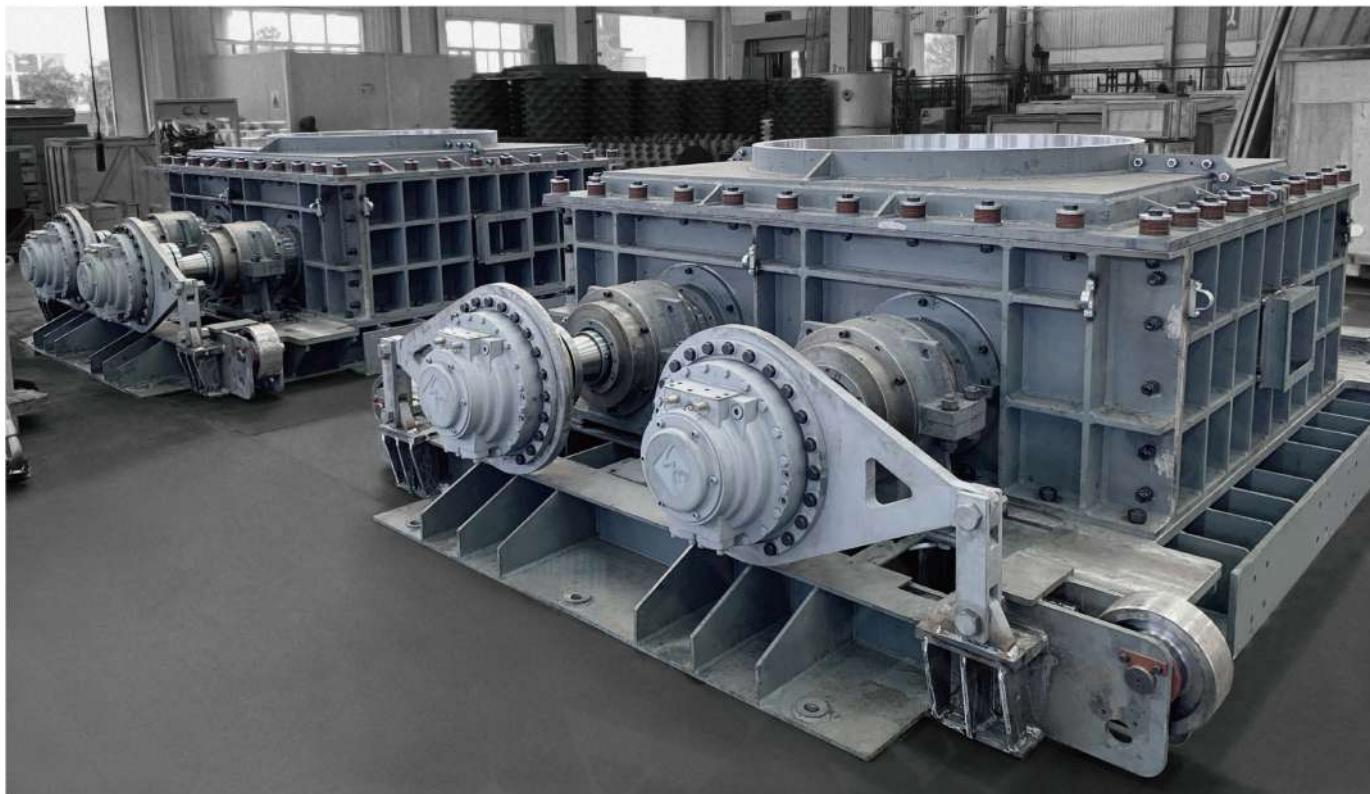


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产品简介/Product Introduction



CRM系列液压马达是我公司针对高端市场所开发的产品，本产品结构为内曲线径向柱塞、平面配油形式，使得马达可以承受高压，输出更大的扭矩，单位功率的重量更轻。合理的设计使马达的径向力完全平衡，具有较高的启动扭矩，而且可以提高轴承寿命。尤其重要的一点是可以获得更好的低速稳定性。

该系列产品拥有多种尺寸及安装方式，旋转方向可逆，利用中空轴的设计优势，能方便的根据用户要求配置制动器、测速器等通过马达中孔的特殊设备，大大减小用户对工作主机结构设计的难度。

整机较相同功率的其他形式液压马达，在重量是能减轻30%以上，减少了各种原材料的消耗，降低的能源消耗，减轻环境污染。同时，产品的适应能力强，应用于船舶、注塑机、破碎机、工程机械、煤矿、水泥、冶金等多种行业，能够为设备运作提供真正具有竞争力的优势。

CRM series hydraulic motor is a product developed by our company for the high-end market. The structure of this product is an inner curve radial plunger and a plane oil distribution form, which makes the motor can withstand high pressure, output greater torque, and have a lighter weight per unit of power. The reasonable design makes the radial force of the motor fully balanced, has a higher starting torque, and can increase the life of the bearing. A particularly important point is that better low-speed stability can be obtained.

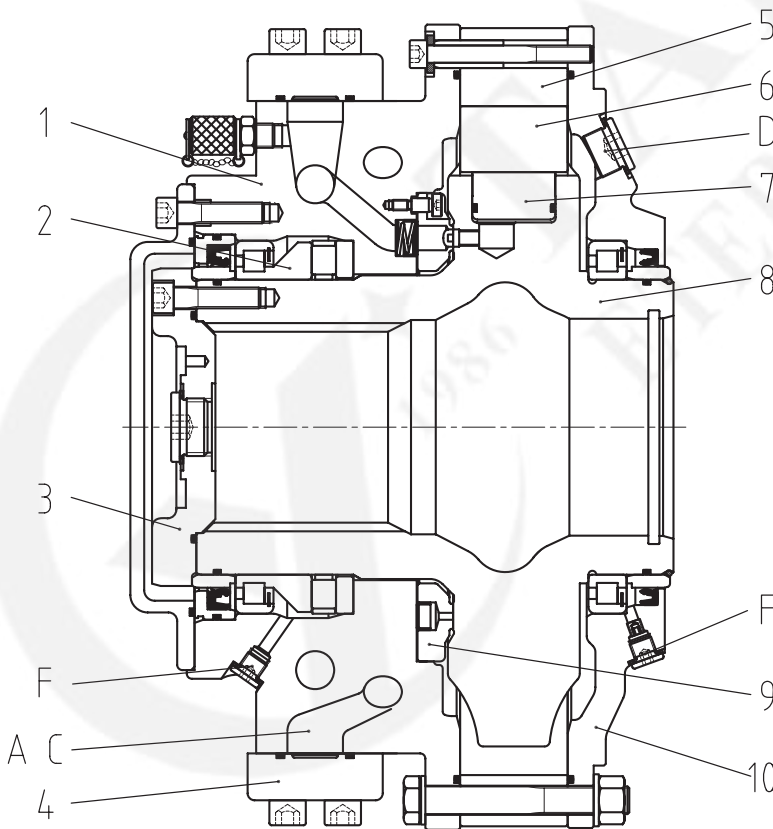
This series of products have a variety of sizes and installation methods, the direction of rotation is reversible, and the design advantages of the hollow shaft can be used to conveniently configure special equipment such as brakes and tachometers that pass through the hole in the motor according to user requirements, greatly reducing the user's impact on the work host structure. The difficulty of the design.

Compared with other types of hydraulic motors of the same power, the whole machine can be reduced by more than 30% in weight, reducing the consumption of various raw materials, reducing energy consumption and reducing environmental pollution. At the same time, the product has strong adaptability and is used in many industries such as ships, injection molding machines, Crusher, construction machinery, coal mines, cement, metallurgy, etc., which can provide a truly competitive advantage for equipment operation.

结构及工作原理/Structure & Operation theory

本公司生产的CRM系列低速大扭矩内曲线液压马达采用端面配油，径向柱塞内曲线形式，壳体固定，利用马达转子的中空结构输出扭矩。偶数个柱塞均布于转子的径向缸孔中，配流盘实现对工作柱塞的准确配油。每个柱塞都作用在滚柱上。当液压力作用在柱塞上，滚柱将力传递到曲线导轨的内曲面上，曲线导轨与连接板、安装法兰板、配油封盖固定在一起，产生扭矩。滚柱将反作用力传递到转子缸孔中的柱塞上，产生旋转，且扭矩正比于系统压力。系统主油管接到配油封盖的油口A和C，而泄油管则接到油口D1、D2或D3上。马达通过转子的中空结构，以花键或锁紧盘形式与被驱动轴连接传递扭矩。马达的对称性设计使它可以成为一个双排量马达，即在给定流量下可以得到两种不同转速，安装一个相应的阀在油口上即可实现排量的改变。

Our CRM series cam ring motor use in the low speed and high torque with the facing distribution. Which is a kind of the radial-piston type motor with a rotating cylinder block/hollow shaft and a stationary housing. An even number of pistons are radially located in bores inside the cylinder block, and the valve plate directs the incoming and outgoing oil to and from the working pistons. Each piston is working against a cam roller. When the hydraulic pressure is acting on the pistons, the cam rollers are pushed against the slope on the cam ring that is rigidly connected to the housing, the movement curve, connection block, flange and the seal cover get together, there by producing a torque. The cam rollers transfer the reaction force to the piston which are guided in the rotating cylinder block. Rotation therefore occurs, and the torque available is proportional to the pressure in the system. Oil main lines are connected to ports A and C and drain lines to ports D1, D2 or D3. The motor is connected to the shaft of the driven machine through the hollow shaft of the cylinder block. The torque is transmitted by using a mechanical shaft coupling, or alternatively by splines. The symmetrical design of the motor has made it possible to design it as a two displacement motor. This means that two different speeds can be obtained for a given flow. The simplest way of performing displacement change is by connecting a special valve, direct to the flange face on the connection block.



- 1、配油封盖/Seal cover
- 2、轴向径向组合轴承/Axial radial composite bearings
- 3、转子后端盖/The the oover of the end of the roller
- 4、油口法兰盖板/The oil port flange
- 5、曲线导轨/Movement curve
- 6、滚柱/Cam roller
- 7、柱塞/Piston
- 8、转子(带花键)/Roller with spline
- 9、配油盘/Valve plate
- 10、输出封盖/The output block

- A) 进/出油口A口/Inlet or outlet port A
 C) 进/出油口C口/Inlet or outlet port C
 D) 壳体泄油口/Drain port
 F) 冲洗油口/Flushing port



产品特点/Product Feature

CRM-HA系列液压马达是我司针对高端市场所开发的新产品，此产品能在各种恶劣工况下稳定工作，能满足大多数场合下对液压马达的高工作压力、大扭矩输出及低速稳定性等要求，在结构上，这款马达采用端面配流，径向柱塞内曲线形式，利用马达转子中空优势，能方便的根据用户要求配置制动器、测速器，及通过马达中孔的特殊设备，大大简化用户对主机结构的要求。

其主要特点如下：

- 抗冲击能力强，稳定性好；
- 可实现安全平稳的变量及停车制动；
- 能实现自由轮工况；多种安装方式及中空轴设计；
- 大输出扭矩、宽转速范围，可直接替代高速马达加减速机装置，结构紧凑（体积小）；
- 具有良好的低速稳定性，能在很低的转速下平稳运转；
- 具有较高的机械效率和容积效率；
- 旋转方向可逆；功率质量比高；可靠性好，维修方便。

CRM-HA series' cam-ring piston hydraulic motor is what we design for high-end application. With advantage of hollow rotor, CRM motor can be mounted with brake, speed encoder, and some special equipments mounted through the center of motor, according to the user's requirements. It shows its striking features of high pressure endurance, stability at low speed, and high output torque in various inferior working conditions.

Main characteristics:

- Strong anti-shock capability and stability;
- Stable variable switch and parking brake;
- Enable free running working condition; Multi-mounting options; hollow shaft design;
- Large output torque; wide speed range; directly replace combined devices of high speed motor and gearbox; compact structure;
- Stable performance at low speed;
- Higher mechanical and volumetric efficiency;
- Reversible rotation; High power-mass ratio; High reliability; easy maintenance.

