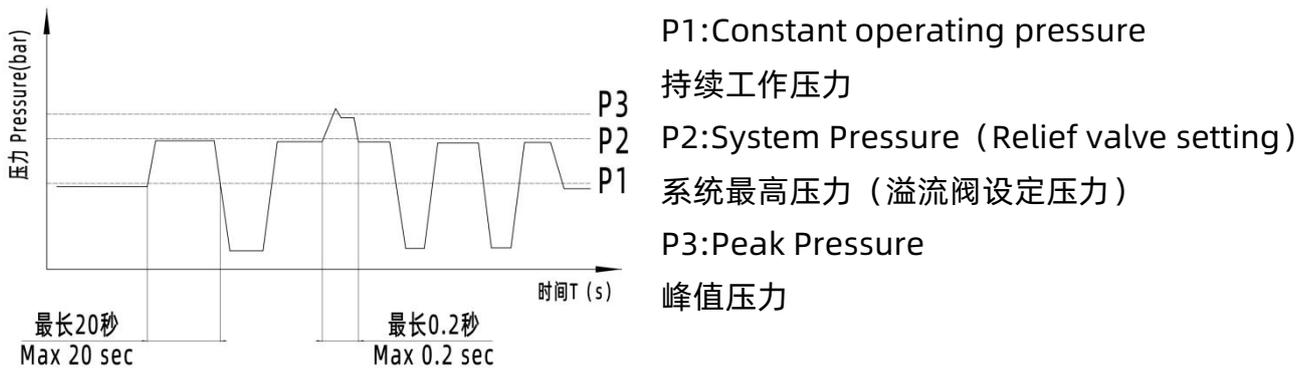
GP60 系列



For special displacement requirement,
please consult our pre-sales department.
如有其他特殊排量需求，请咨询我公司售前部门。

DEFINATION OF PRESSURES

关于压力的定义



The peak of pressure is the max pressure allowed and it corresponds to the overshoot^① of the relief valve.

Please note that both relief valve setting and overshoot must be lower than their limits.

If the relief setting is compliant but the overshoot is higher than the limit, the relief setting must be decreased until the overshoot is compliant to limit. For high frequency applications please consult our pre-sales department.

峰值压力是系统允许的最大压力，它对应的是溢流阀过载压力^①。

请注意，溢流阀设定压力和过载压力都必须低于泵的压力极限。

如果溢流的设定压力符合要求，但是超载压力高于泵的压力极限，那么必须降低溢流阀的压力设置，直到超载压力符合 Avenir 的标准限定。

对于工作频率比较高的应用场景，请咨询我们的售前部门。

① Overshoot: The actual pressure reading when a relief valve first opens to bypass fluid. (It can be up to twice the actual pressure setting.)

过载压力：当溢流阀刚开始开启时的瞬时压力（此压力有可能会比实际的设定压力高一倍以上）

FORMULAS USED FOR CALCULATION

液压系统计算公式

$$Q = \frac{V \cdot \eta_v \cdot n / 1000}{V \cdot \eta_v \cdot n / 231} \quad \begin{matrix} [\text{l/min}] \\ [\text{Gal/min}] \end{matrix}$$

$$M = \frac{\frac{\Delta p \cdot V}{62.83 \cdot \eta_m}}{\frac{\Delta p \cdot V}{2 \cdot 3.14 \cdot \eta_m}} \quad \begin{matrix} [\text{Nm}] \\ [\text{lfb.in}] \end{matrix}$$

$$P = \frac{\frac{\Delta p \cdot V \cdot n}{600 \cdot 1000 \cdot \eta_t}}{\frac{\Delta p \cdot V \cdot n}{395934 \cdot \eta_t}} \quad \begin{matrix} [\text{kW}] \\ [\text{HP}] \end{matrix}$$

$$\eta_v = \frac{Q_{\text{act.}}}{Q_{\text{theor.}}}$$

$Q_{\text{act.}}$: Actual flow rate 实际流量
 $Q_{\text{theor.}}$: theoretical flow rate 理论流量

It determines the amount of flow losses. Its value is $\eta_v = 0.92 \sim 0.98$ (depending on rotation speed, oil temperature, viscosity of working liquid and outlet pressure).

容积效率决定了泵的内泄漏量，数值一般取 0.92~0.98 (实际数值取决于转速，油温，油液粘性，工作压力等)

$$\eta_m = \frac{M_{\text{theo}}}{M_{\text{act.}}}$$

M_{theo} : theoretical torque 理论扭矩
 $M_{\text{act.}}$: Actual torque 实际扭矩

It determines mechanical losses. Its value is about $\eta_m = 0.85$

机械效率决定了泵的机械损失，数值一般取 0.85

$$\eta_t = \eta_v \cdot \eta_m = \frac{P_{\text{theo}}}{P_{\text{act.}}}$$

P_{theo} : Theoretical input power 理论输入功率

$P_{\text{act.}}$: Actual input power 实际输入功率

It is defined as product of η_v and η_m and determines difference between theoretical and actual required input power

总效率是容积效率和机械效率的乘积，他决定了理论输入功率和实际需要的输入功率的差别

Conversion factor 单位换算

SI units 国际单位制	US units 美国单位制
1 l/min	0.2641 US Gal/min
1 Nm	8.851 in-lbs
1 Nm	0.7375 ft-lbs
1 N	0.2248 lbs
1 kW	1.34 HP
1 cm ³ /rev	0.061 in ³ /rev
1 bar	14.5 psi
1 mm	0.0394 in
1 kg	2.205 lbs

Variables 参数

Q : FLOW RATE 流量	[l/min] [Gal/min]
M : Torque 扭矩	[Nm] [lfb.in]
P : Power 功率	[kW] [HP]
V : Displacement 排量	[cm ³ /rev] [in ³ /rev]
n: Speed 转速	[min ⁻¹]

η_v : Volumetric efficiency 容积效率

η_m : Mechanical efficiency 机械效率

η_t : Overall efficiency 总效率

WORKING LIQUID

工作介质

- Mineral oils for hydraulic drives
用于液压驱动的矿物油
- Hydraulic liquids based on plant oils suitable for hydraulic drives
用于液压驱动的植物基-液压油

LIQUID TEMPERATURE

工作油温

- $t = -20^{\circ}\text{C} \sim +80^{\circ}\text{C}$ (with NBR seals) (当密封件选用丁腈橡胶材质时)
 $t = 0^{\circ}\text{C} \sim +200^{\circ}\text{C}$ (with FKM seals) (当密封件选用氟橡胶材质时)
 $t = -50^{\circ}\text{C} \sim +120^{\circ}\text{C}$ (with HNBR seals) (当密封件选用氢化丁腈橡胶材质时)

CINEMATIC VISCOSITY

运动粘度

- Recommended (during continuous operation):
推荐粘度 (持续工作工况下) $v = 20\sim 80$ [mm²/s]
- Maximum (cold starting, at viscosity >1000, operating pressure <10 bar is permissible, speed <1500·min⁻¹):
最大可用粘度 (允许在粘>1000, 工作压力<10bar, 转速<1500r/min 时冷启动) $v = 1200$ [mm²/s]
- Minimum (operating mode at 10 up 20 should be consulted with manufacturer):
最小可用粘度 (如果在 10~20 的粘度下工作, 请咨询我公司技术部门) $v = 10$ [mm²/s]

Filtration coefficient β_{α}

过滤系数

- $\beta_{25} 75 \geq$ (for pressure $p_2 < 200$ bar)
 $\beta_{25} 75 \geq$ (当 p_2 压力 < 200 bar 时)
- $\beta_{10} 75 \geq$ (for pressure $p_2 > 200$ bar)
 $\beta_{10} 75 \geq$ (当 p_2 压力 > 200 bar 时)

Liquid contamination class according to ISO 4406

ISO4406 油液污染度等级

- 21/18/15 (for pressure $p_2 < 200$ bar)
21/18/15 (当 p_2 压力 < 200 bar 时)
- 20/17/14 (for pressure $p_2 > 200$ bar)
20/17/14 (当 p_2 压力 > 200 bar 时)

Liquid contamination class according to NAS 1638

NAS1638 油液污染度等级

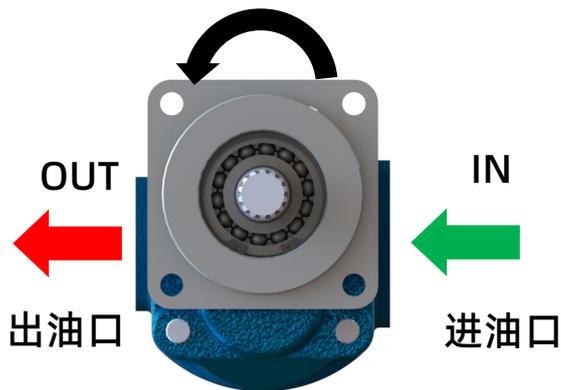
- LEVEL 10 (for pressure $p_2 < 200$ bar)
10 级 (当 p_2 压力 < 200 bar 时)
- LEVEL 8 (for pressure $p_2 > 200$ bar)
8 级 (当 p_2 压力 > 200 bar 时)

DIRECTION OF ROTATION

旋向

Determine direction of rotation by looking at the drive shaft.
The pump can only be used in the specified direction of rotation.
从轴端方向的视角来判断泵的旋向。泵只能在其相应旋向下工作

COUNTER-CLOCKWISE 逆时针旋转

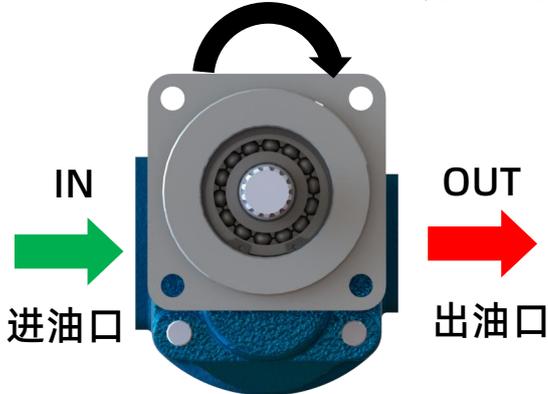


LEFT ROTATION

左旋

GP60 系列

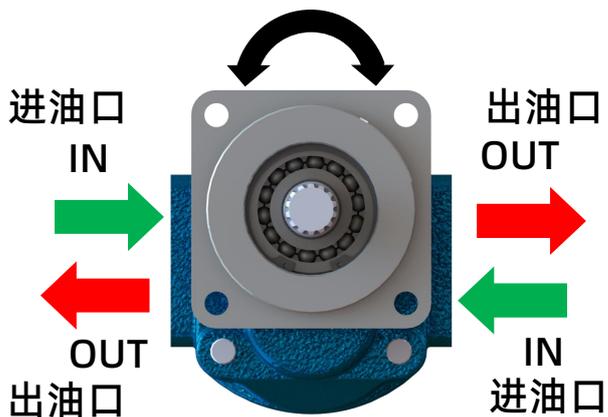
CLOCKWISE 顺时针旋转



RIGHT ROTATION

右旋

DUAL-ROTATION 双向旋转



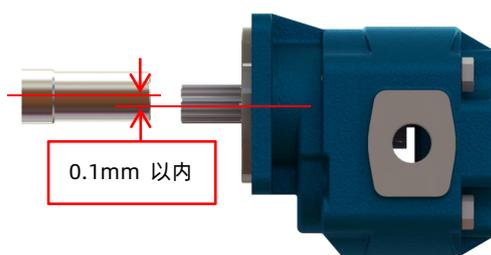
BI-DIRECTION

双向

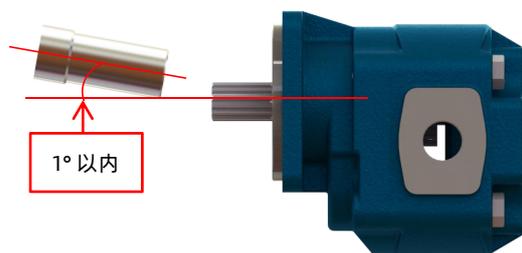
INSTALLATION PRECAUTIONS

安装注意事项

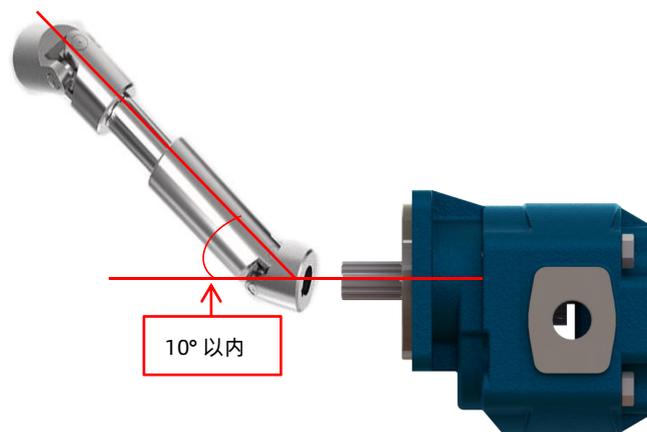
- Please use flexible coupling connection between engine shaft and pump shaft
电机与驱动轴的连接部分请使用柔性联轴器
- The coupling may cause noise, please choose the coupling with elastic material like rubber
联轴器有时会成为噪音源，建议使用橡胶等弹性材料组成的联轴器
- Axial force and radial force is not allow towards the pump shaft, if cannot avoid force, please choose the special bearing type of pump
请勿对泵的轴端施加轴向力和径向力，如无法避免，请选择带有前置轴承的型号
- Bad coaxiality will lead to pump's damage
泵轴与驱动轴的同轴度较差，会导致齿轮泵损坏
Coaxiality deviation should below 0.1mm
同轴度偏差不得超过 0.1mm



- Angle deviation should below 1°
角度偏差不得超过 1°



- Angle deviation when use universal joint should below 10°
万向节传动，角度偏差不得超过 10°



OUTBOARD BEARING OPTIONS

前置轴承选项

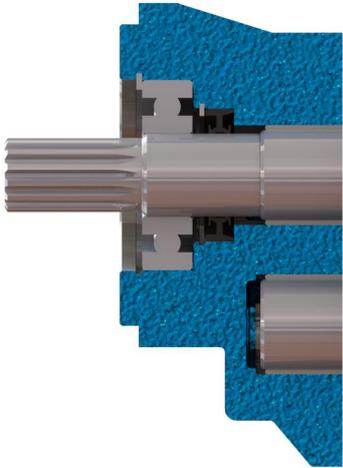
A



Version for applications without radial and axial load on the driveshaft

泵的轴端无轴向力和径向力时，选择此方案。

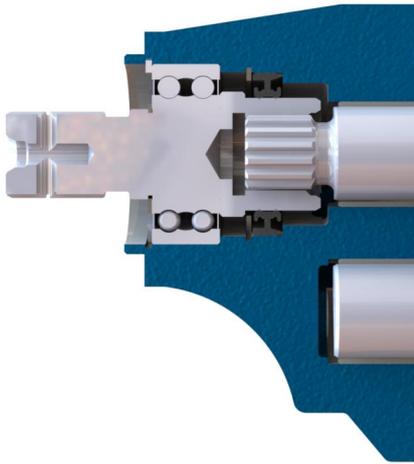
B



Version for applications with low radial load and without axial load on the drive shaft.

泵的轴端有轻微径向力，但无轴向力时，选择此方案。

C



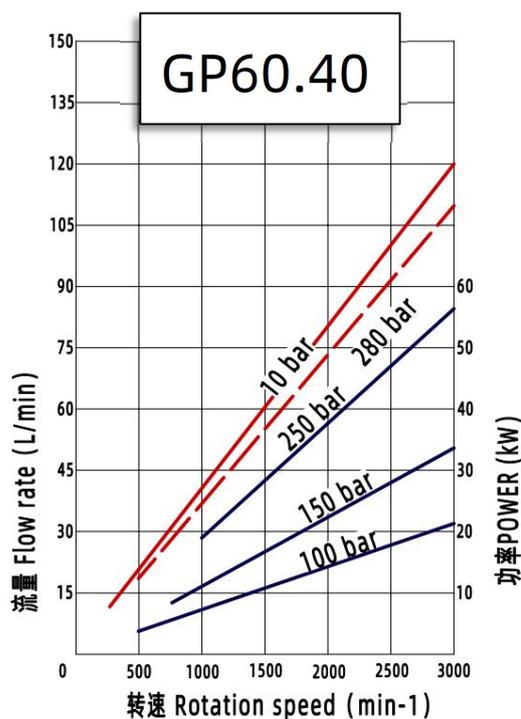
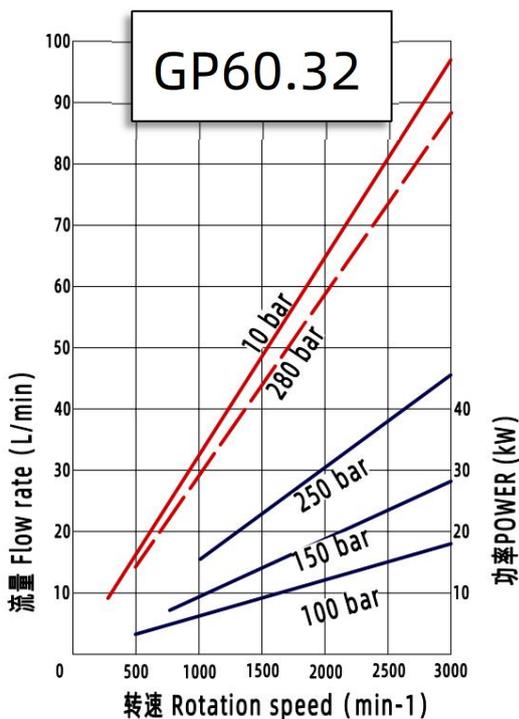
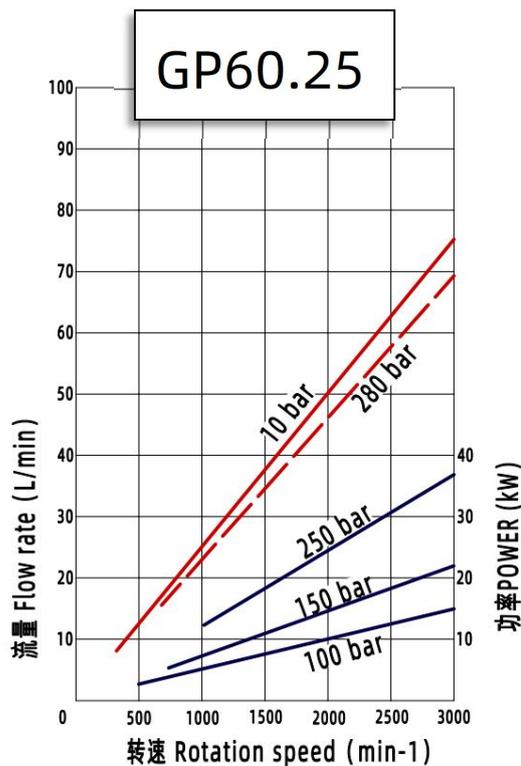
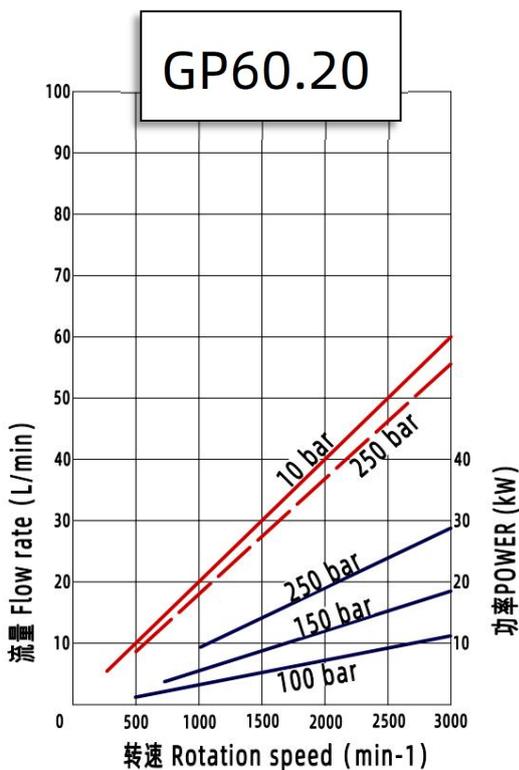
Version for applications with radial and axial load on the drive shaft

泵的轴端有径向力和轴向力时，选择此方案。

PERFORMANCE CURVES

性能曲线

- 空载流量 Flow rate unload
- - - 额定压力下的流量 Flow rate loaded
- 输入功率 Input power



GP60 系列

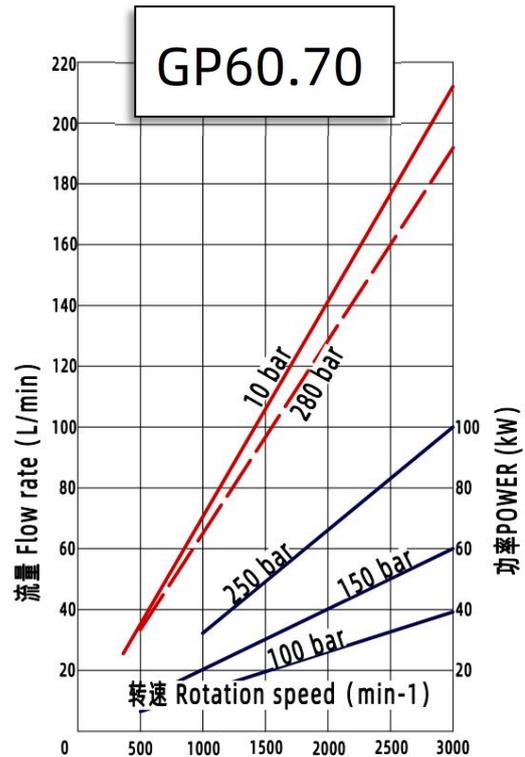
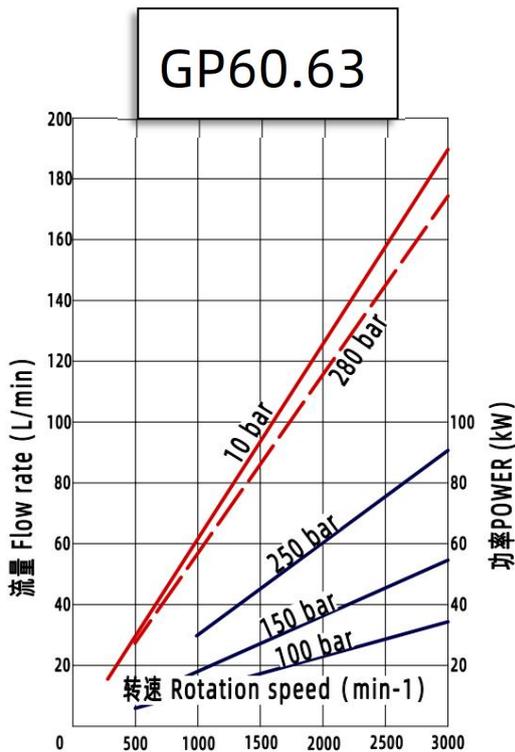
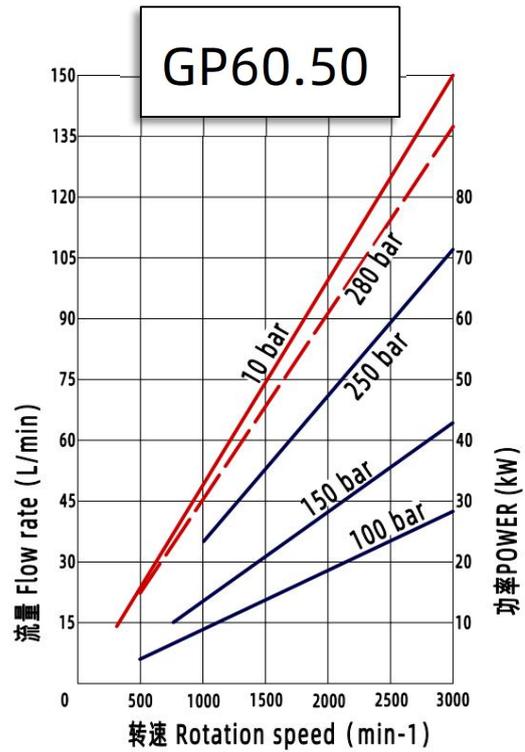
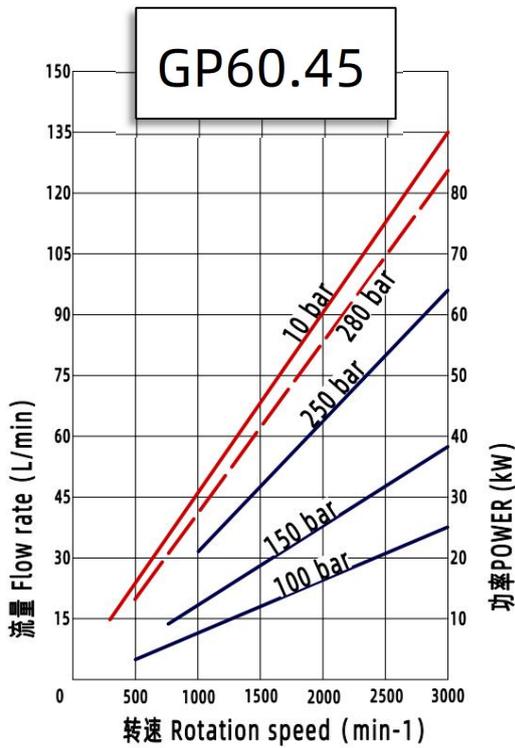
This curve is tested under 50°C (122 °F) using oil with viscosity 30 cSt (137 SSU)
 此曲线是在 50 摄氏度油温下，使用粘度为 30 cSt 液压油为介质测得