CRM-HA产品标识说明/CRM-HA Ordering code

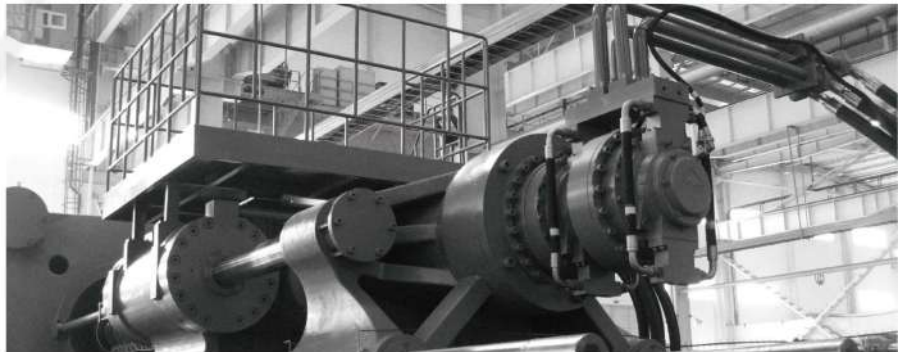
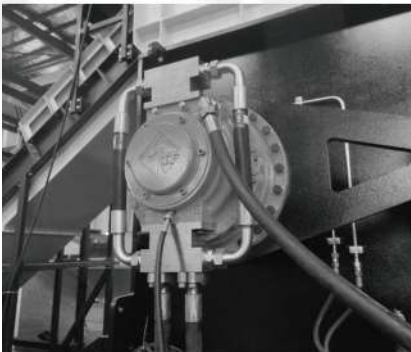


- 1、CRM-HA马达代号Motor Model _____
- 2、型号 Type _____
- 3、单位扭矩 Specific Torque(Nm/bar) _____
- 4、安装形式 Mounting Alternatives, Shaft _____
 锁紧盘C Shrink Disc Couping
 内花键S Splines
 其它O Others
- 5、制动器和其他部件 Multi disc brake or tandem kit _____
 不带制动器或其它部件A Motor without brake or TA kit
 带制动器或其它部件B Motor prepared for brake or TA kit
- 6、单速O Single Speed Motor _____
 双速顺时针旋转R(从轴端看A口进油) Dual speed motor, rotation clockwise rotation(As view from shaft end and inlet to A port)
 双速逆时针旋转L(从轴端看A口进油) Dual speed motor, rotation counter clockwise(As view from shaft end and inlet to A port)
- 7、密封件 Type of Seal _____
 丁腈橡胶N Nitrile
 氟橡胶V Viton
- 8、通孔 Through Hole _____
 带通孔H With Through Hole
 不带通孔O Without Through Hole
- 9、选配项 Additional Items _____
 无油口T1和F1 0 Without oil port T1&F1
 带油口T1和F1 1 With oil port T1&F1

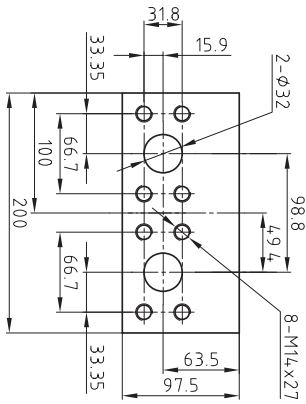
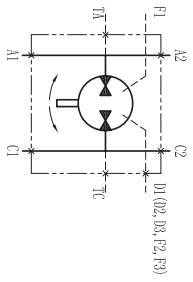


技术参数 / Technical Specification

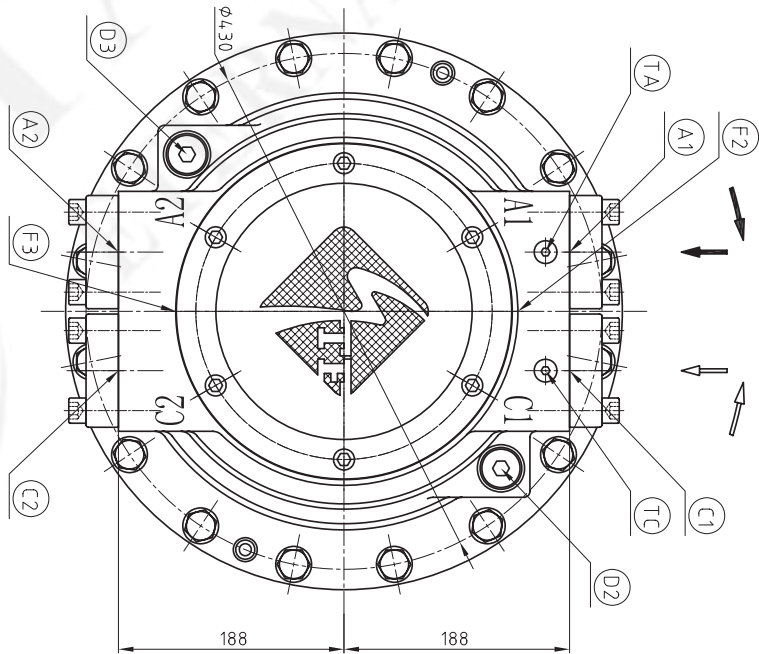
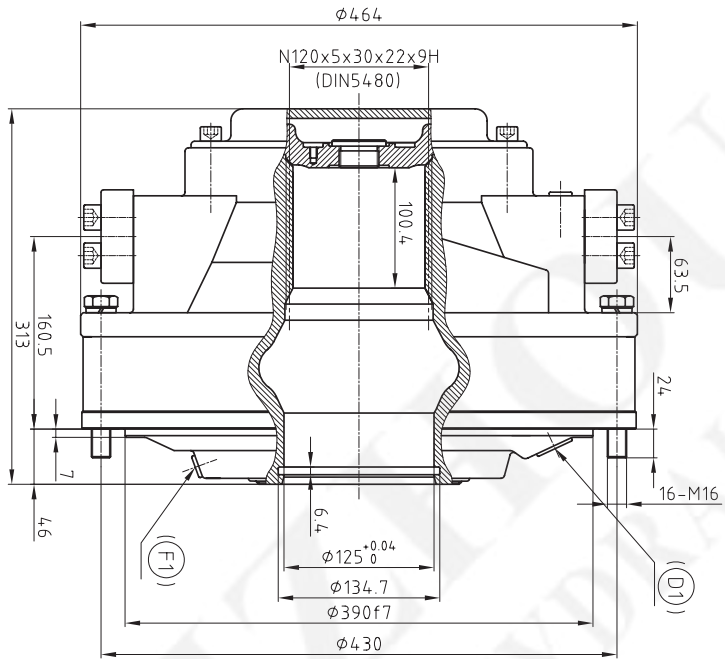
马达型号 TYPE	排量 Displacement	单位扭矩 Unit Torque	最大压力 Max.Pressure	额定转速 Rated Speed	最大转速 Max.Speed	重量(花键) Weight (Spline)	重量(锁紧盘) Weight (Shrink Disc Coupling)
	ml/r	N.m/bar	bar	r/min	r/min	Kg	Kg
HA50-20	1256	20	350	340	340	175	203
HA50-25	1570	25	350	298	340		
HA50-32	2010	32	350	238	340		
HA50-40	2512	40	350	196	298		
HA50-50	3140	50	350	170	238		
HA70-40	2512	40	350	230	340	205	232
HA70-50	3140	50	350	191	272		
HA70-60	3771	60	350	166	234		
HA70-70	4400	70	350	153	204		
HA100-40	2512	40	350	332	340	265	310
HA100-50	3140	50	350	272	340		
HA100-64	4020	64	350	221	332		
HA100-80	5024	80	350	187	264		
HA100-100	6280	100	350	162	230		
HA140-80	5024	80	350	208	289	305	347
HA140-100	6280	100	350	174	234		
HA140-120	7543	120	350	153	208		
HA140-140	8800	140	350	145	187		
HA210-160	10051	160	350	89	128	395	456
HA210-180	11314	180	350	85	115		
HA210-210	13200	210	350	72	98		
HA280-240	15085	240	350	78	104	485	546
HA280-280	17600	280	350	67	89		



CRM-HA50 外形及安装尺寸/ CRM-HA50 Installation Dimensions



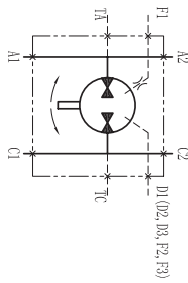
A,C;油口/Conn,A,C



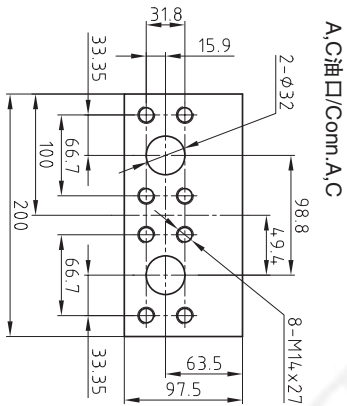
油口尺寸/Connection

主油口A Main Conn,A	主油口C Main Conn,C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	C1	D1	(F1)	TA
A2	C2	D2	F2	TC
SAE 1 1/4"	SAE 1 1/4"	D3	F3	TA
			BSP1/4"	TC
				BSP1/4"

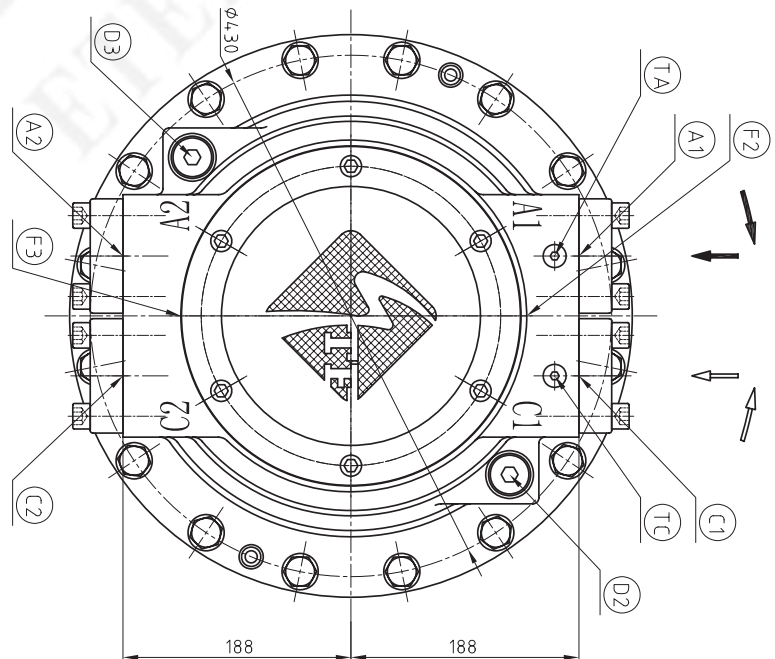
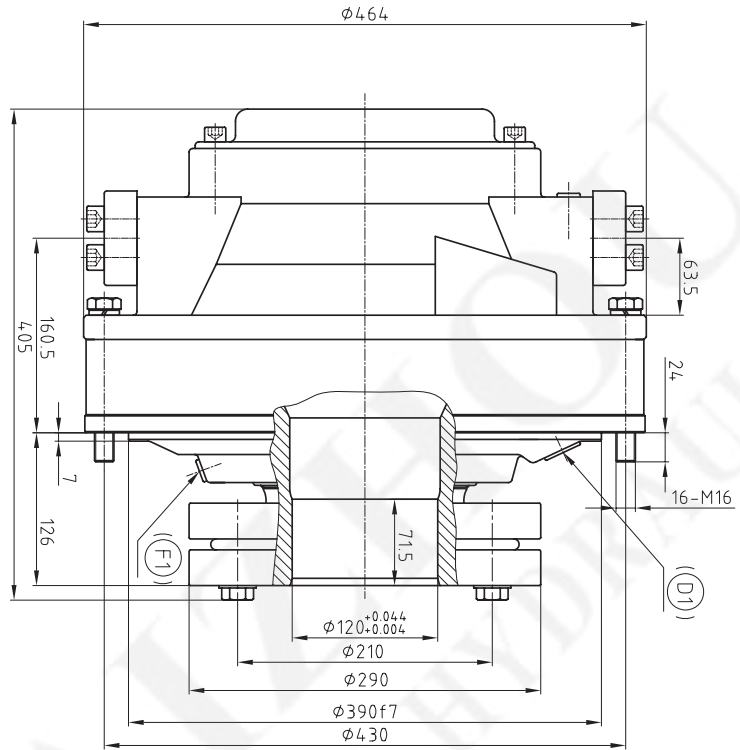
CRM-HA50 外形及安装尺寸/ CRM-HA50 Installation Dimensions



液压原理图/Hydraulic Schematic



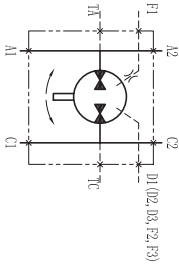
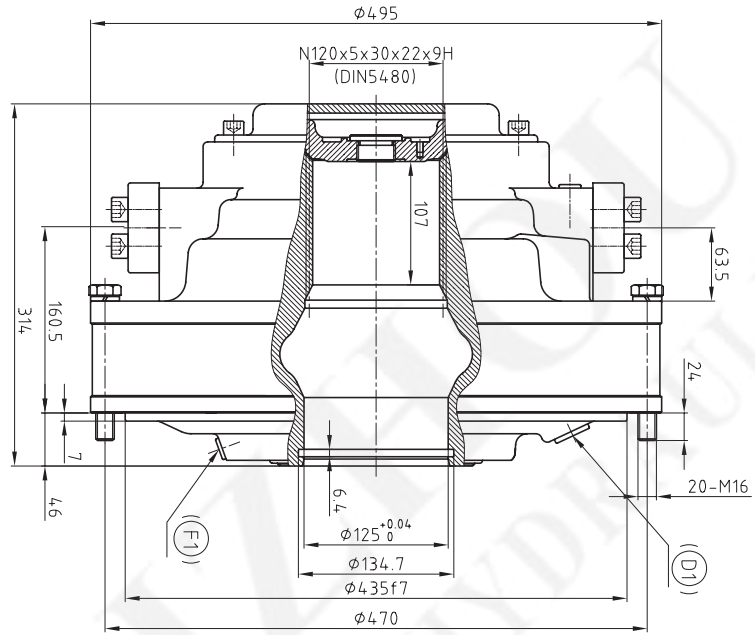
A.C.油口/Conn.A.C



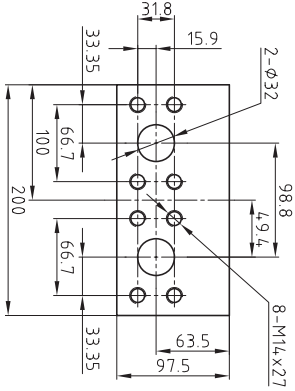
油口尺寸/Connection

主油口A Main Conn.A	主油口C Main Conn.C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1 A2	C1 C2	(D1) D2 D3	(F1) F2 F3	TA TC
SAE 1 1/4"	SAE 1 1/4"	BSP3/4"	BSP1/4"	BSP1/4"

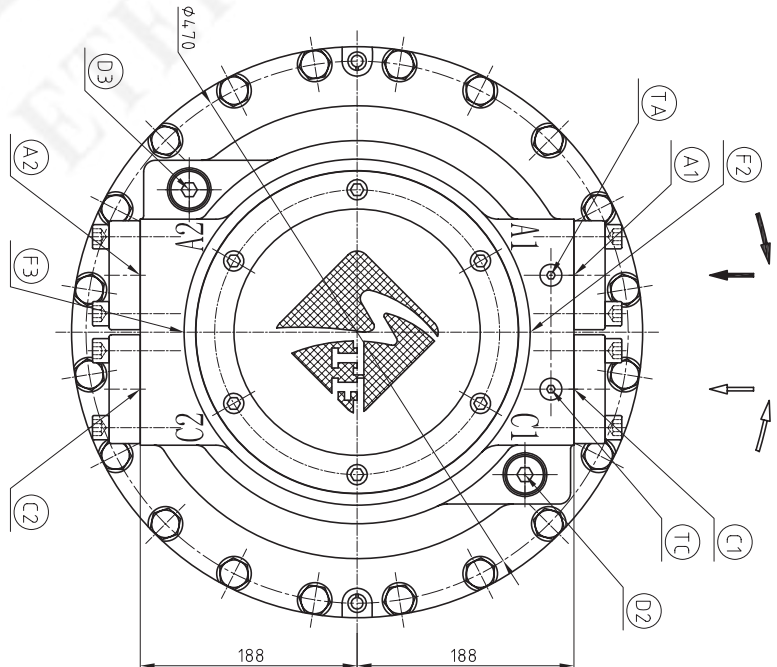
CRM-HA70 外形及安装尺寸/ CRM-HA70 Installation Dimensions



液压原理图/Hydraulic Schematic



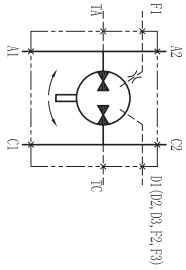
A, C油口/Conn. A, C



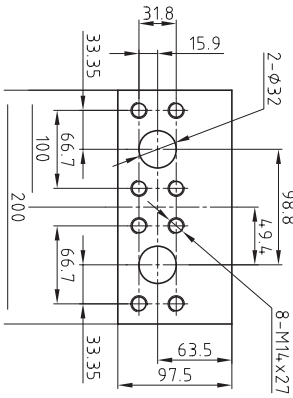
油口尺寸/Connection

主油口A Main Conn. A	主油口C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	C1	(D1)	(F1)	TA
A2	C2	D2	F2	TC
SAE 1/4"	SAE 1/4"	BSP3/4"	BSP1/4"	BSP1/4"

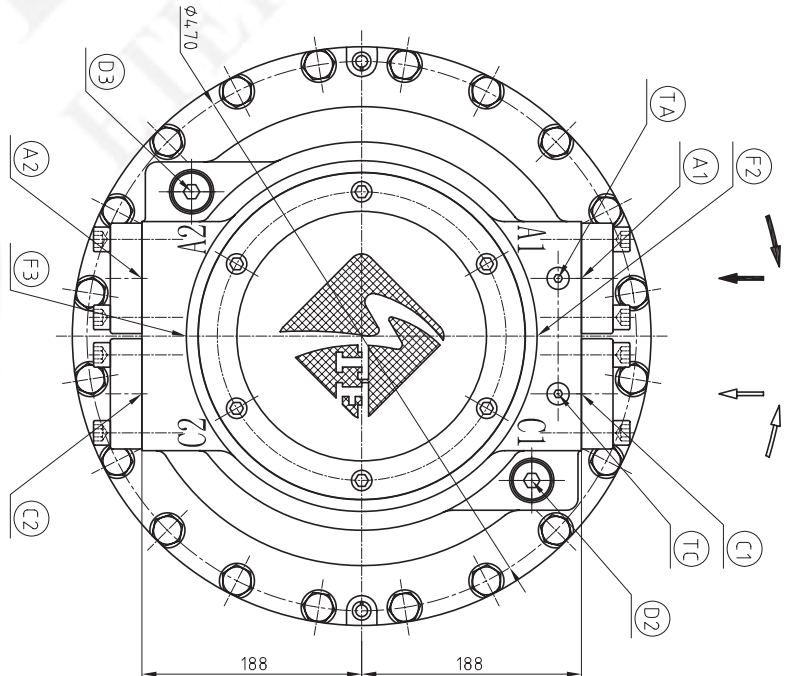
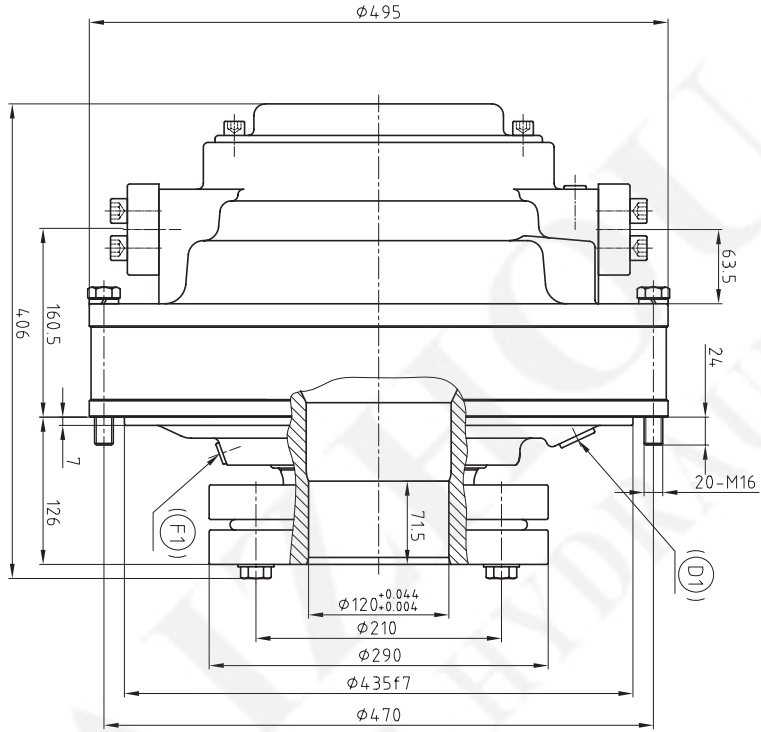
CRM-HA70 外形及安装尺寸/ CRM-HA70 Installation Dimensions



液压原理图/Hydraulic Schematic



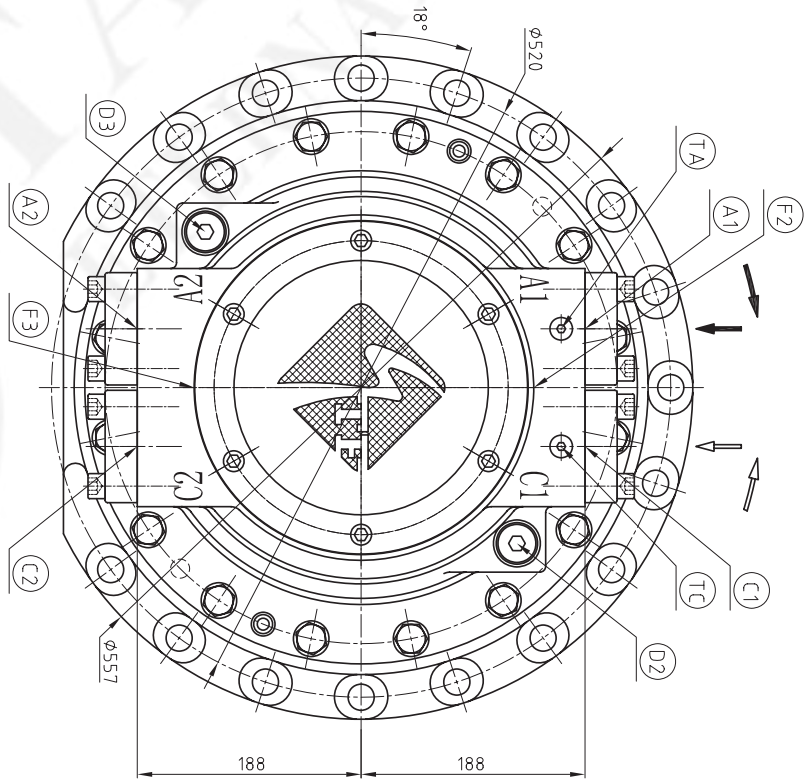
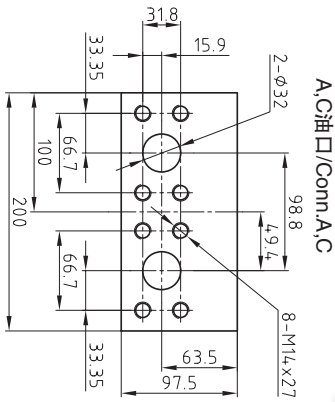
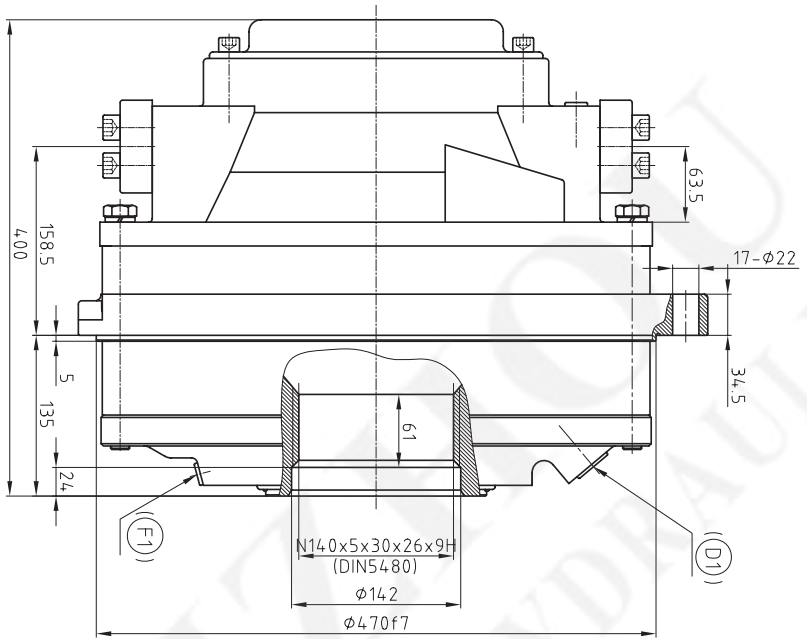
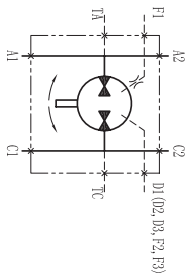
A/C油口/Conn. A,C