PERFORMANCE CURVES

性能曲线

- 空载流量 Flow rate unload
- - - 额定压力下的流量 Flow rate loaded
- 输入功率 Input power

GP60 系列



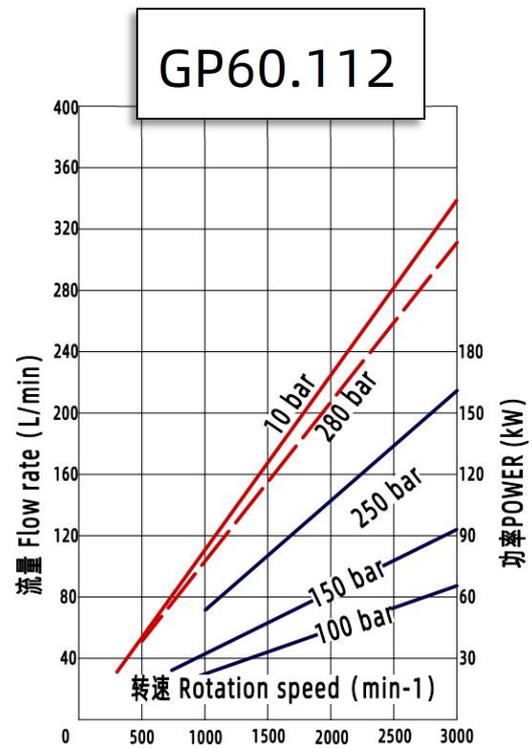
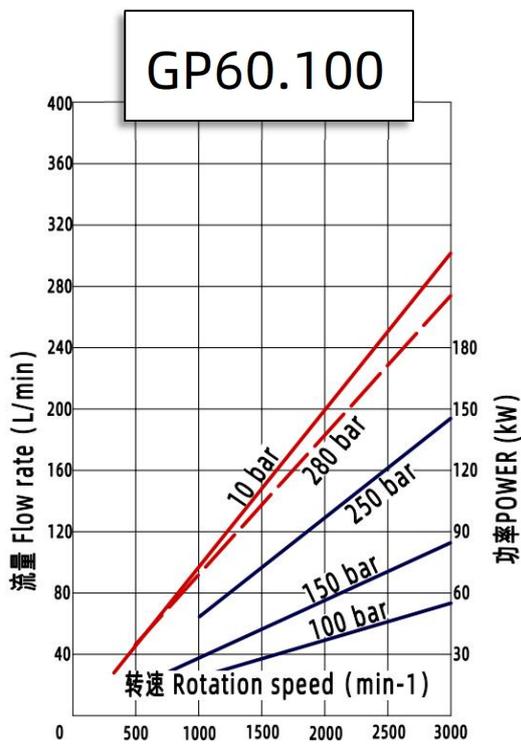
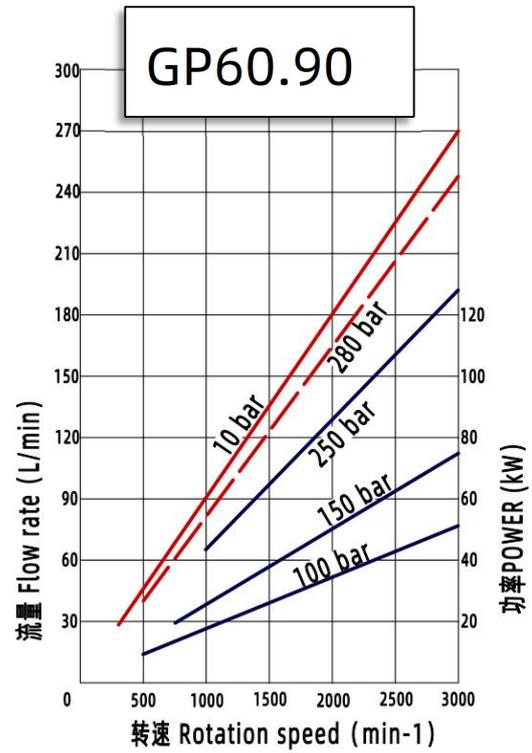
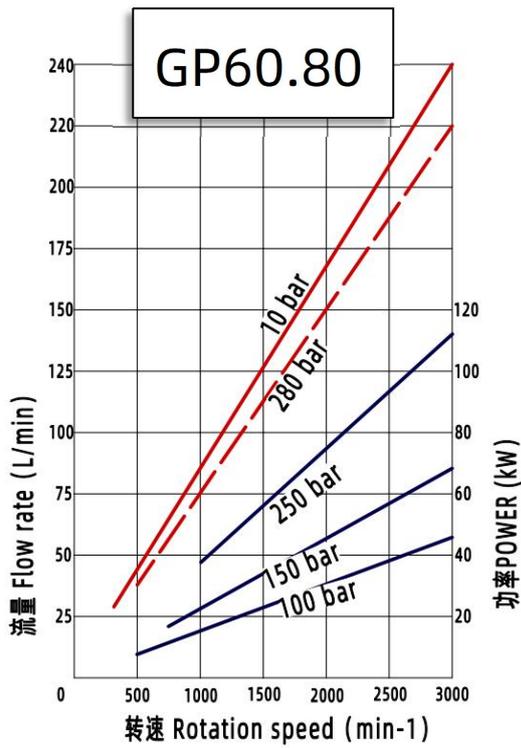
This curve is tested under 50°C (122 °F) using oil with viscosity 30 cSt (137 SSU)

此曲线是在 50 摄氏度油温下，使用粘度为 30 cSt 液压油为介质测得

PERFORMANCE CURVES

性能曲线

- 空载流量 Flow rate unload
- - - 额定压力下的流量 Flow rate loaded
- 输入功率 Input power



GP60 系列

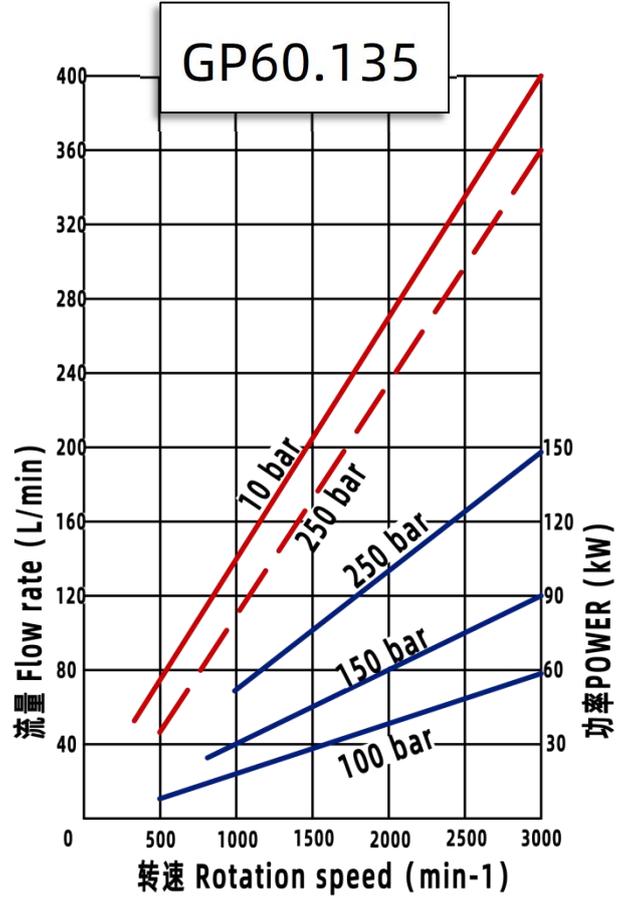
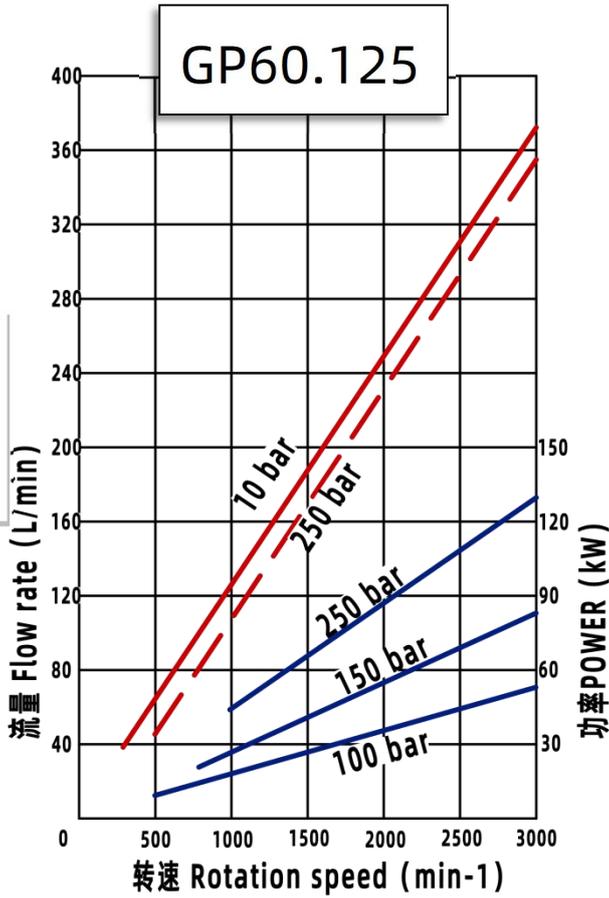
This curve is tested under 50°C (122 °F) using oil with viscosity 30 cSt (137 SSU)
 此曲线是在 50 摄氏度油温下，使用粘度为 30 cSt 液压油为介质测得

PERFORMANCE CURVES

性能曲线

- 空载流量 Flow rate unload
- - - 额定压力下的流量 Flow rate loaded
- 输入功率 Input power

GP60 系列



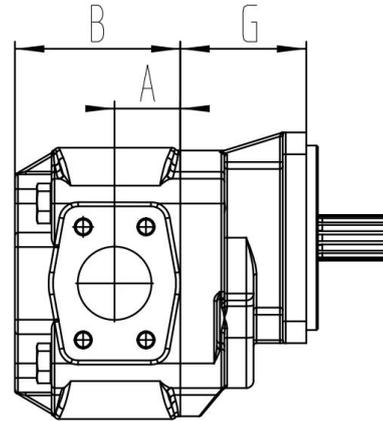
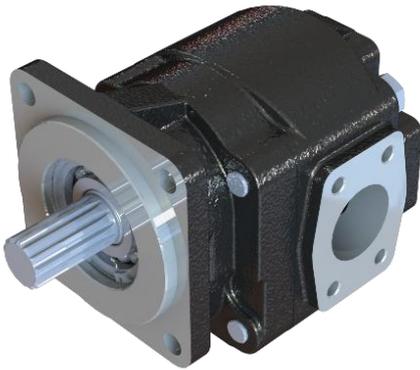
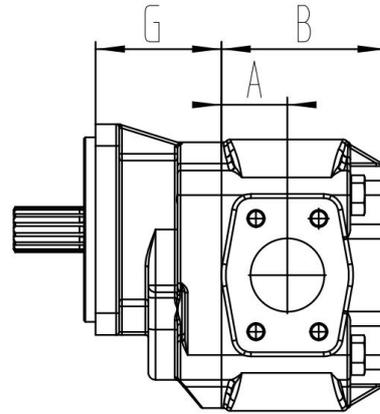
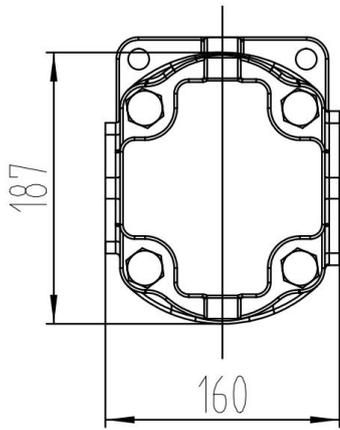
This curve is tested under 50°C (122 °F) using oil with viscosity 30 cSt (137 SSU)
 此曲线是在 50 摄氏度油温下，使用粘度为 30 cSt 液压油为介质测得

DIMENSIONS

外形尺寸

GP60 SINGLE PUMP

GP60 单泵



GP60 系列

GP60	20	25	32	40	45	50	63	70	80	90	100	112	125
A	32	34	36.8	37	36	38	41	41	45	48	51	52.5	52.5
B	89.5	91.5	94.3	94.5	97	99	105	105	113	119	122	127.8	133

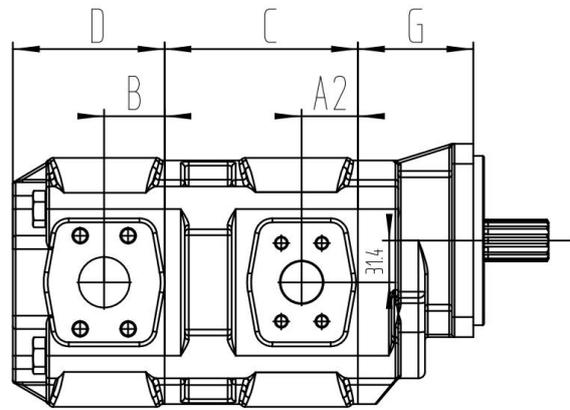
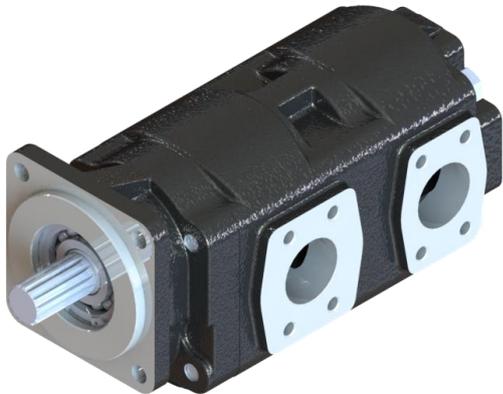
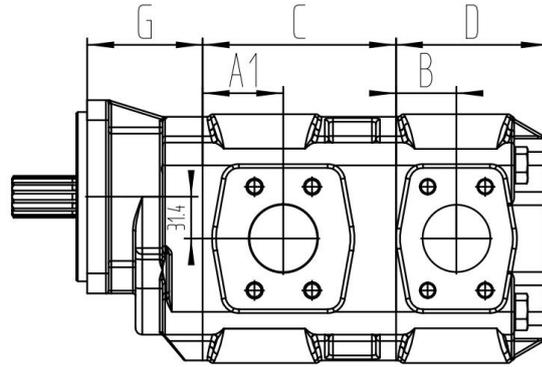
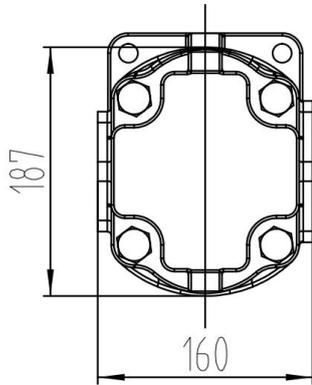
The "G" dimension please see page 95
G 尺寸请参考第 95 页

DIMENSIONS

外形尺寸

GP60 TANDEM PUMP

GP60 双联泵



GP60 系列

GP60	20	25	32	40	45	50	63	70	80	90	100	112	125
A1	-	57.2	60	56.5	58	60	60	56	60	57	60	54.8	60
A2	-	34	37	35.5	36	38	42	38	42	39	42	42	42
B	32	34	36.8	37	36	38	41	41	45	48	51	52.5	52.5
C	-	119	121.8	125.5	128	130	136	140	144	150	153	158.8	164
D	89.5	91.5	94.3	94.5	97	99	105	105	113	119	122	127.8	133

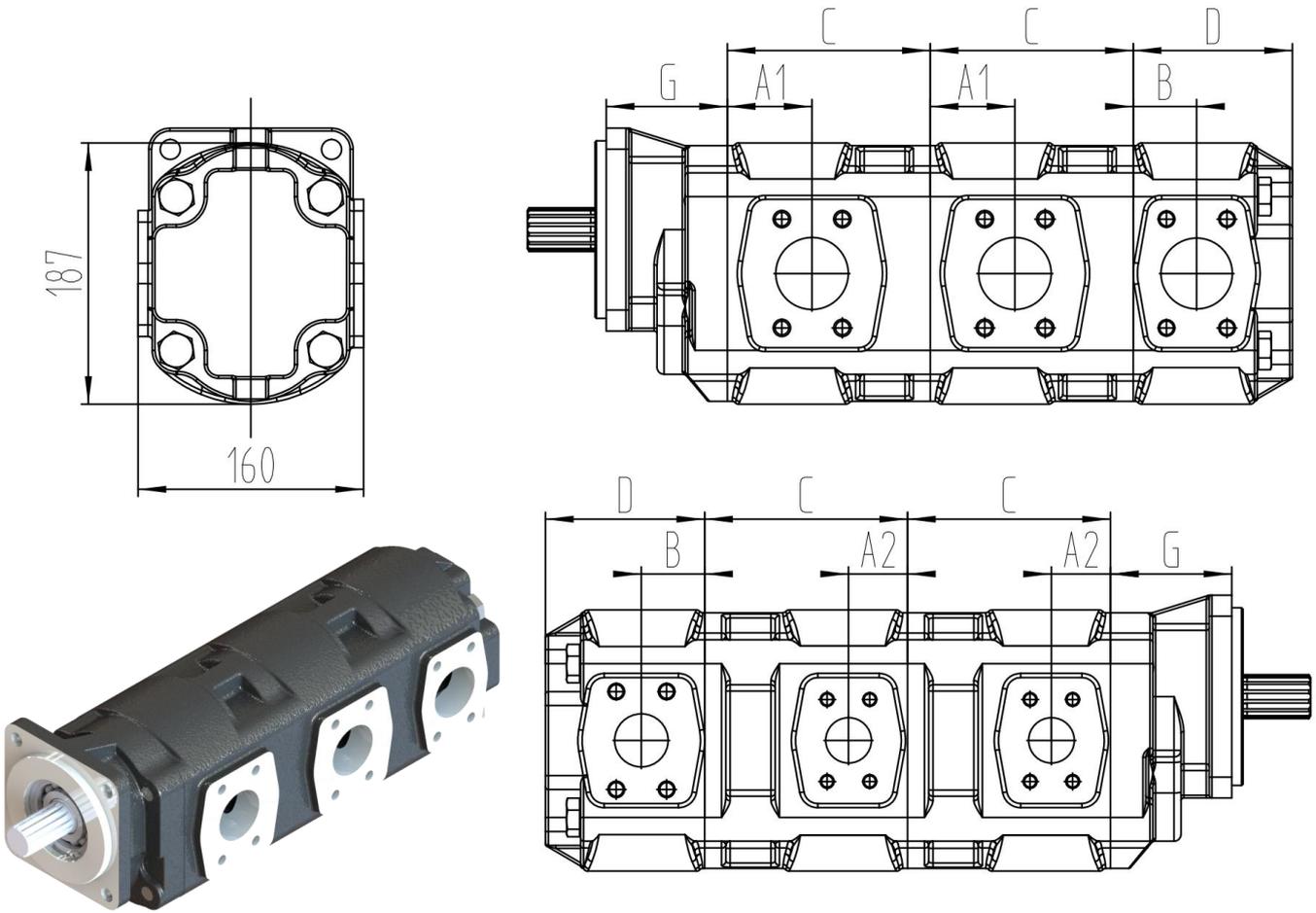
The "G" dimension please see page 95
G 尺寸请参考第 95 页

DIMENSIONS

外形尺寸

GP60 TRIPLE PUMP

GP60 三联泵



GP60 系列

GP60	20	25	32	40	45	50	63	70	80	90	100	112	125
A1	-	57.2	60	56.5	58	60	60	56	60	57	60	54.8	60
A2	-	34	37	35.5	36	38	42	38	42	39	42	42	42
B	32	34	36.8	37	36	38	41	41	45	48	51	52.5	52.5
C	-	119	121.8	125.5	128	130	136	140	144	150	153	158.8	164
D	89.5	91.5	94.3	94.5	97	99	105	105	113	119	122	127.8	133

The "G" dimension please see page 95
G 尺寸请参考第 95 页

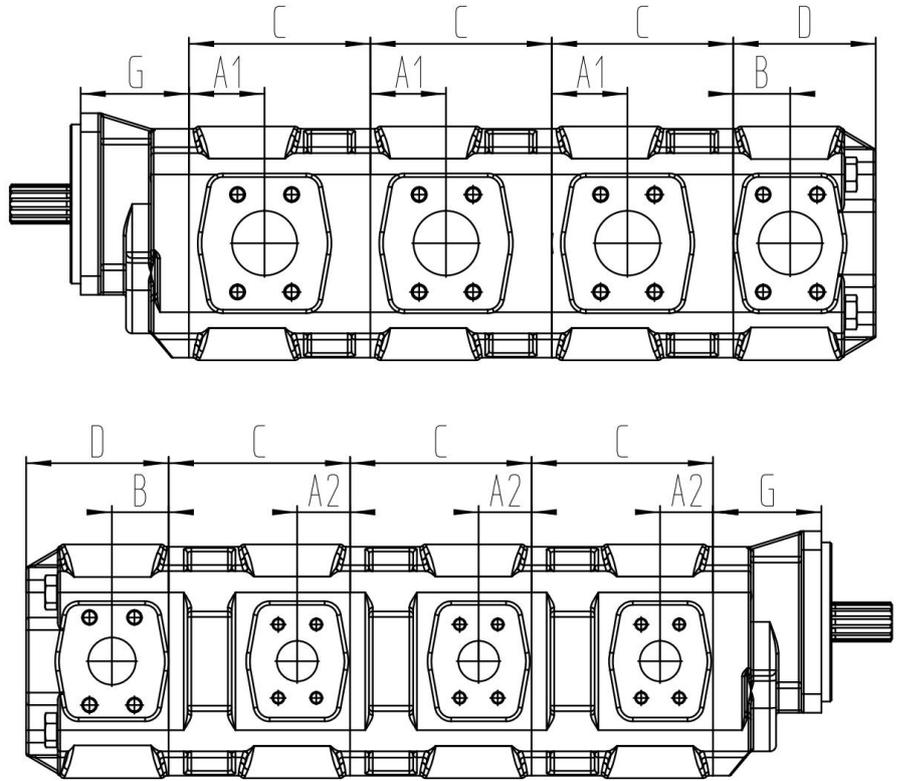
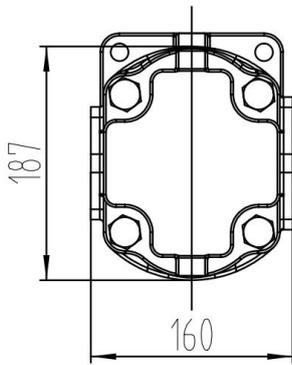
DIMENSIONS

GP60 QUADRUPLE PUMP

外形尺寸

GP60 四联泵

GP60 系列



GP60	20	25	32	40	45	50	63	70	80	90	100	112	125
A1	-	57.2	60	56.5	58	60	60	56	60	57	60	54.8	60
A2	-	34	37	35.5	36	38	42	38	42	39	42	42	42
B	32	34	36.8	37	36	38	41	41	45	48	51	52.5	52.5
C	-	119	121.8	125.5	128	130	136	140	144	150	153	158.8	164
D	89.5	91.5	94.3	94.5	97	99	105	105	113	119	122	127.8	133

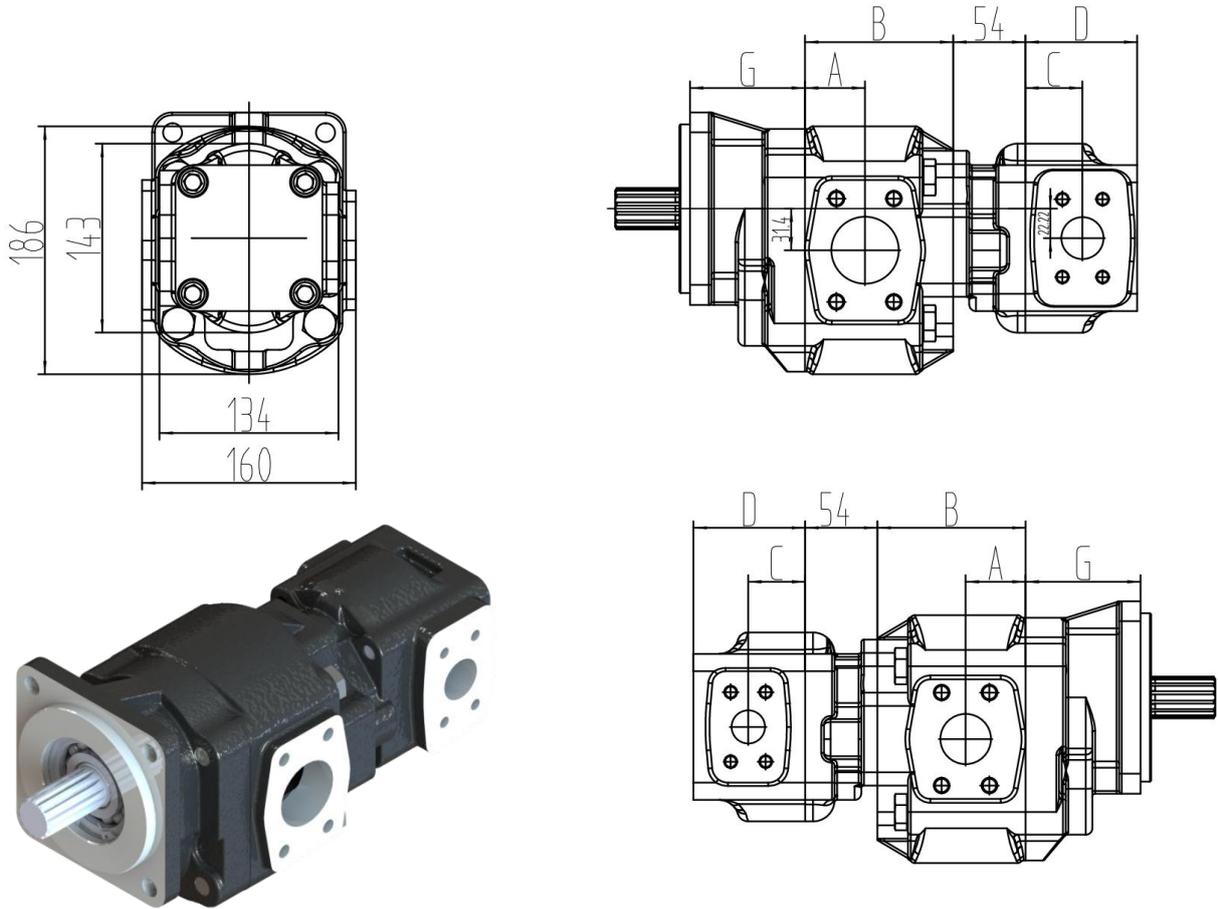
The "G" dimension please see page 95
G 尺寸请参考第 95 页

DIMENSIONS

外形尺寸

GP60/GP40 TANDEM PUMP

GP60/GP40 双联泵



GP60 系列

GP60	20	25	32	40	45	50	63	70	80	90	100	112	125			
A	32	34	36.8	37	36	38	41	41	45	48	51	52.5	52.5			
B	89.5	91.5	94.3	94.5	97	99	105	105	113	119	122	127.8	133			
GP40	08	10	13	16	20	25	29	32	36	40	45	51	55	63	72	80
C	28.2	29.7	31.7	33.7	36.7	40.7	42.7	45.7	47.7	51.2	54.7	58.7	61.7	67.7	74.7	79.7
D	70	71.5	73.5	75.5	78.5	82.5	84.5	87.5	89.5	93	96.5	100.5	103.5	109.5	116.5	121.5

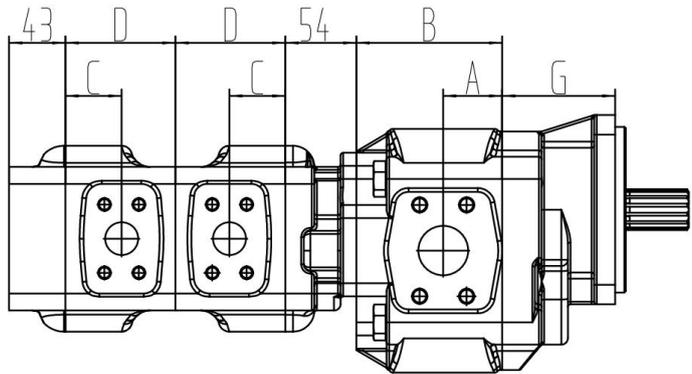
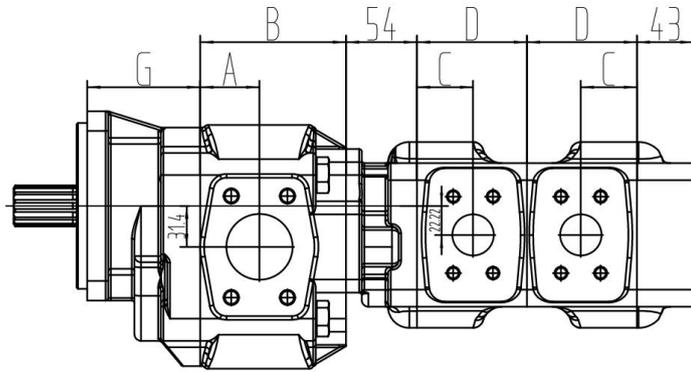
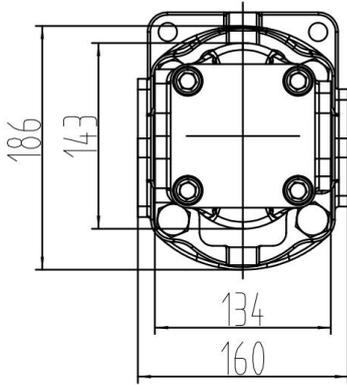
The "G" dimension please see page 95
G 尺寸请参考第 95 页