油口尺寸/Connection

主油口A Main Conn. A	主油口C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	C1	(D1)	(F1)	TA
A2	C2	D2	F2	TC
SAE 1 1/4"	SAE 1 1/4"	BSP3/4"	BSP1/4"	BSP1/4"

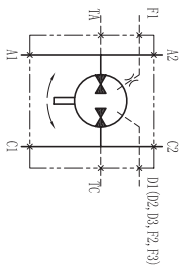
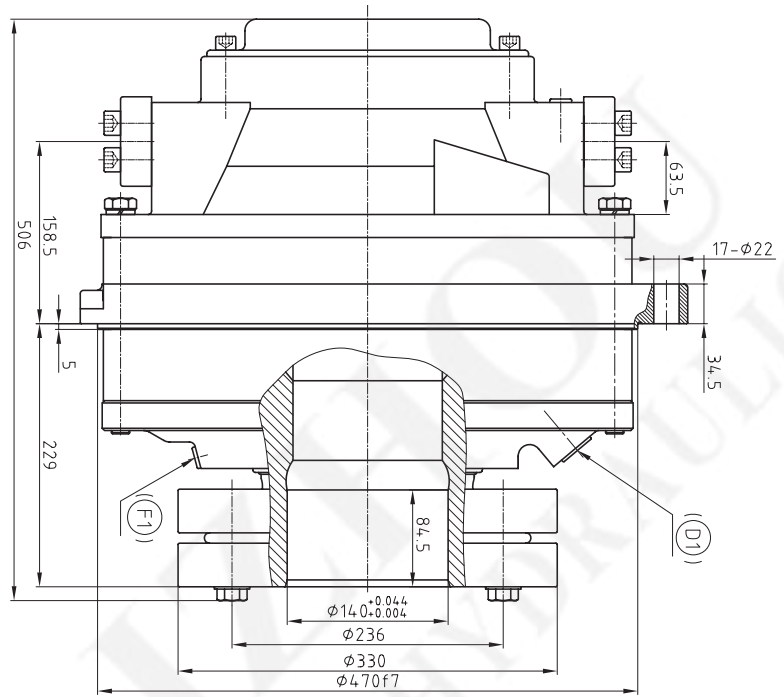
CRM-HA100 外形及安装尺寸/ CRM-HA100 Installation Dimensions



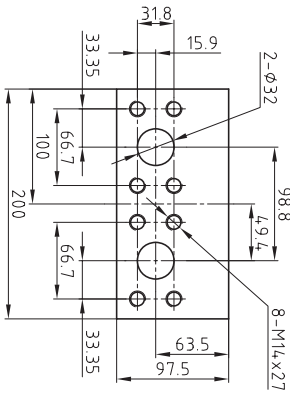
主油口A Main Conn.A	主油口C Main Conn.C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	A2	(D1)	(F1)	TA
SAE 1/4"	SAE 1/4"	BSP3/4"	BSP1/4"	TC

油口尺寸/Connection

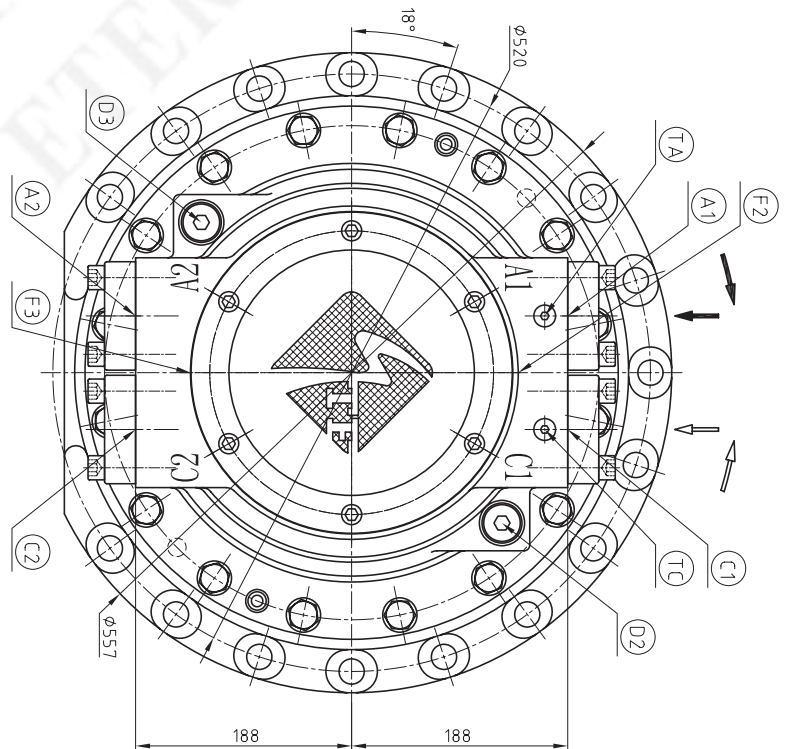
CRM-HA100 外形及安装尺寸/ CRM-HA100 Installation Dimensions



液压原理图/Hydraulic Schematic



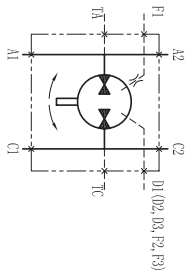
A, C油口/Conn. A, C



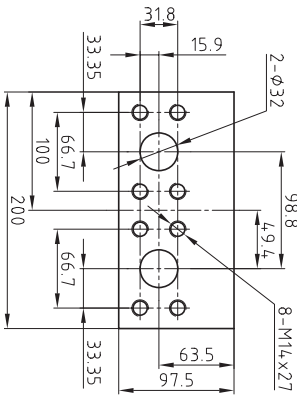
油口尺寸/Connection

主油口A Main Conn. A	主油口C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1 A2	C1 C2	(D1) (D2) (D3)	(F1) (F2) (F3)	TA TC
SAE 1 1/4"	SAE 1 1/4"	BSP3/4"	BSP1/4"	BSP1/4"

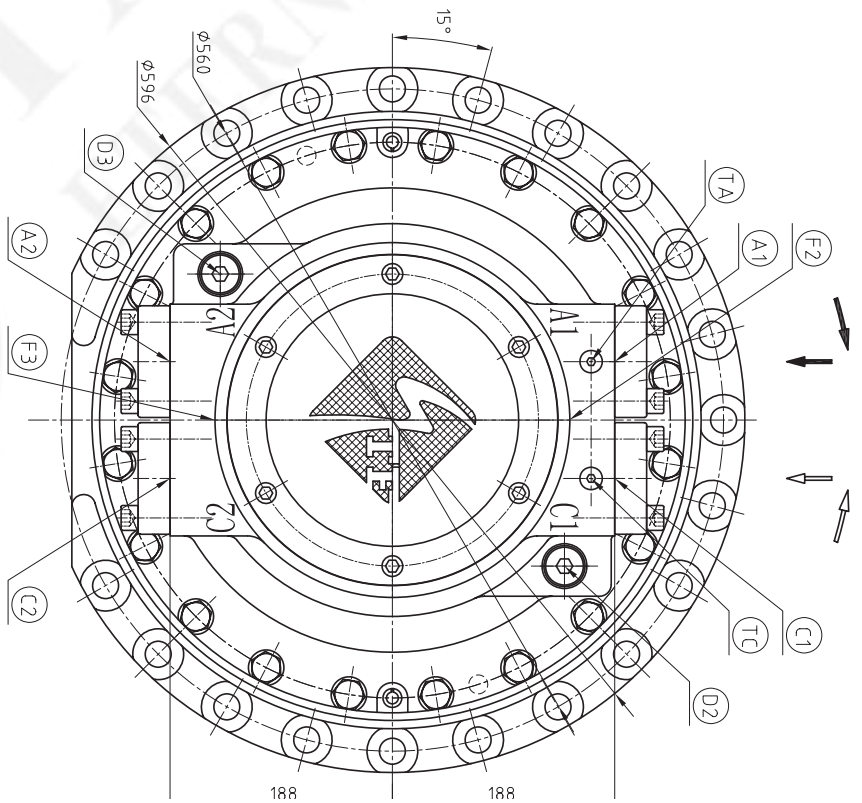
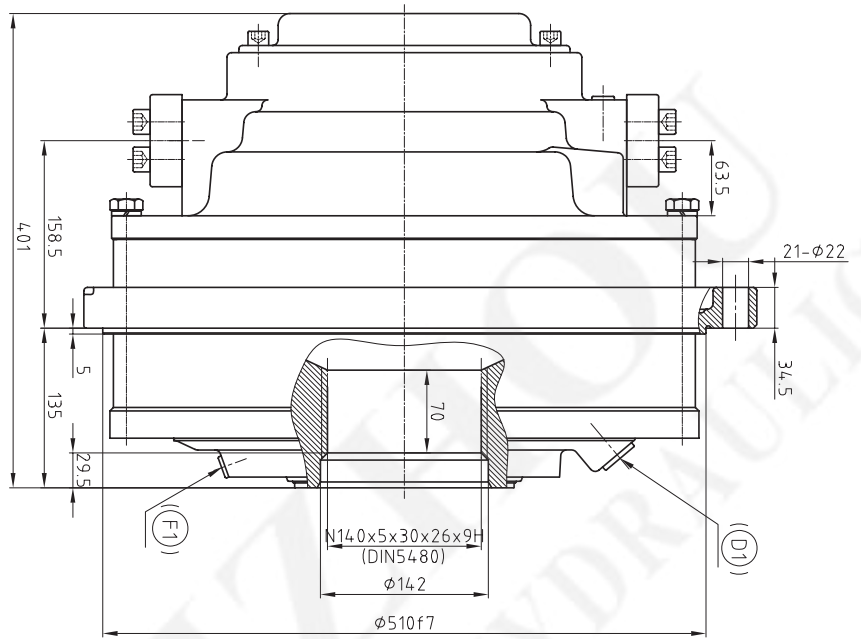
CRM-HA140 外形及安装尺寸/ CRM-HA140 Installation Dimensions



液压原理图/Hydraulic Schematic



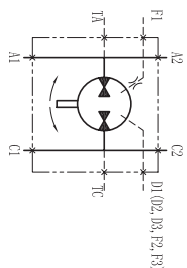
A.C.油口/Conn.A.C



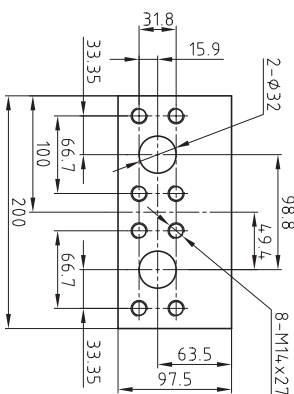
油口尺寸/Connection

主油口A Main Conn.A	主油口C Main Conn.C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1 A2	C1 C2	(D1) D2 D3	(F1) F2 F3	TA TC
SAE 1 1/4"	SAE 1 1/4"	BSP3/4"	BSP1/4"	BSP1/4"