DIMENSIONS

外形尺寸

GP60/GP40 TRIPLE PUMP

GP60/GP40 三联泵



GP60 系列

GP60	20	25	32	40	45	50	63	70	80	90	100	112	125			
A	32	34	36.8	37	36	38	41	41	45	48	51	52.5	52.5			
B	89.5	91.5	94.3	94.5	97	99	105	105	113	119	122	127.8	133			
GP40	08	10	13	16	20	25	29	32	36	40	45	51	55	63	72	80
C	28.2	29.7	31.7	33.7	36.7	40.7	42.7	45.7	47.7	51.2	54.7	58.7	61.7	67.7	74.7	79.7
D	70	71.5	73.5	75.5	78.5	82.5	84.5	87.5	89.5	93	96.5	100.5	103.5	109.5	116.5	121.5

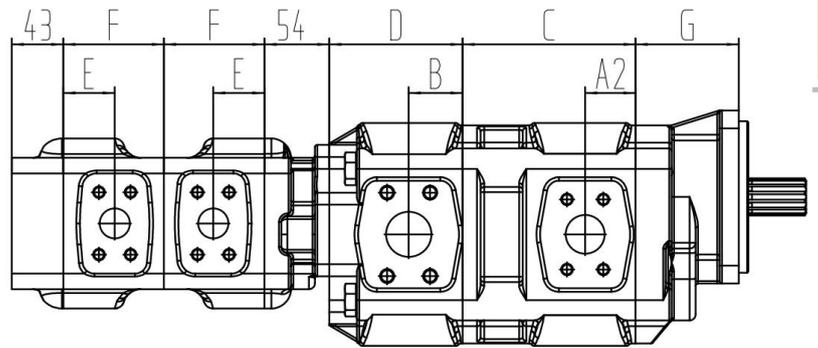
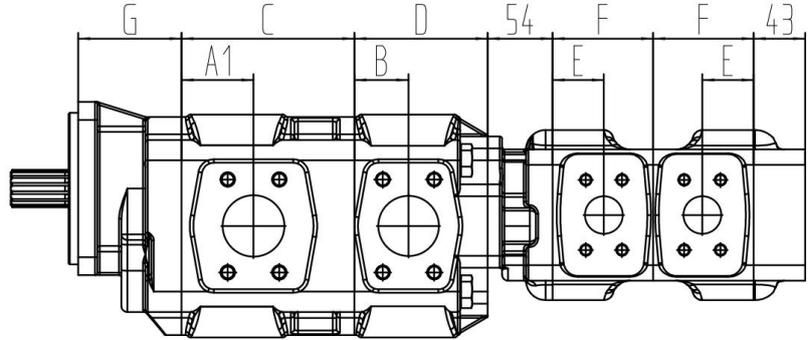
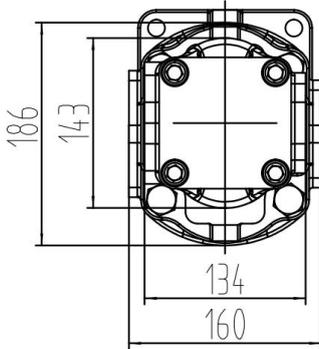
The "G" dimension please see page 95
G 尺寸请参考第 95 页

DIMENSIONS

外形尺寸

GP60/GP40 QUADRUPLE PUMP

GP60/GP40 四联泵



GP60 系列

GP60	20	25	32	40	45	50	63	70	80	90	100	112	125			
A1	-	57.2	60	56.5	58	60	60	56	60	57	60	54.8	60			
A2	-	34	37	35.5	36	38	42	38	42	39	42	42	42			
B	32	34	36.8	37	36	38	41	41	45	48	51	52.5	52.5			
C	-	119	121.8	125.5	128	130	136	140	144	150	153	158.8	164			
D	89.5	91.5	94.3	94.5	97	99	105	105	113	119	122	127.8	133			
GP40	08	10	13	16	20	25	29	32	36	40	45	51	55	63	72	80
C	28.2	29.7	31.7	33.7	36.7	40.7	42.7	45.7	47.7	51.2	54.7	58.7	61.7	67.7	74.7	79.7
D	70	71.5	73.5	75.5	78.5	82.5	84.5	87.5	89.5	93	96.5	100.5	103.5	109.5	116.5	121.5

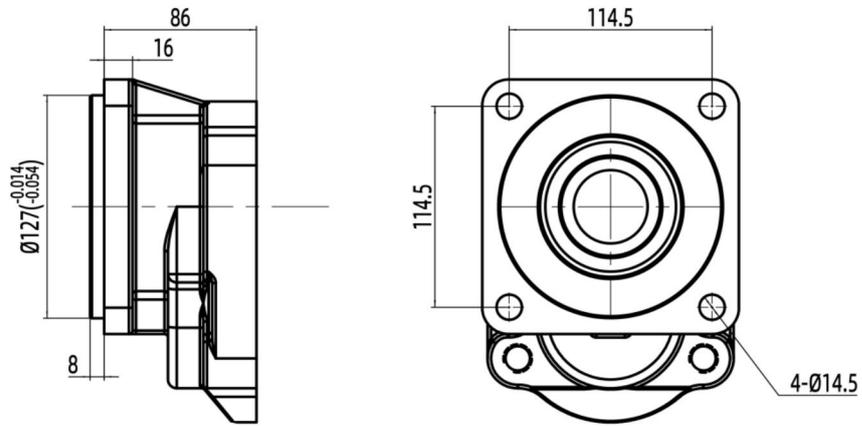
The "G" dimension please see page 95
G 尺寸请参考第 95 页

FRONT COVER

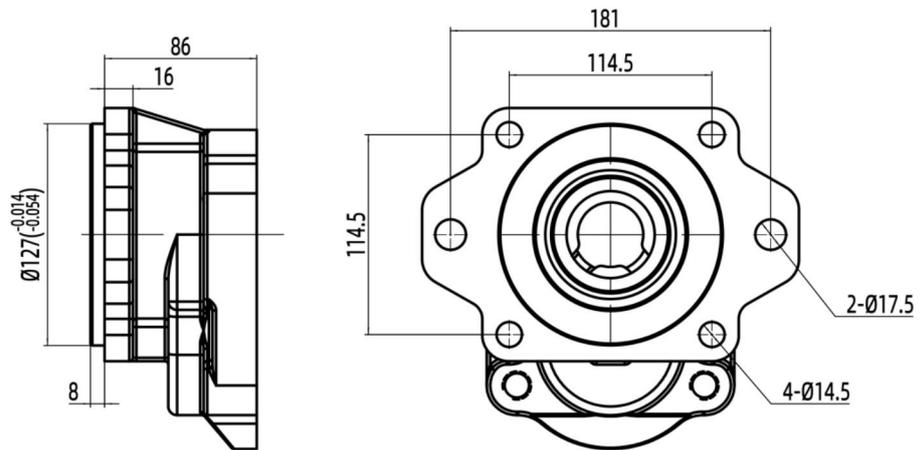
前盖

GP60 系列

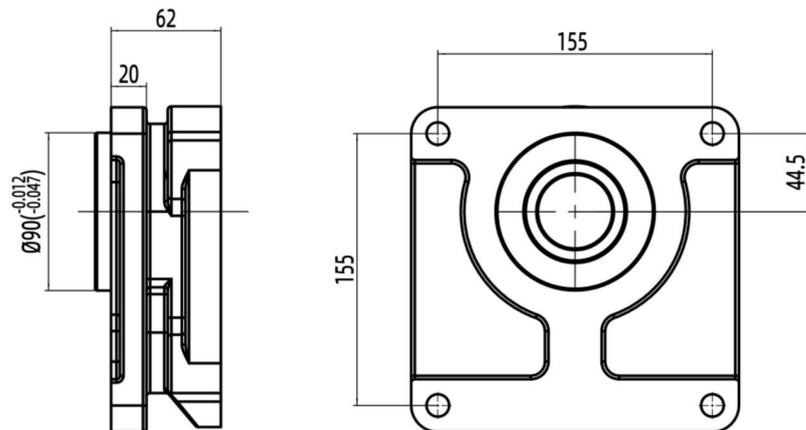
0H



00



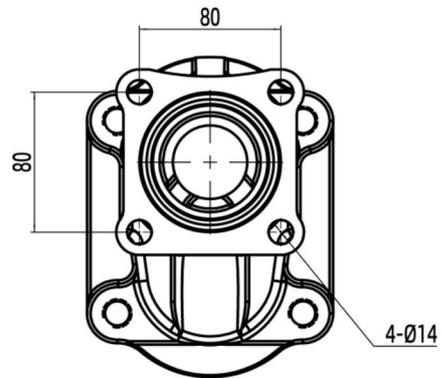
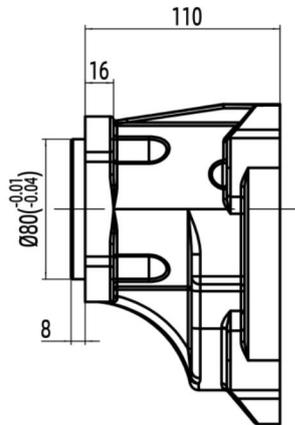
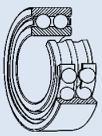
01



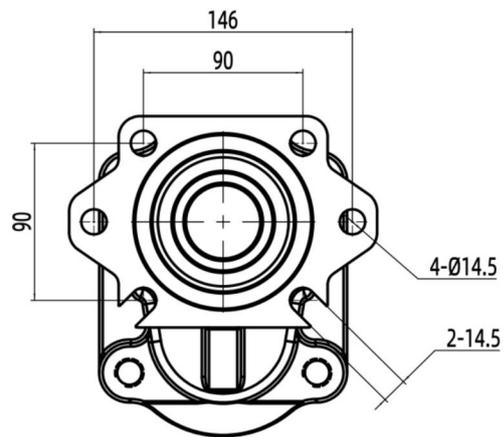
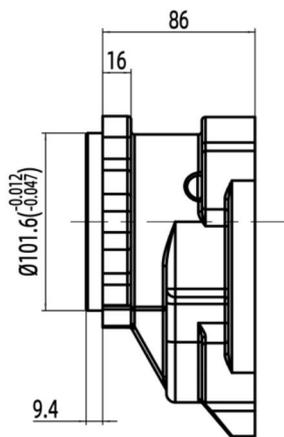
FRONT COVER

前盖

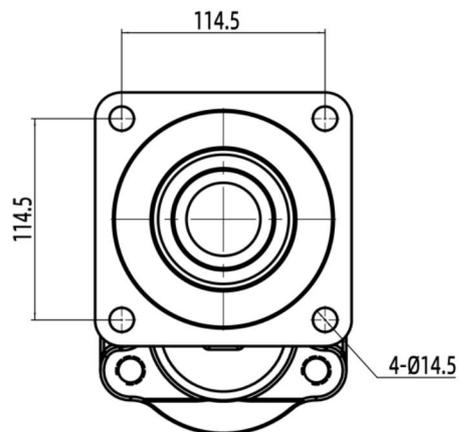
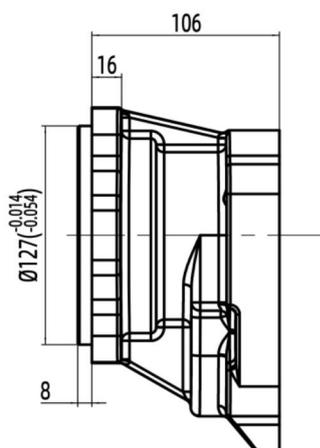
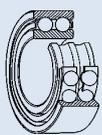
02



03



04

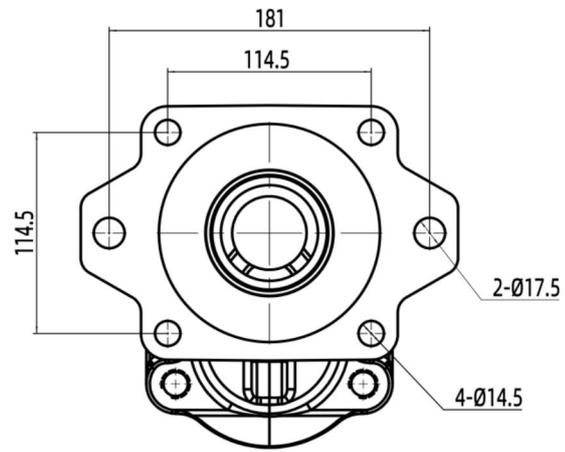
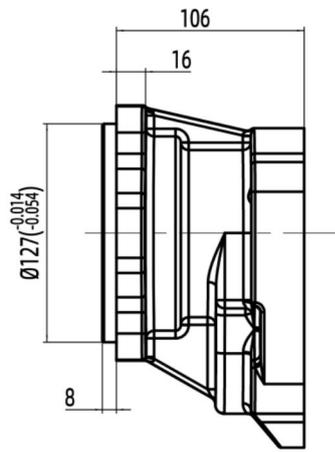
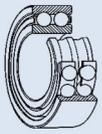