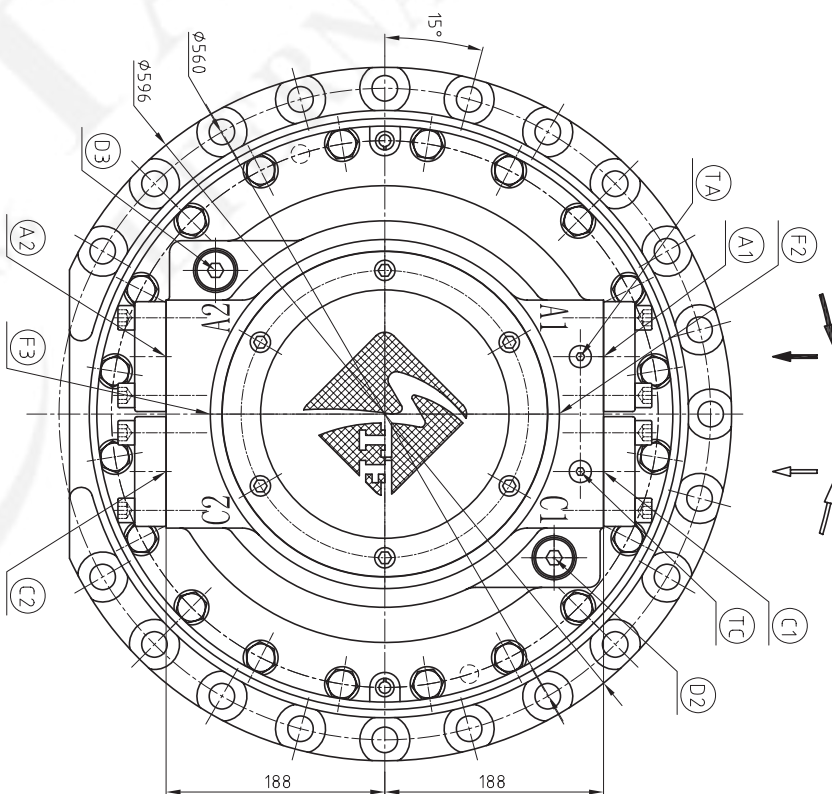
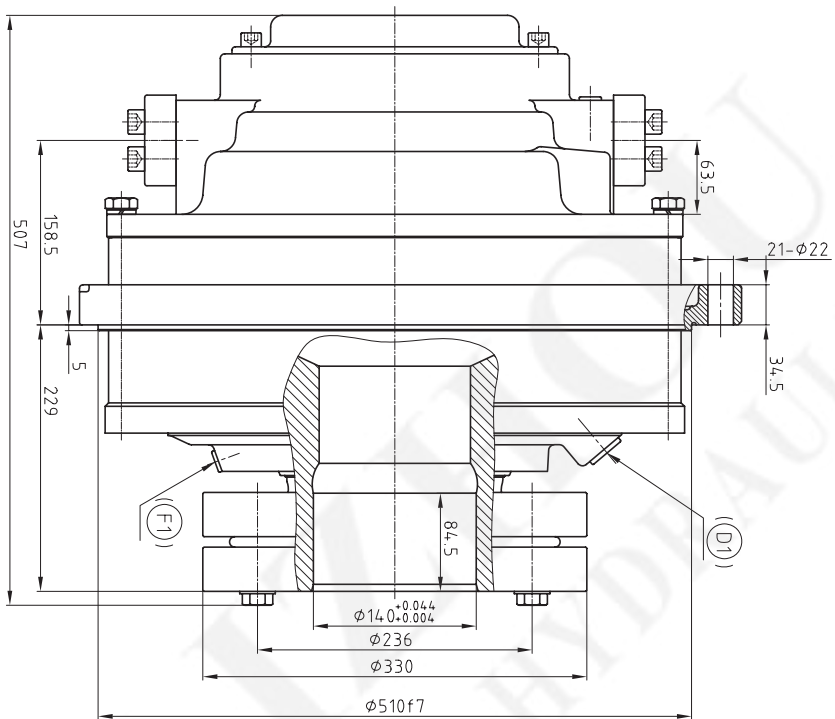
CRM-HA140 外形及安装尺寸/ CRM-HA140 Installation Dimensions



液压原理图/Hydraulic Schematic



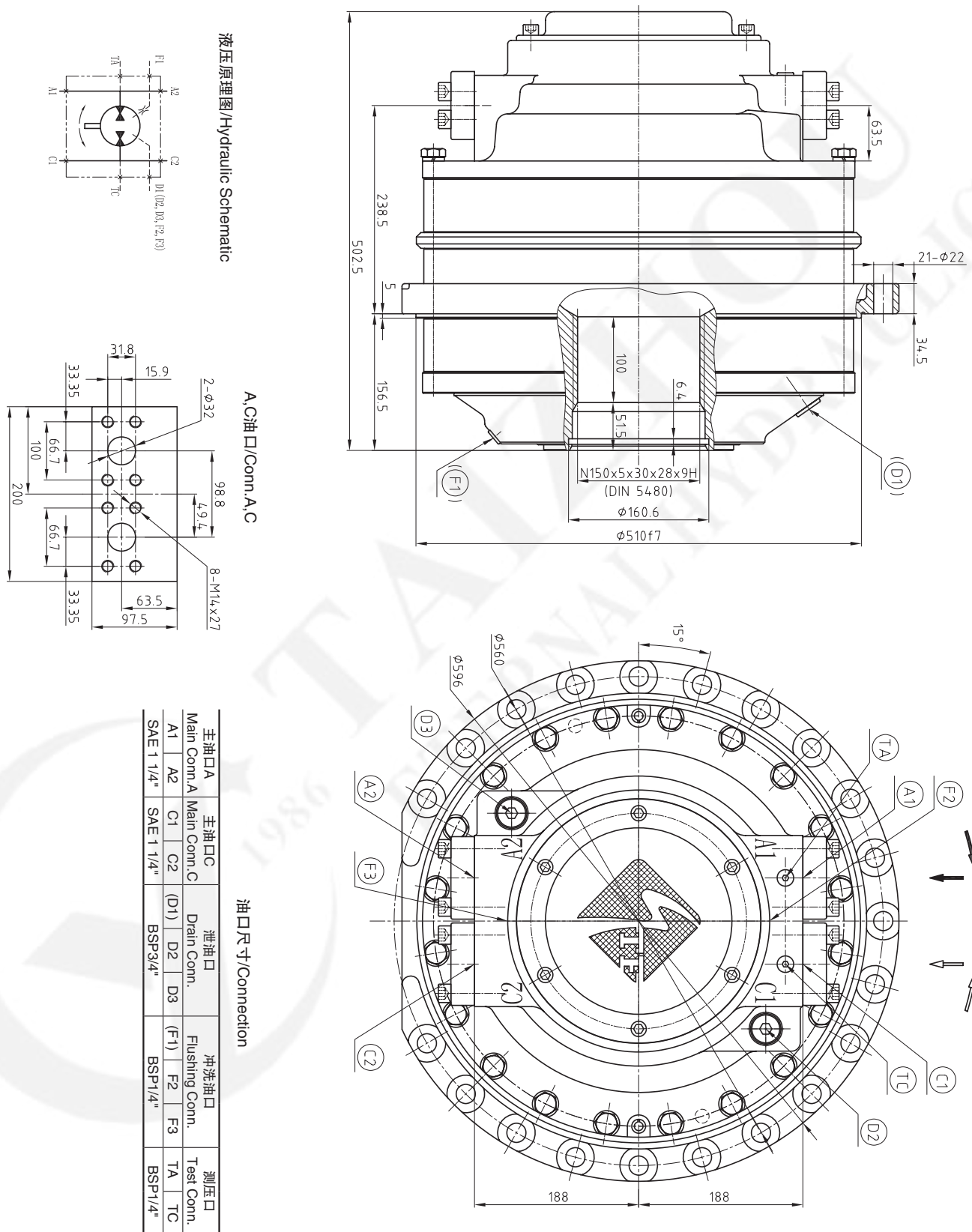
A,C油口/Conn.A,C



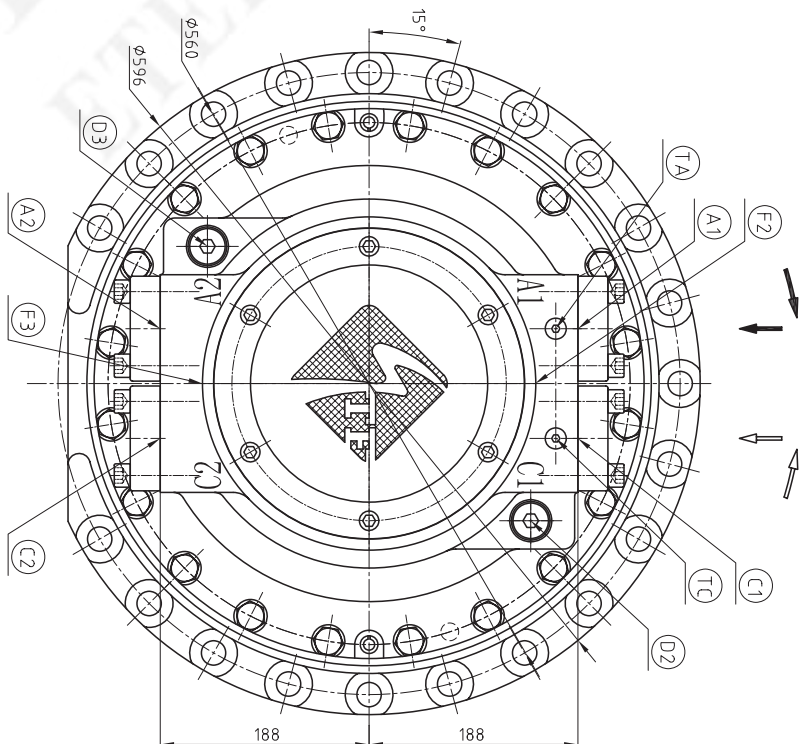
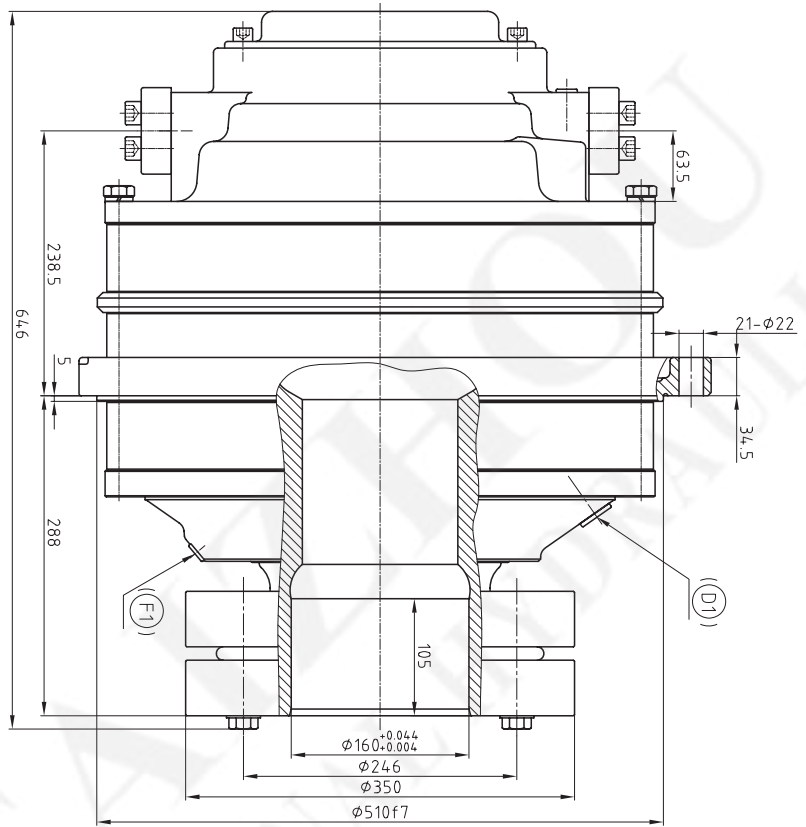
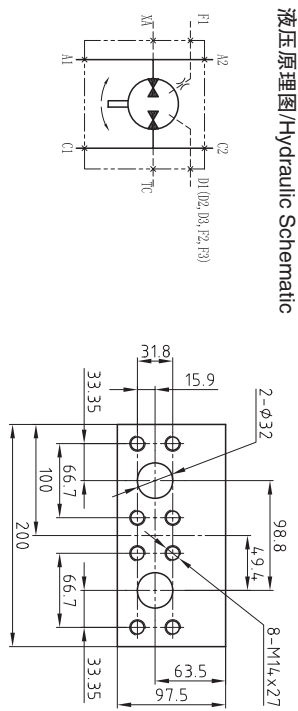
油口尺寸/Connection

主油口A Main Conn.A	主油口C Main Conn.C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1 A2	C1 C2	(D1) D2 D3	(F1) F2 F3	TA TC
SAE 1 1/4"	SAE 1 1/4"	BSP3/4"	BSP1/4"	BSP1/4"