FRONT COVER

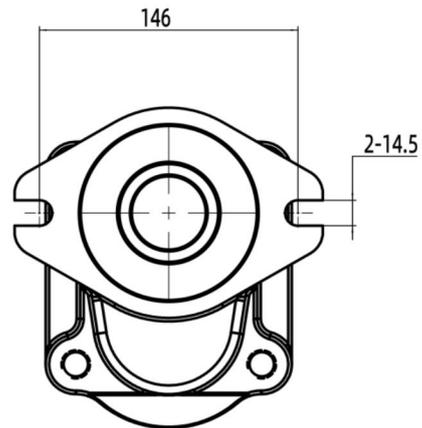
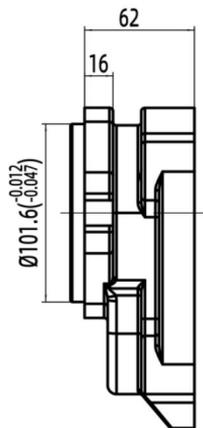
前盖

GP60 系列

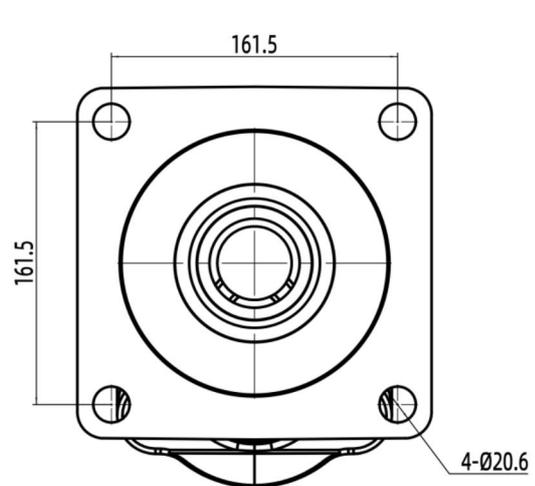
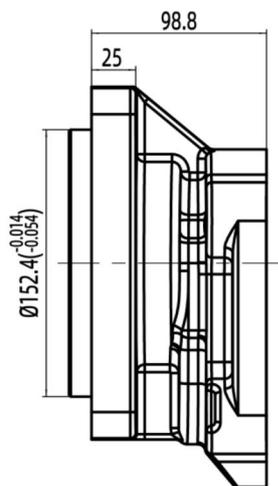
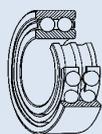
05



06

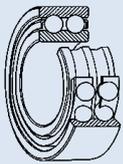
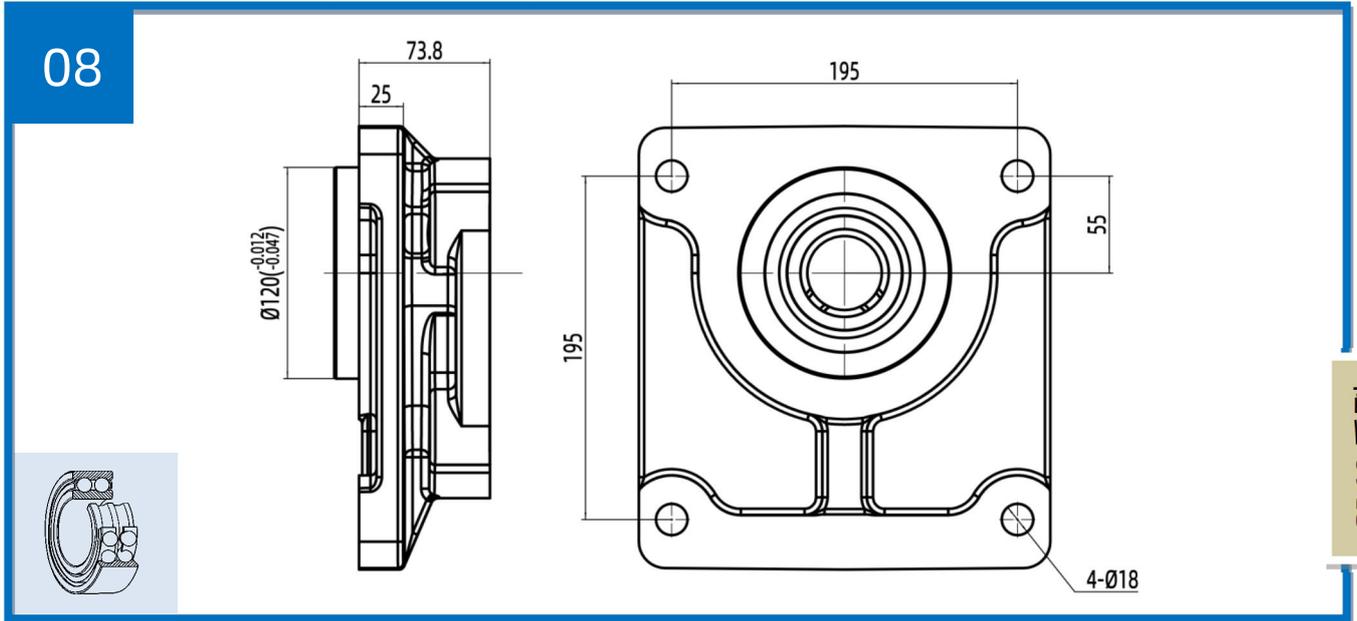


07



FRONT COVER

前盖



This mark means the front cover is only for "C" type outboard bearing option

Please refer to PAGE 82

带此标记的前盖只能用在" C" 类的轴承形式产品中

详见第 82 页



For other front cover requirement please contact our pre-sale department.

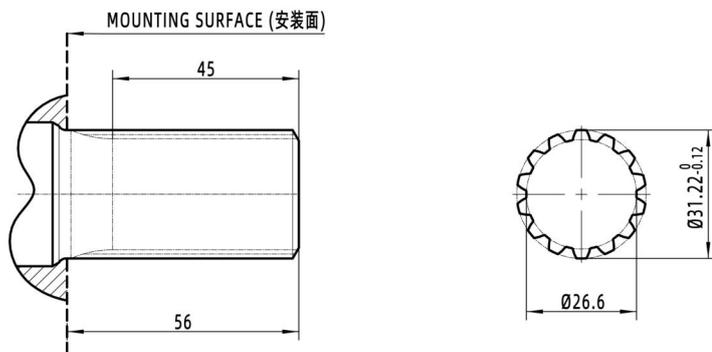
如有其他前盖尺寸的需求, 请联系我公司售前部门。

GEAR SHAFT

轴/花键

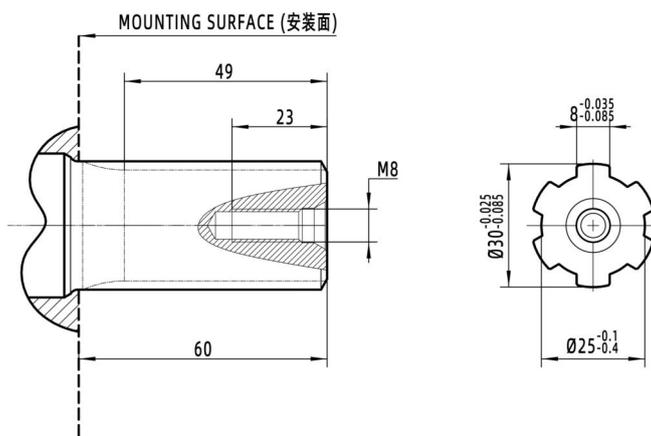
GP60 系列

01



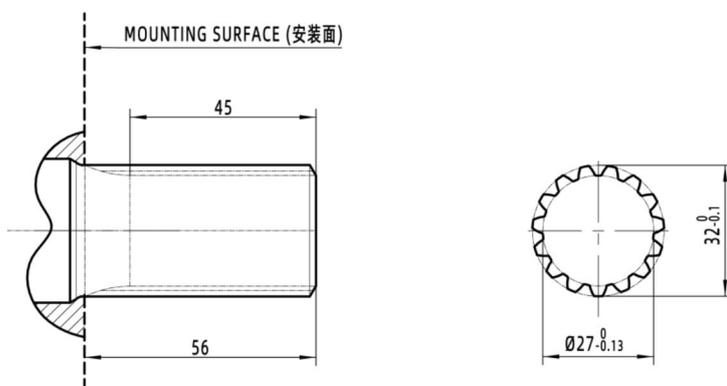
SAE INVOLUTE SPLINE
14 TEETH 12/24 PITCH
14 齿 $\Phi 31.2$ 渐开线花键

02



$\Phi 30$ RECTANGLE SPLINE
6 齿矩形花键- $\Phi 30$

03

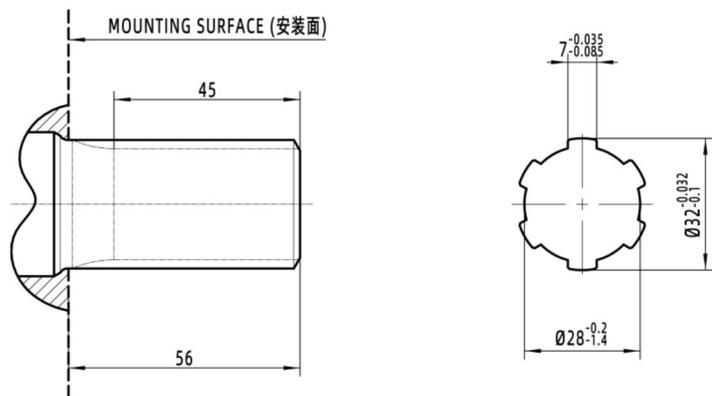


INVOLUTE SPLINE
15 TEETH M-2
15 齿 $\Phi 32$ 渐开线花键

GEAR SHAFT

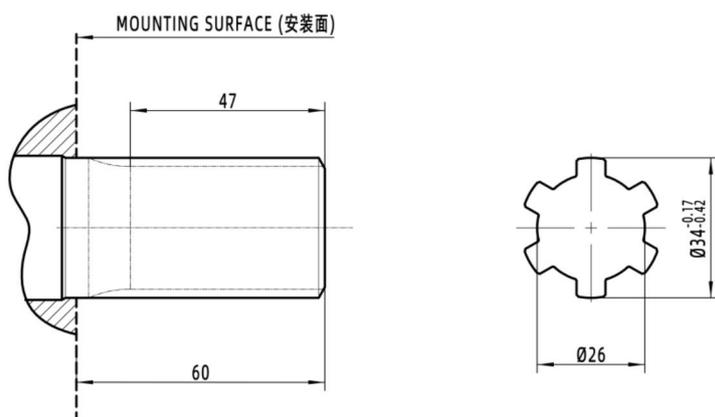
轴/花键

04



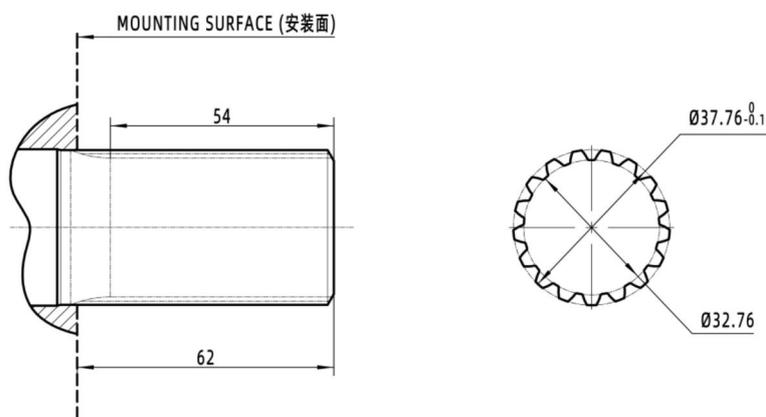
RECTANGLE SPLINE
6 齿矩形花键- $\Phi 32$

05



RECTANGLE SPLINE
6 齿矩形花键- $\Phi 34$

06



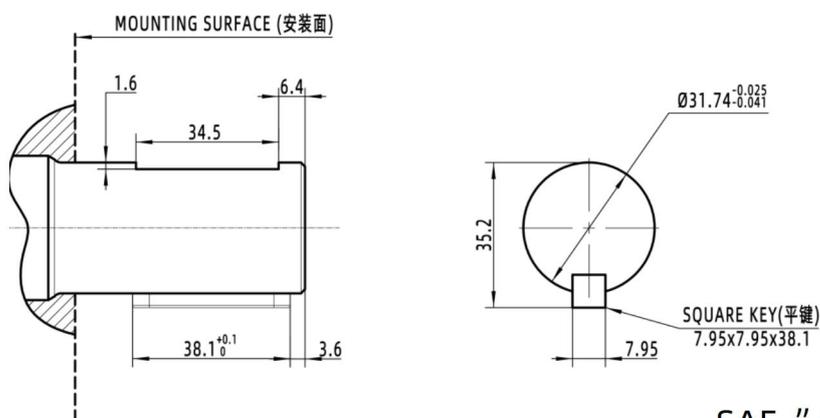
SAE INVOLUTE SPLINE
17 TEETH 12/24 PITCH
17 齿 $\Phi 37.76$ 渐开线花键