CRM-HA210 外形及安装尺寸/ CRM-HA210 Installation Dimensions



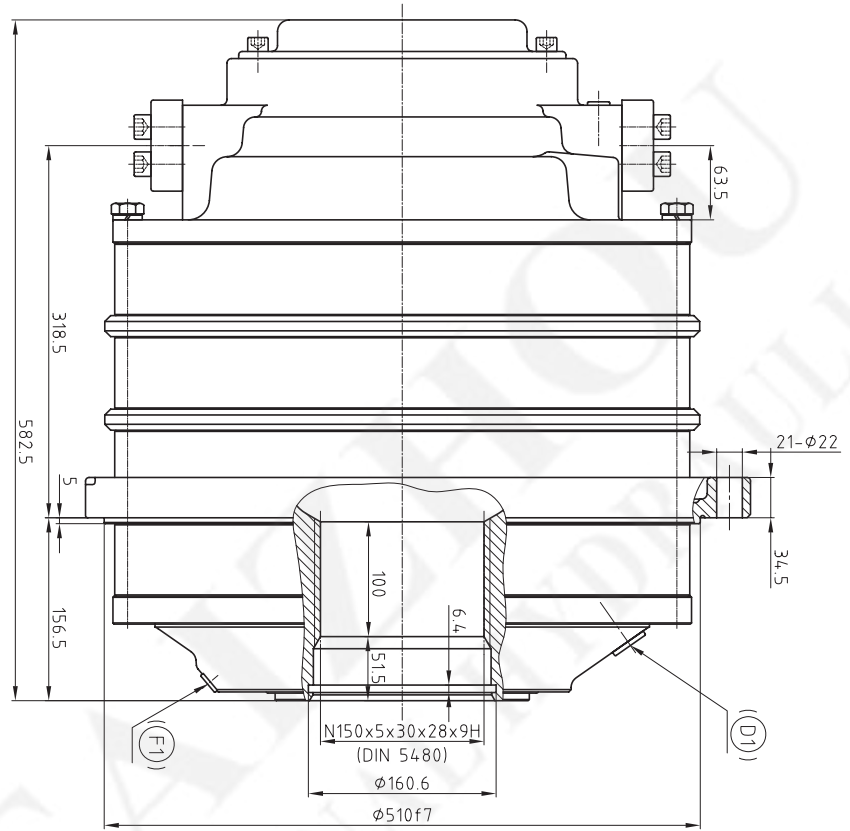
CRM-HA210 外形及安装尺寸/ CRM-HA210 Installation Dimensions



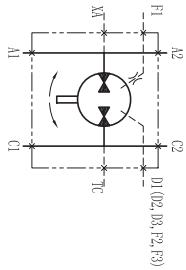
主油口A Main Conn. A	主油口C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	A2	(D1)	(F1)	TA
A1	A2	D2	F2	TC
SAE 1 1/4"	SAE 1 1/4"	D3	F3	TA
		D3	F3	TC
				TA
				TC

油口尺寸/Connection

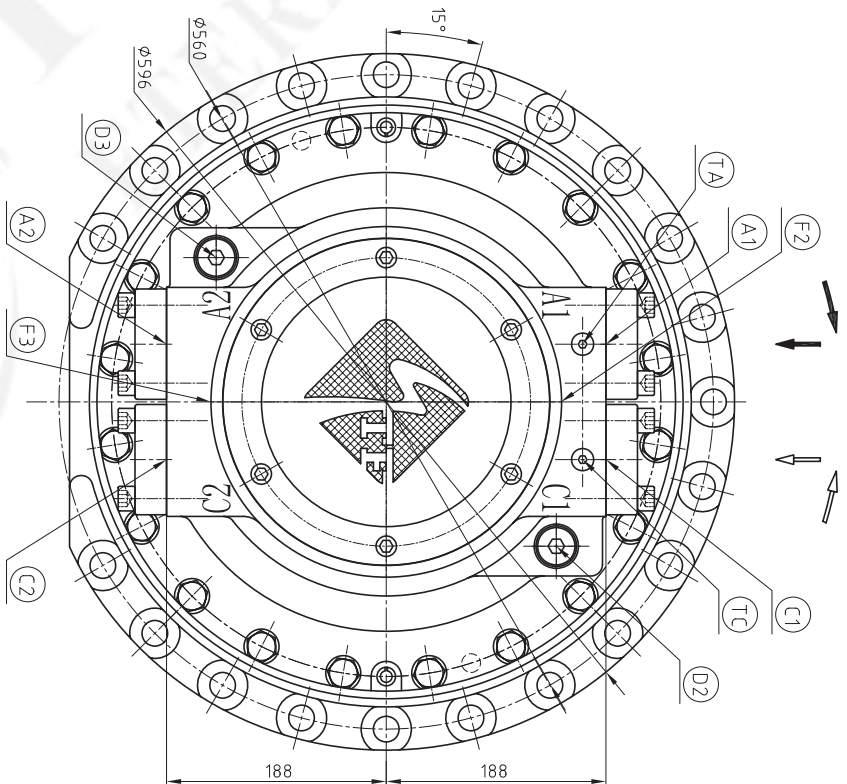
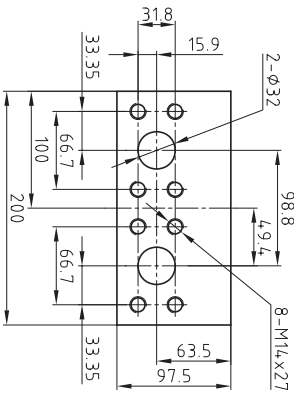
CRM-HA280 外形及安装尺寸/CRM-HA280 Installation Dimensions



液压原理图/Hydraulic Schematic



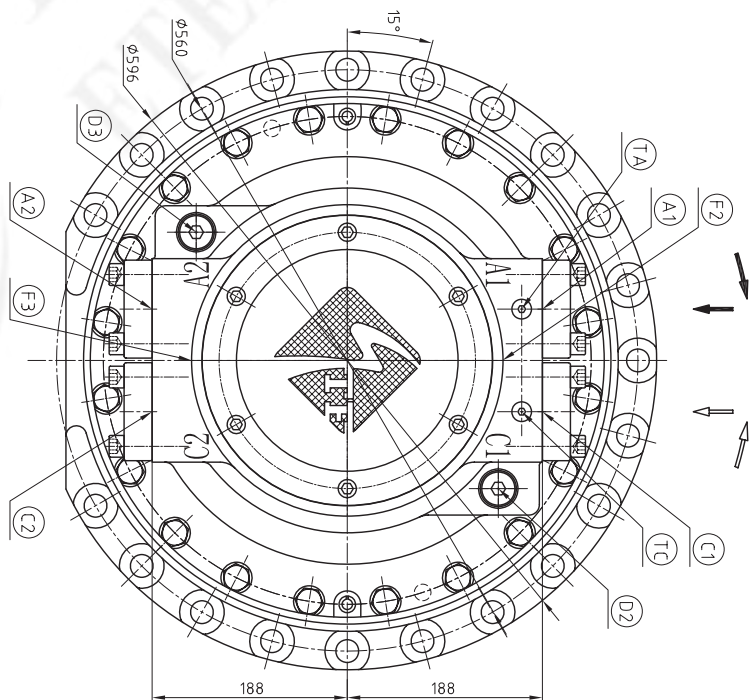
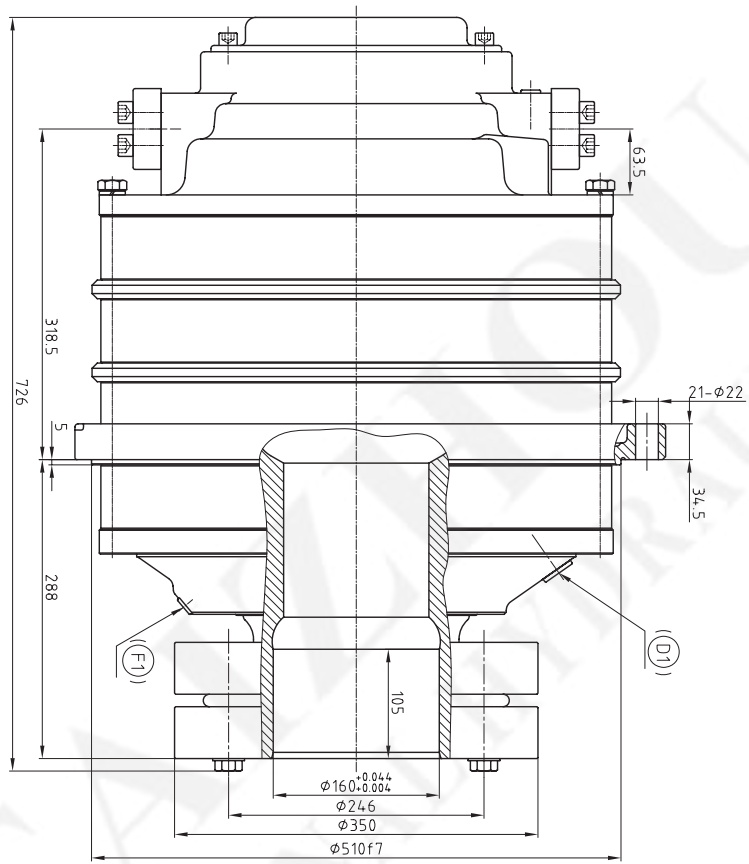
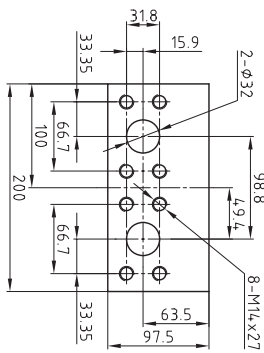
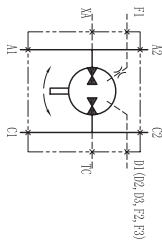
A, C油口/Conn. A, C



油口尺寸/Connection

主油口A Main Conn. A	主油口C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	C1	(D1)	(F1)	TA
A2	C2	D2	F2	TC
SAE 1/4"	SAE 1/4"	D3	F3	TC
		BSP3/4"	BSP1/4"	BSP1/4"

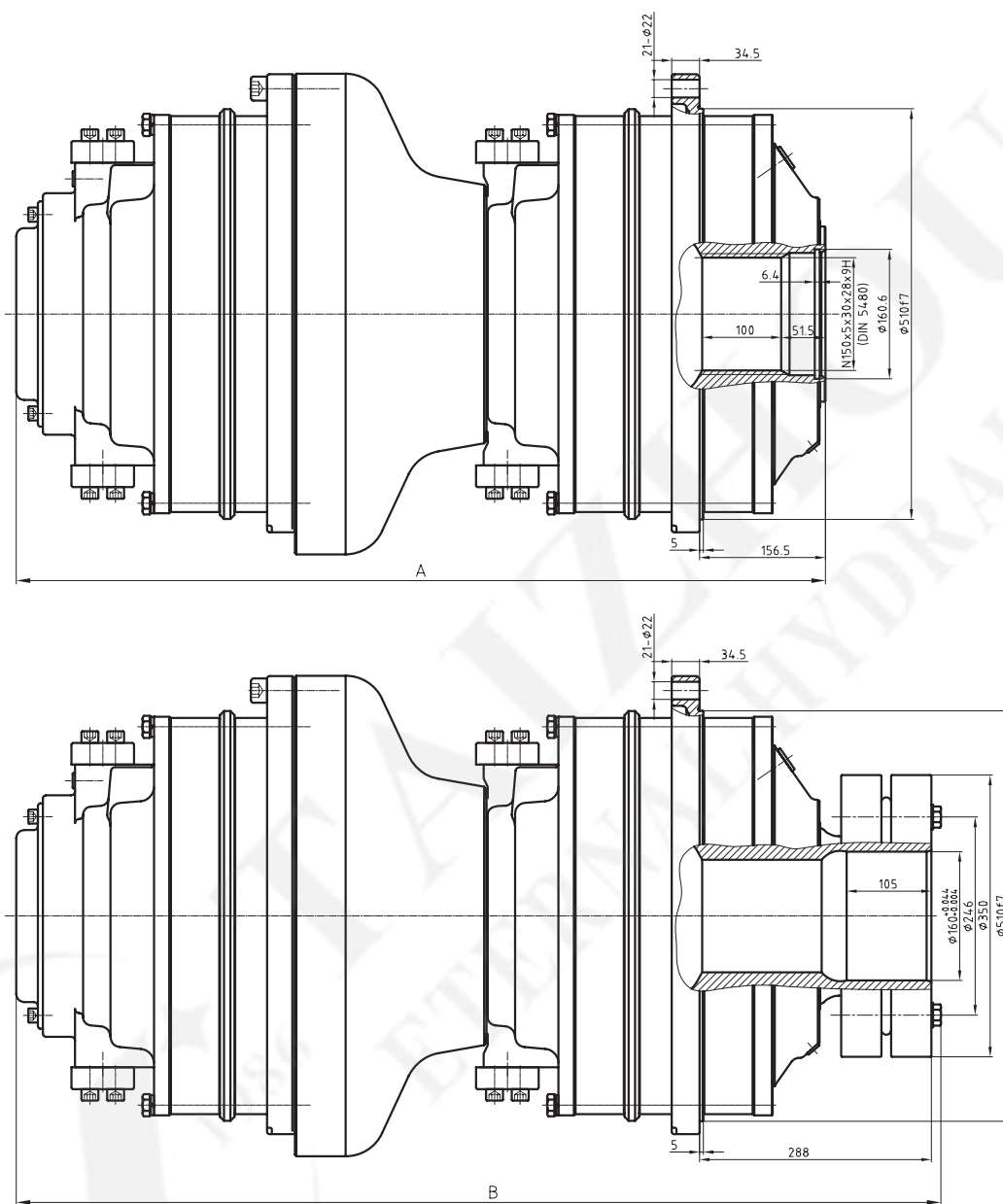
CRM-HA280 外形及安装尺寸/ CRM-HA280 Installation Dimensions



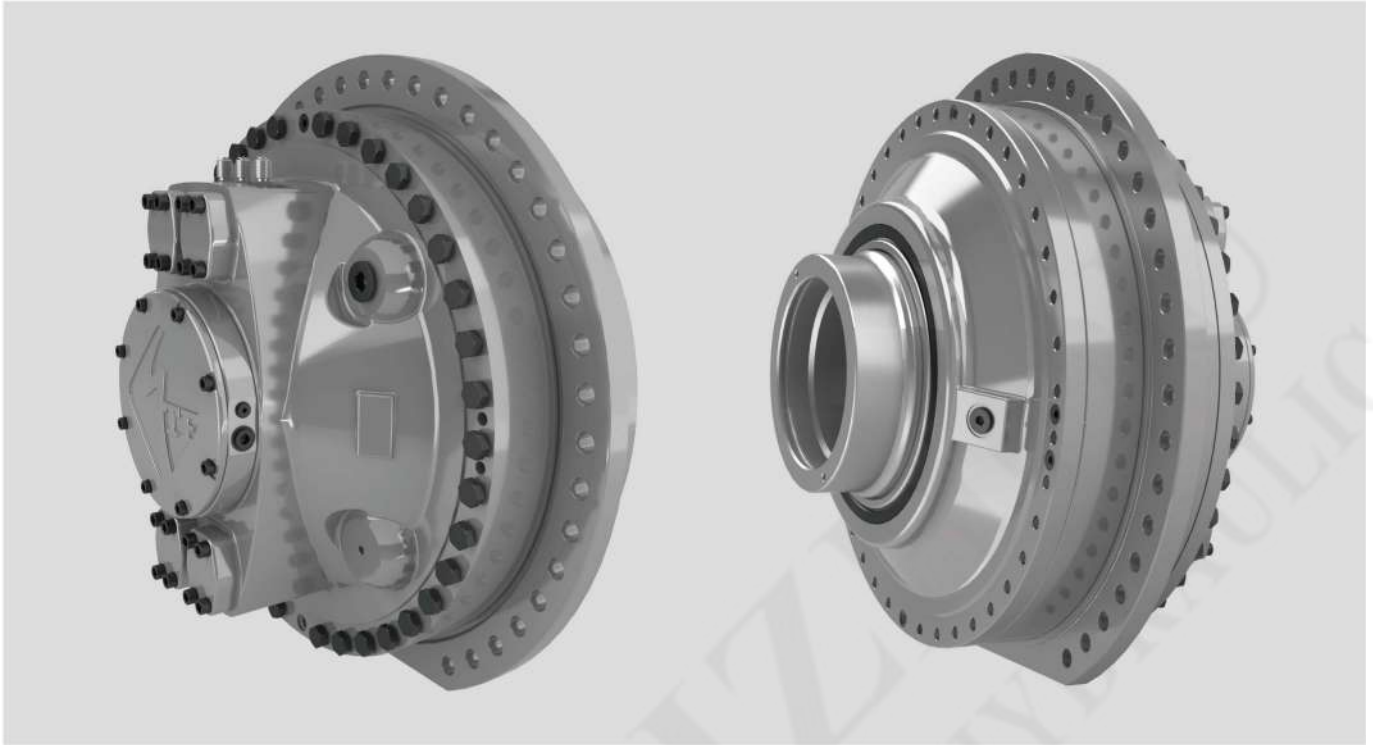
油口尺寸/Connection

主油口A Main Conn. A	主油口C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	C1	(D1)	(F1)	TA
A2	C2	D2	F2	TC
SAE 1 1/4"	SAE 1 1/4"	D3	F3	TA
		BSP3/4"	BSP1/4"	TC
				BSP1/4"

CRM-HA210 串联马达/ CRM-HA210 Motor Connected In Series



马达型号 TYPE	最大压力 Max.Pressure	最大转速 Max.Speed	重量(花键) Weight(Spline)	重量(锁紧盘) Weight(shrink disc coupling)	尺寸A Size A	尺寸B Size B
	bar	r/min	Kg	Kg	mm	mm
HA210+HA50	240	98	619	680	826	969
HA210+HA70	220		652	713	826	969
HA210+HA100	200		768	829	924	1067
HA210+HA140	180		808	869	924	1067
HA210+HA210	160		898	959	1004	1147



产品特点 / Product Feature

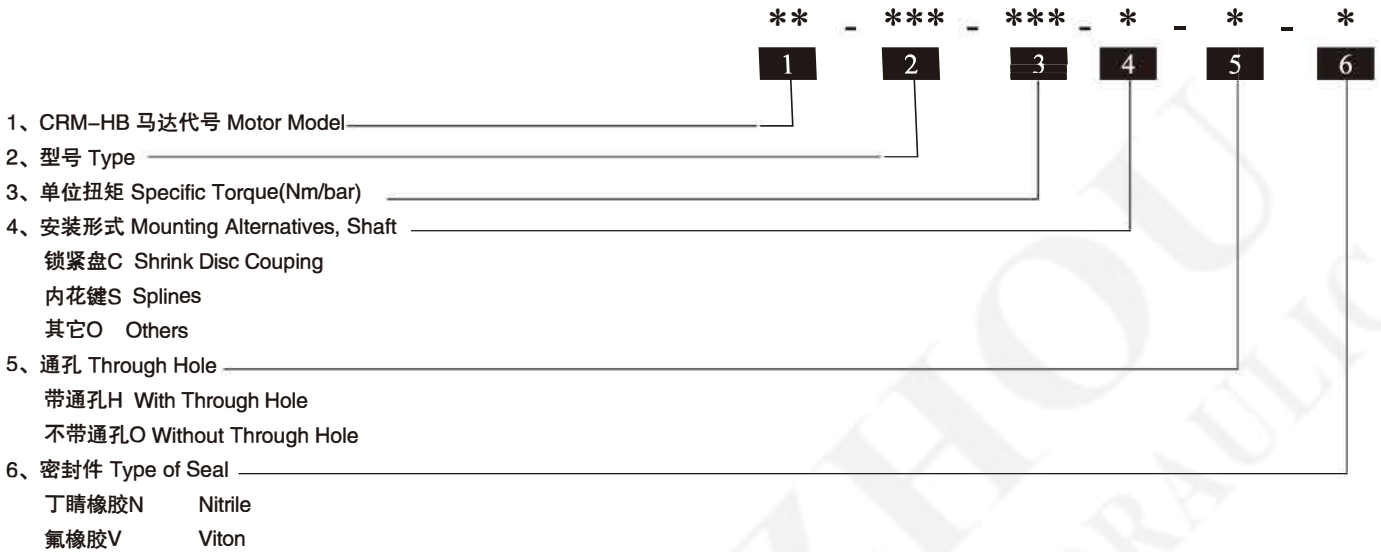
CRM-HB系列径向柱塞式内曲线液压马达结构紧凑，性能可靠，更大的输出功率和扭矩。在实际使用中可以既代替大功率电机加减速机传动形式，又可以代替多台液压马达并联工作形式。在结构上大大简化了主机的设计制造，同时简化了传动链，提高了整体传动结构的稳定性，减小了使用维护成本。马达可直接安装在被驱动轴上，无需地基、联轴器和减速箱等结构，为对空间和重量有严格要求的重型应用场合提供了有效且值得信赖的解决方案。

该马达对冲击载荷不敏感，能够适应各种恶劣环境下的连续作业；针对不同的物料和工矿，可调整转速和输出扭矩，能够提升设备的整机性能。CRM-HB系列液压马达以其卓越的结构与性能在多种工况下表现出色，包括物料搬运、造纸、制糖、化工、船舶海洋工程、废料回收及工程机械等行业。

The CRM-HB series radial plunger type inner curve hydraulic motor has a compact structure, reliable performance, and greater output power and torque. In actual use, it can not only replace the transmission form of high-power motor plus reducer, but also replace the parallel working form of multiple hydraulic motors. The structure greatly simplifies the design and manufacture of the main engine, and at the same time simplifies the transmission chain, improves the stability of the overall transmission structure, and reduces the use and maintenance cost. The motor can be directly installed on the driven shaft without the need for foundations, couplings and gearboxes. It provides an effective and reliable solution for heavy-duty applications that have strict requirements on space and weight.

The motor is not sensitive to impact loads and can adapt to continuous operations in various bad environments; for different materials and industrial and mining, the speed and output torque can be adjusted to improve the overall performance of the equipment. CRM-HB series hydraulic motors perform well in a variety of working conditions with their excellent structure and performance, including materials handling, papermaking, sugar industry, chemical industry, marine engineering, waste recycling, construction machinery and so on.

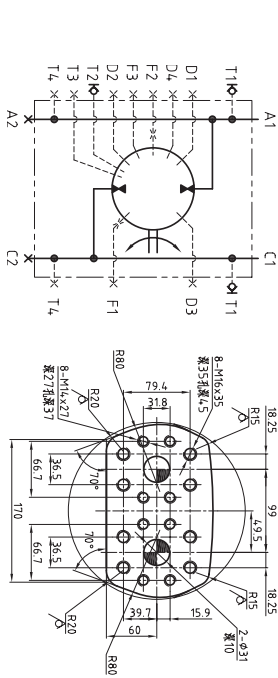
CRM-HB产品标识说明/CRM-HB Ordering code



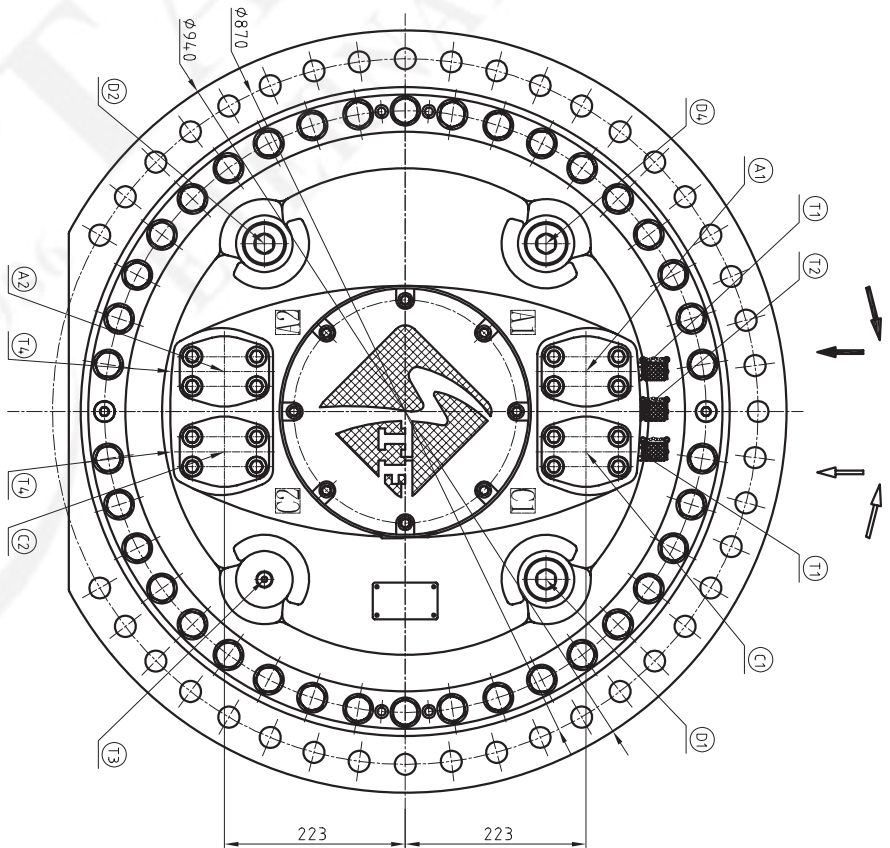
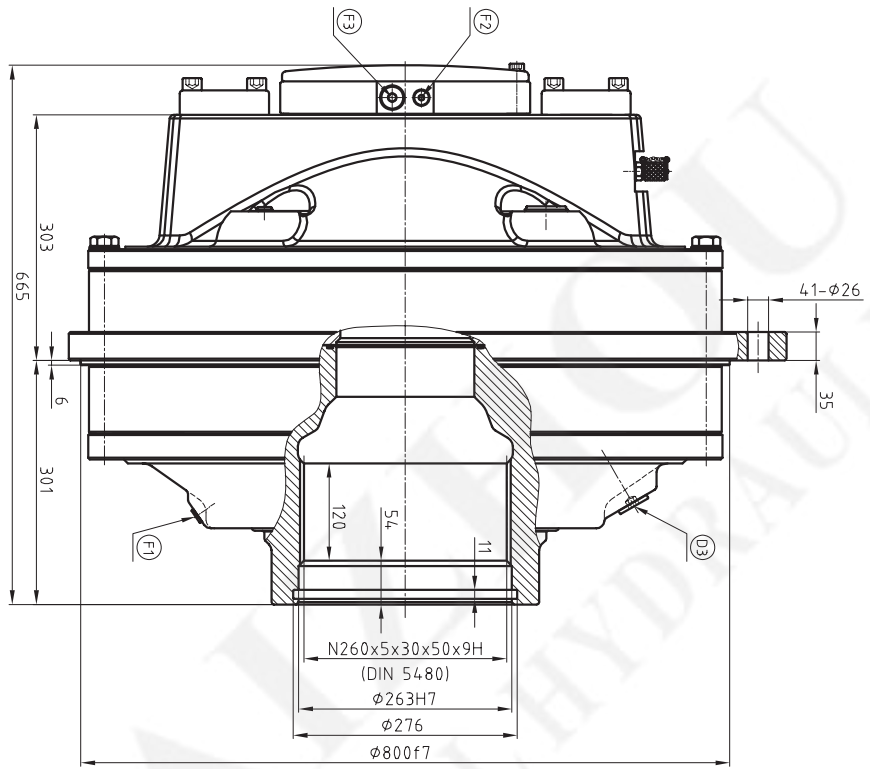
技术参数 / Technical Specification