GEAR SHAFT

轴/花键

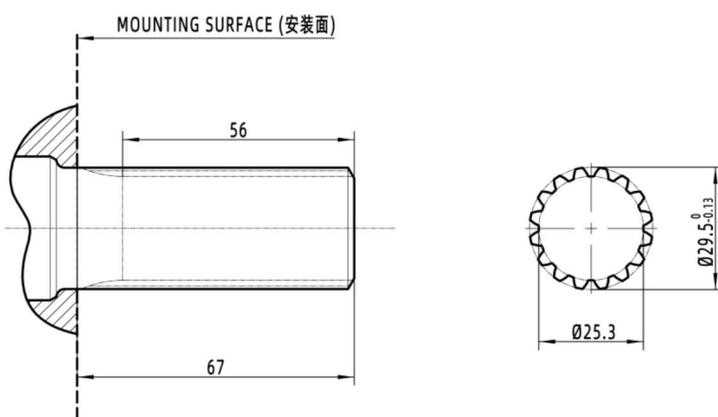
GP60 系列

07



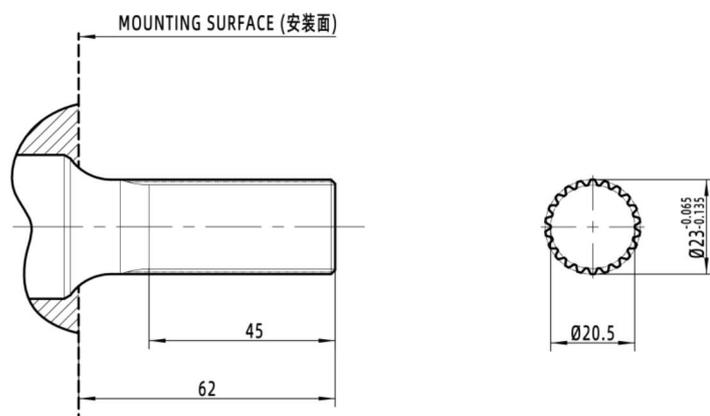
SAE- " C " 1-1/4 KEYED SHAFT
Φ31.75 平键

08



SAE INVOLUTE SPLINE
16 TEETH M1.75
16 齿Φ29.5 渐开线花键

09



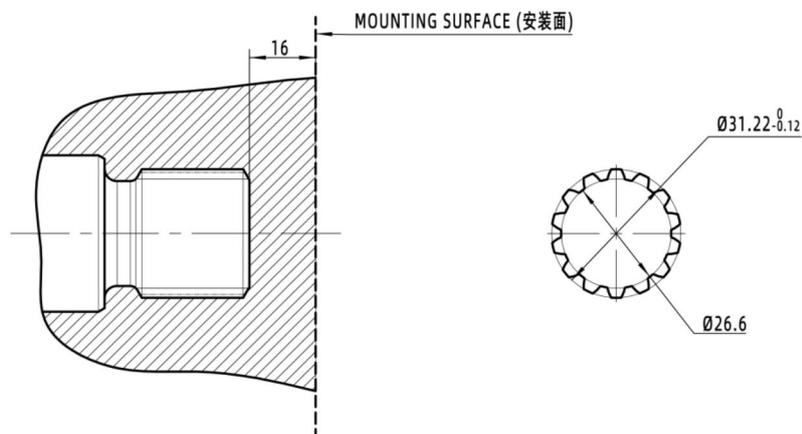
SAE INVOLUTE SPLINE
21 TEETH 24/48 PITCH
21 齿Φ23 渐开线花键

GEAR SHAFT

轴/花键

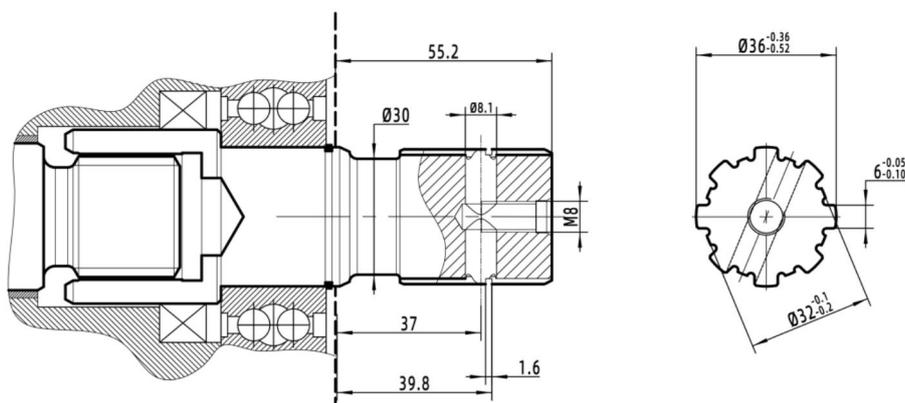
GP60 系列

10



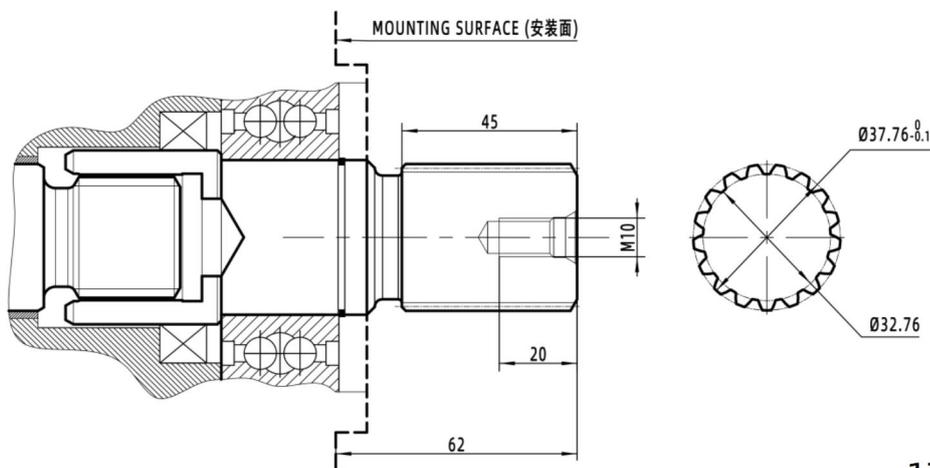
SAE INVOLUTE SPLINE
14 TEETH 12/24 PITCH
14 齿 $\Phi 31.2$ 渐开线花键

10.00



ISO STANDARD
A8x32x36x6 DIN5462
ISO 8 齿矩形花键

10.02

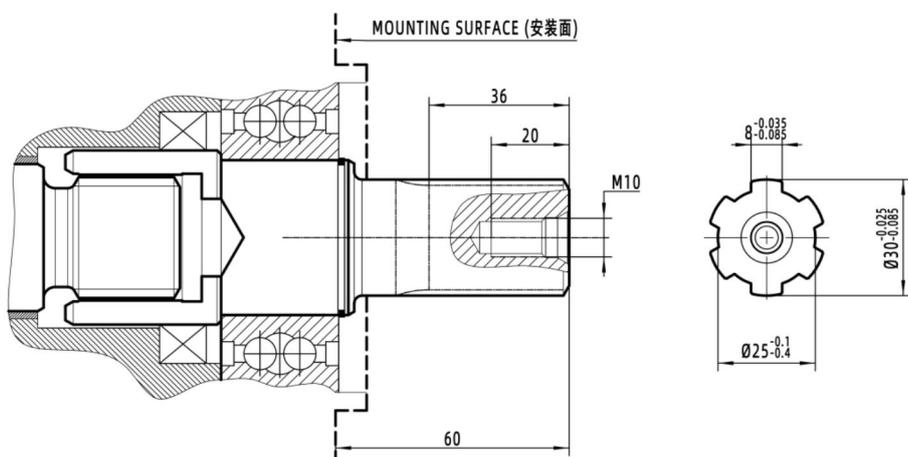


SAE INVOLUTE SPLINE
17 TEETH 12/24 PITCH
17 齿 $\Phi 37.76$ 渐开线花键

GEAR SHAFT

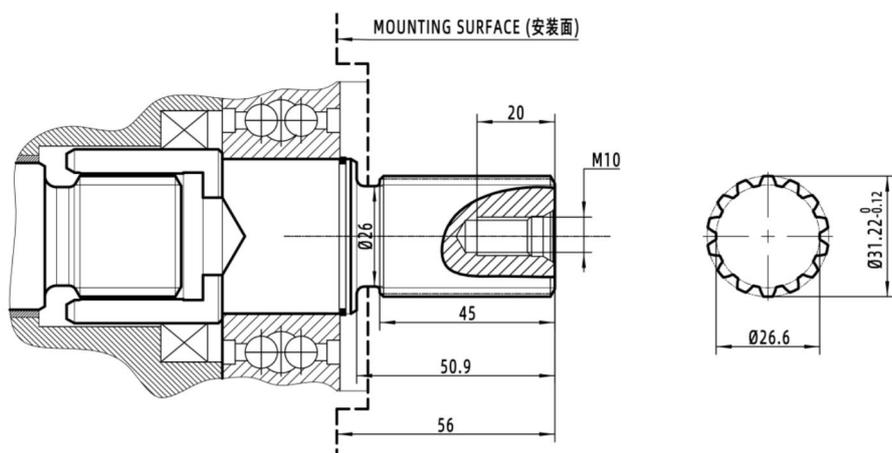
轴/花键

GP60 系列



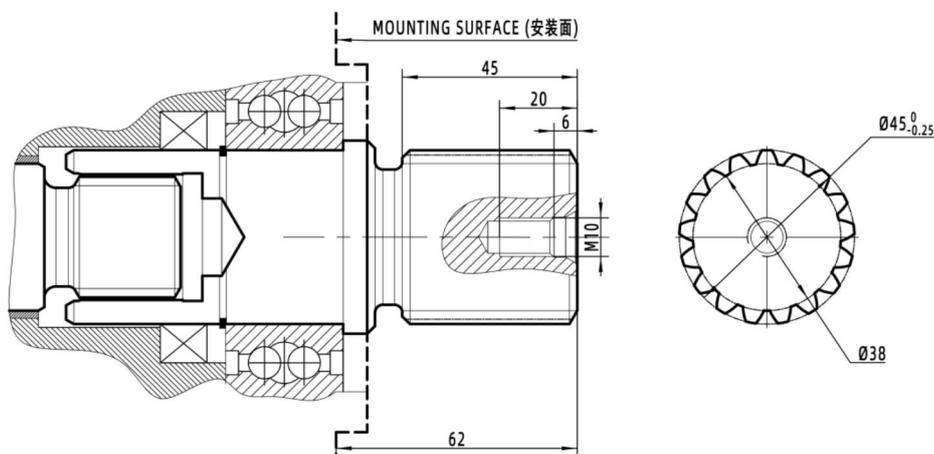
10.03

Φ30 RECTANGLE SPLINE
6 齿矩形花键-Φ30



10.05

SAE INVOLUTE SPLINE
14 TEETH 12/24 PITCH
14 齿Φ31.2 渐开线花键



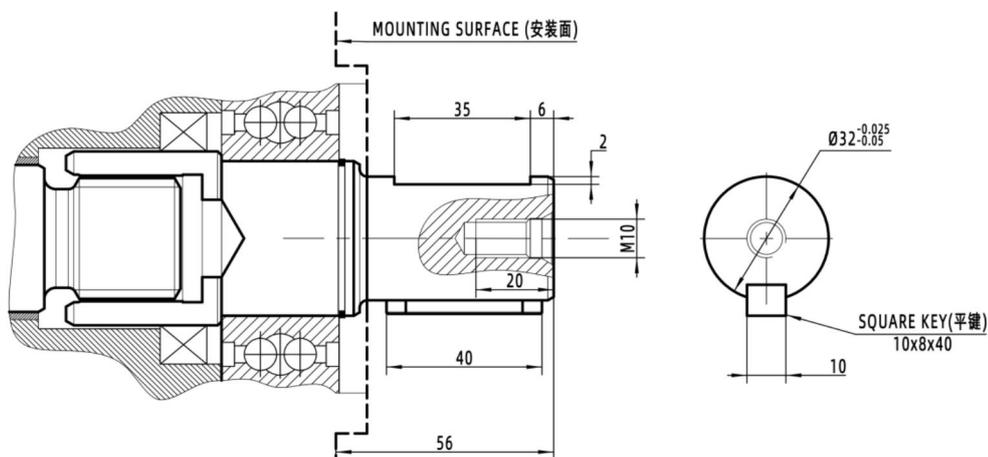
10.06

INVOLUTE SPLINE
17 TEETH M2.5
17 齿Φ45 渐开线花键

GEAR SHAFT

轴/花键

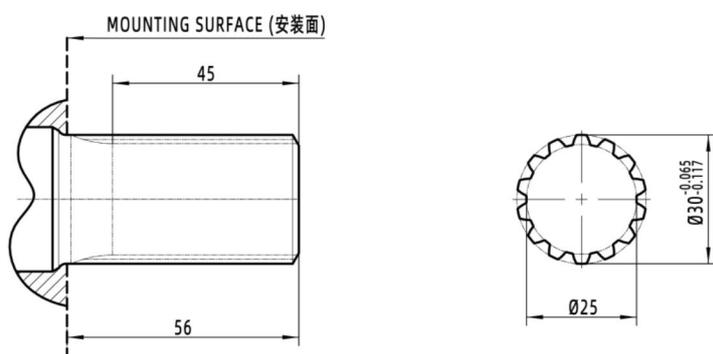
10.07



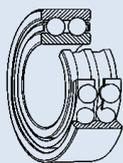
Φ32 KEYED SHAFT
Φ32 平键

GP60 系列

11



INVOLUTE SPLINE
14 TEETH M2
14 齿Φ30 渐开线花键



This mark means the front cover is only for "C" type outboard bearing option
Please refer to PAGE 82

带此标记的前盖只能用在" C" 类的轴承形式产品中
详见第 82 页

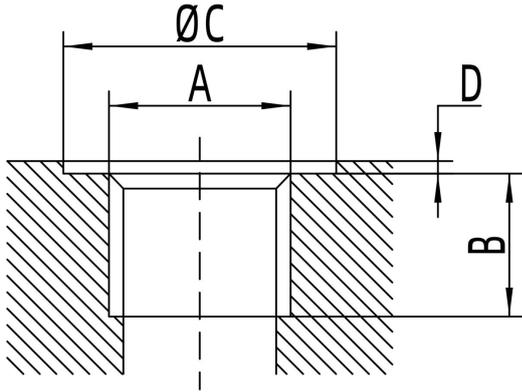


For other gear shaft requirement please contact our pre-sale department.
如有其他轴/花键尺寸的需求, 请联系我公司售前部门。

OIL PORT SIZE

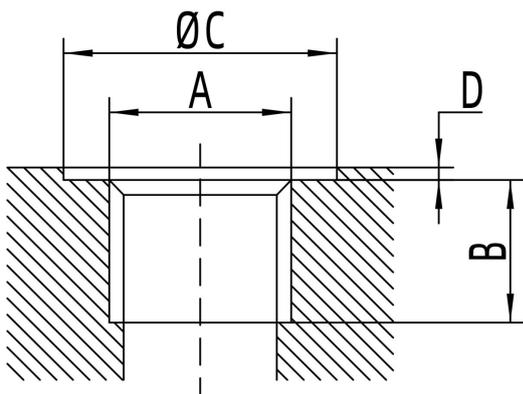
油口尺寸

Metric thread according to ISO 6149
公制螺纹 ISO 6149



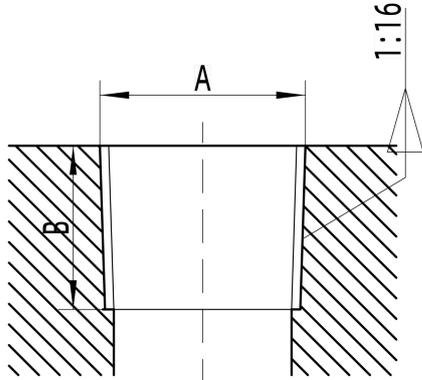
	A	B	C	D
M01	M10x1	10	20	1
M02	M12x1.5	11.5	23	1.5
M03	M14x1.5	11.5	25	1.5
M04	M16x1.5	13	28	1.5
M05	M18x1.5	14.5	30	2
M06	M22x1.5	15.5	33	2
M07	M24x1.5	19	34	2
M08	M27x1.5	19	40	2
M09	M27x2	19	40	2
M10	M30x2	19	44	2
M11	M33x1.5	19	49	2.5
M12	M33x2	19	49	2.5
M13	M36x2	19.5	53	2.5
M14	M42x2	19.5	58	2.5
M15	M48x2	22	63	2.5
M16	M60x2	27.5	74	2.5

BSPP pipe thread according to ISO 228-1
英制 G 螺纹 ISO 228-1



CODE	A	B	C	D
G01	G1/4	13	20	1 Max
G02	G3/8	21	33	1 Max
G03	G1/2	21	33	1 Max
G04	G3/4	21	39	1 Max
G05	G1	21	45	1 Max
G06	G1-1/4	21	58	1 Max
G07	G1-1/2	26	64	1 Max
G08	G2	26	78	1 Max
G09	G2-1/2	26	85	1 Max

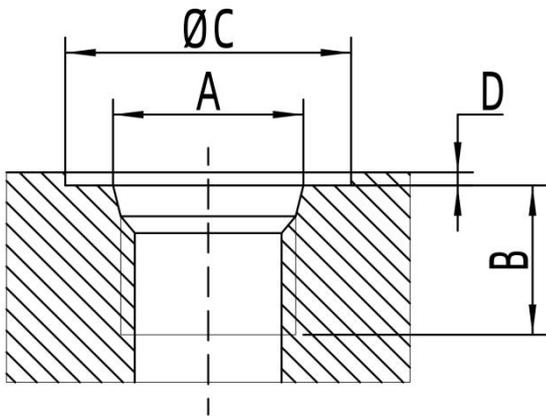
BSPT 55° pipe thread according to ISO 228-1
英制 ZG 螺纹 ISO 228-1



CODE	THREAD	A	B
Z01	ZG1/4	13.157	16
Z02	ZG3/8	16.662	16
Z03	ZG1/2	20.955	21
Z04	ZG3/4	26.441	21
Z05	ZG1	33.249	21
Z06	ZG1-1/4	41.910	21
Z07	ZG1-1/2	47.803	21
Z08	ZG2	59.614	21
Z09	ZG2-1/2	75.184	21

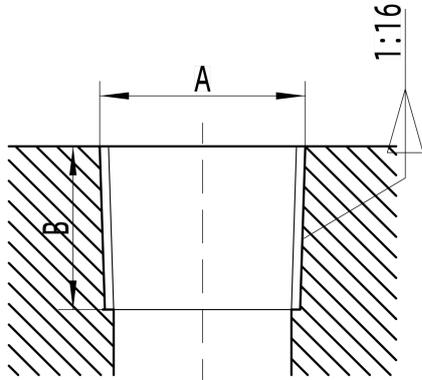
GP60 系列

UNF thread according to SAE
美制螺纹



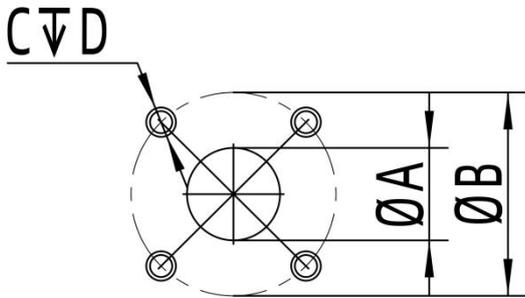
CODE	A	B	C	D
U01	7/16-20 UNF	13	21	1 Max
U02	9/16-18 UNF	13	25	1 Max
U03	3/4-16 UNF	13	30	1 Max
U04	7/8-14 UNF	17	34	1 Max
U05	1-1/16-12 UNF	19	41	1 Max
U06	1-5/16-12 UNF	23	49	1 Max
U07	1-5/8-12 UN	23	58	1 Max
U08	1-7/8-12 UN	23	65	1 Max

NPT thread according to SAE 美制锥螺纹



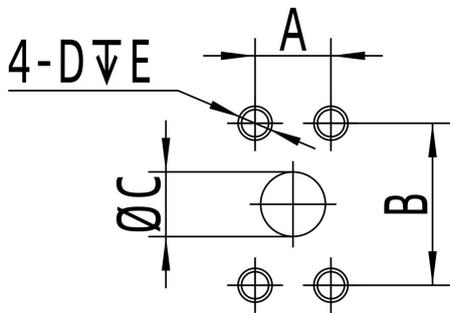
CODE	THREAD	A	B
N01	NPT 1/4	13.616	16
N02	NPT 3/8	17.055	16
N03	NPT 1/2	21.223	21
N04	NPT 3/4	26.568	21
N05	NPT 1	33.228	21
N06	NPT 1-1/4	41.985	21
N07	NPT 1-1/2	46.287	21
N08	NPT 2	60.092	21
N09	NPT 2-1/2	72.699	21

Flanged fittings according to DIN 8901/8902 欧标法兰



CODE	A	B	C	D
H01	8	26	M5	12
H02	10	26	M5	12
H03	8	30	M6	12
H04	12	30	M6	12
H05	15	35	M6	13
H06	20	40	M6	13
H07	13.5	30	M8	16
H08	20	40	M8	16
H09	18	55	M8	16
H10	25	55	M8	16
H11	26	51	M10	16

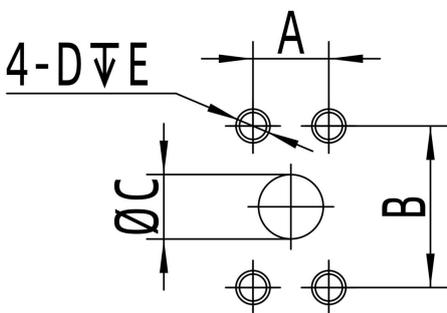
Flanged fittings according to METRIC 公制法兰



CODE	A	B	C	D	E
E01	17.5	38.1	13	M8	16
E02	22.2	47.6	19	M10	21
E03	26.2	52.4	25.4	M10	21
E04	30.2	58.7	31.8	M10	21
E05	35.7	69.8	38.1	M12	21
E06	42.9	77.8	50.8	M12	21
E07	50.8	88.9	63.5	M12	21

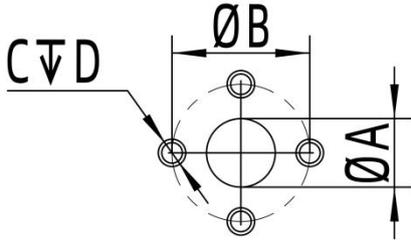
GP60 系列

Flanged fittings according to SAE 美制法兰



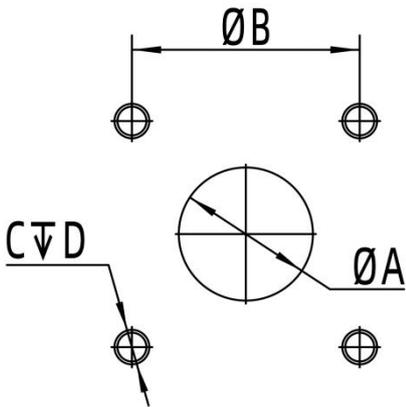
CODE	A	B	C	D	E
A01	17.5	38.1	13	5/16-18 UNC	16
A02	22.2	47.6	19	3/8-16 UNC	21
A03	26.2	52.4	25.4	3/8-16 UNC	21
A04	30.2	58.7	31.8	7/16-14 UNC	21
A05	35.7	69.8	38.1	1/2-13 UNC	21
A06	42.9	77.8	50.8	1/2-13 UNC	21
A07	50.8	88.9	63.5	1/2-13 UNC	21

Flanged fittings - "cross" 十字安装法兰



CODE	A	B	C	D
K01	13.5	30	M6	13
K02	20	40	M8	16
K03	18	40	M8	16
K04	26	51	M10	18
K05	18	55	M8	16
K06	25	55	M8	16
K07	14	38	M8	16
K08	19	38	M8	16

Flanged fittings - "square" 方形安装法兰



CODE	A	B	C	D
S03	60	78	M12	24
S04	46	78	M12	24
S05	22	48	M10	22
S06	30	48	M10	22
S08	19	54	M10	22
S09	27	54	M10	22
S10	16	46	M8	20
S11	23.5	46	M8	20



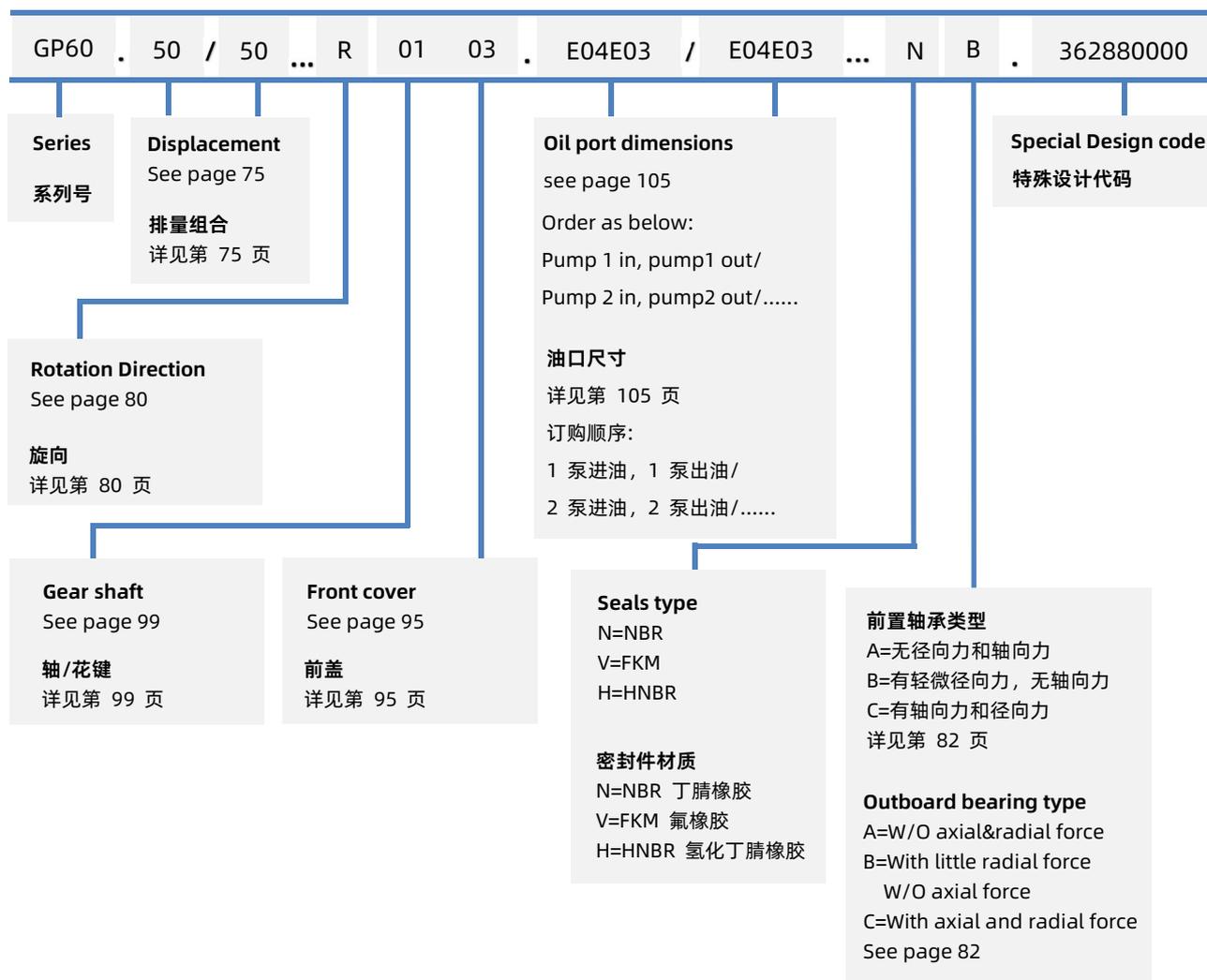
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