马达型号 TYPE	排量 Displacement	单位扭矩 Unit Torque	最大压力 Max.Pressure	额定转速 Rated Speed	最大转速 Max.Speed	重量(花键) Weight(Spline)	重量(锁紧盘) Weight (Shrink Disc Coupling)
	ml/r	N.m/bar	bar	r/min	r/min	Kg	Kg
HB280-240	15,100	240	315	45	58	705	800
HB280-280	17,600	280	315	37	49		
HB400-240	15,100	240	315	80	106	1060	1160
HB400-280	17,600	280	315	62	89		
HB400-320	20,100	320	315	60	80		
HB400-360	22,600	360	315	50	70		
HB400-400	25,100	400	315	49	64		
HB400-440	27,600	440	315	39	55		
HB400-480	30,200	480	315	37	53		
HB400-520	32,700	520	315	34	48		
HB400-560	35,200	560	315	32	45		
HB560-440	27,600	440	315	42	55		
HB560-480	30,200	480	315	41	53		
HB560-520	32,700	520	315	35	48		
HB560-560	35,200	560	315	34	45		
HB840-600	37,700	600	315	26	38	1445	1620
HB840-640	40,200	640	315	24	35		
HB840-680	42,700	680	315	23	34		
HB840-720	45,200	720	315	21	31		
HB840-760	47,800	760	315	20	29		
HB840-800	50,300	800	315	20	29		
HB840-840	52,800	840	315	18	27		
HB1120-880	55,329	880	315	19	29	1770	2340
HB1120-920	57,850	920	315	18	28		
HB1120-960	60,371	960	315	17	27		
HB1120-1000	62,893	1000	315	16	26		
HB1120-1040	65,414	1040	315	15	25		
HB1120-1080	67,936	1080	315	14	24		
HB1120-1120	70,457	1120	315	13	23		

CRM-HB560 外形及安装尺寸/ CRM-HB560 Installation Dimensions



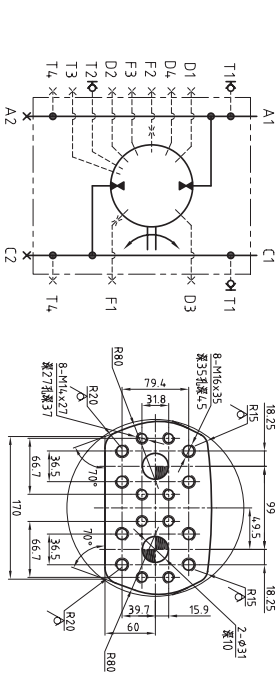
液压原理图/Hydraulic Schematic



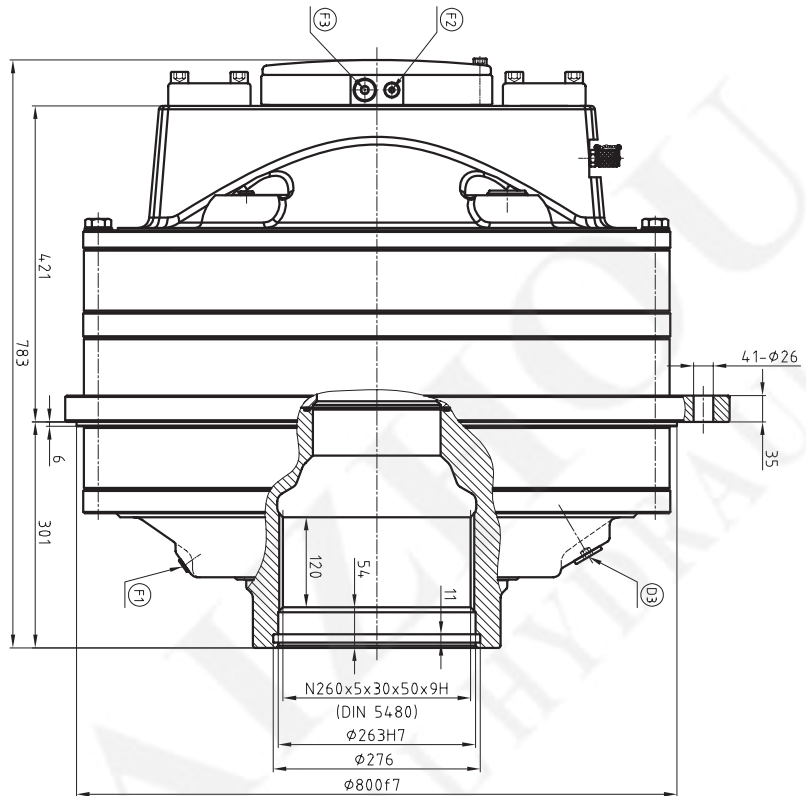
油口尺寸/Connection

主油口 A Main Conn. A	主油口 C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1 A2	C1 C2	D1 D2 D3 D4	F1 F2 F3	T1 T2 T3 T4
SAE 1/4" & SAE 1/2"		BSP 1/4"	BSP 1/4" BSP 1/2"	BSP 1/4" BSP 1/2"

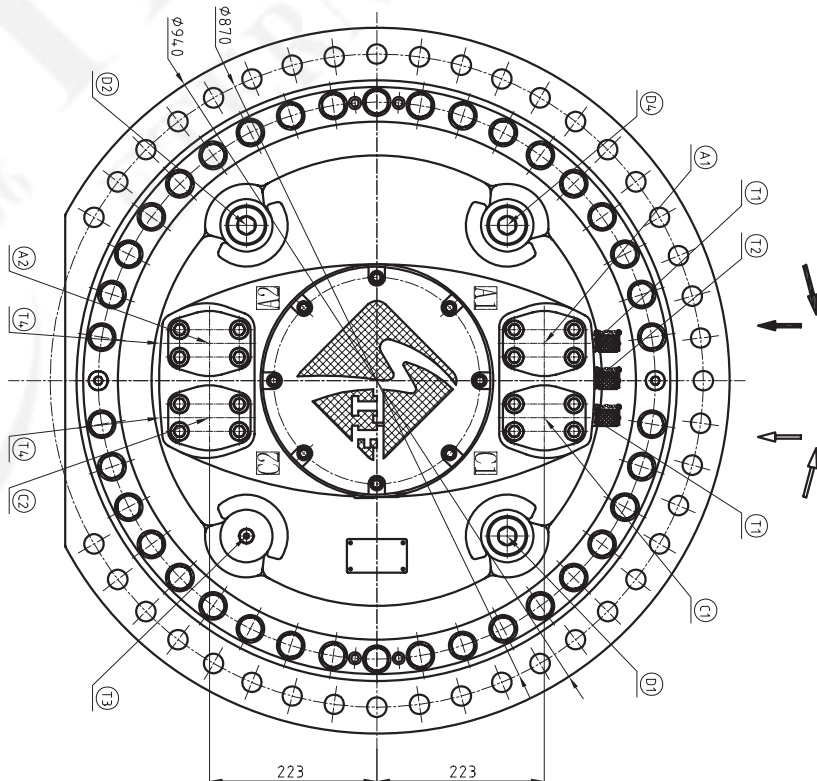
CRM-HB840 外形及安装尺寸/CRM-HB840 Installation Dimensions



液压原理图/Hydraulic Schematic

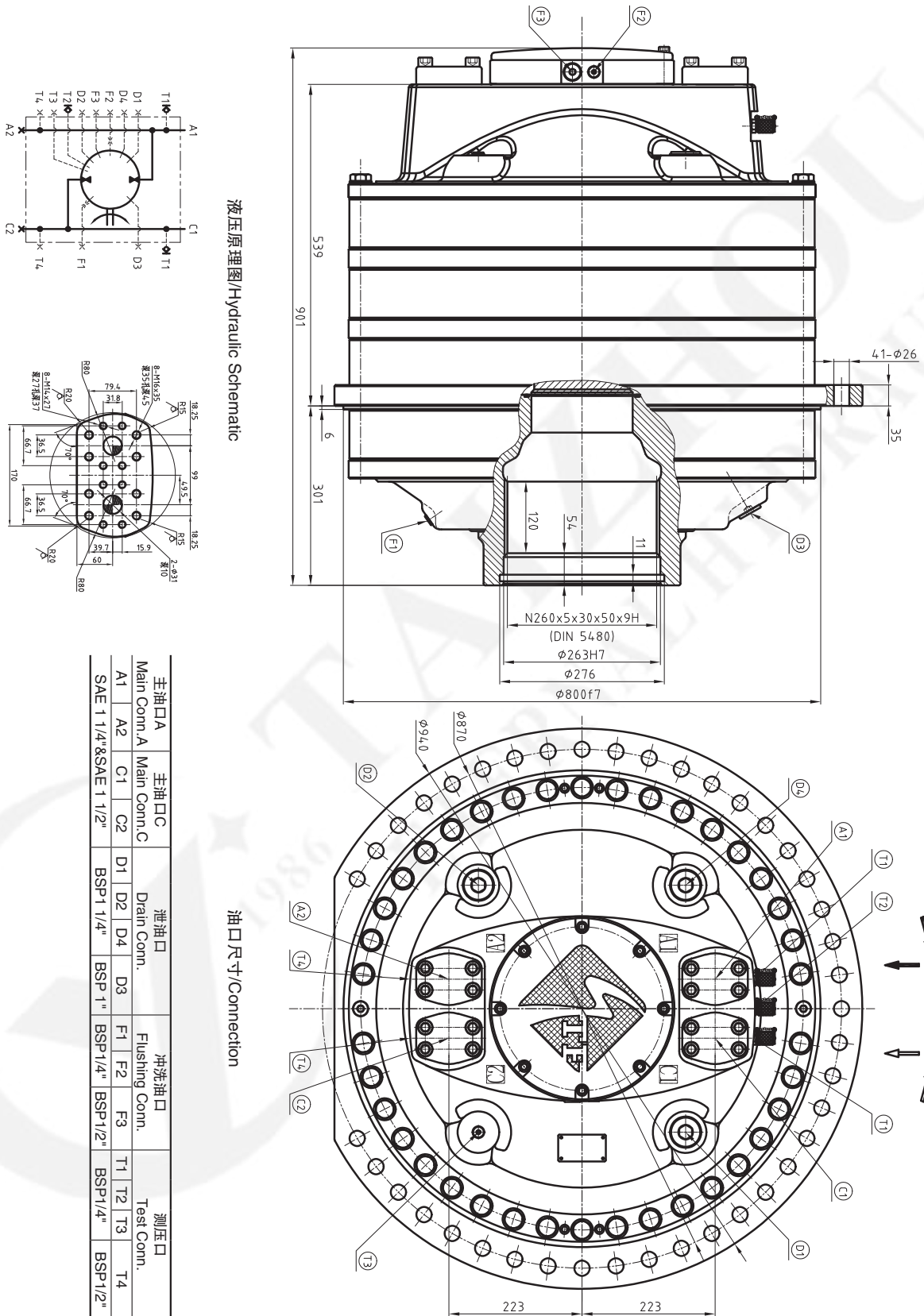


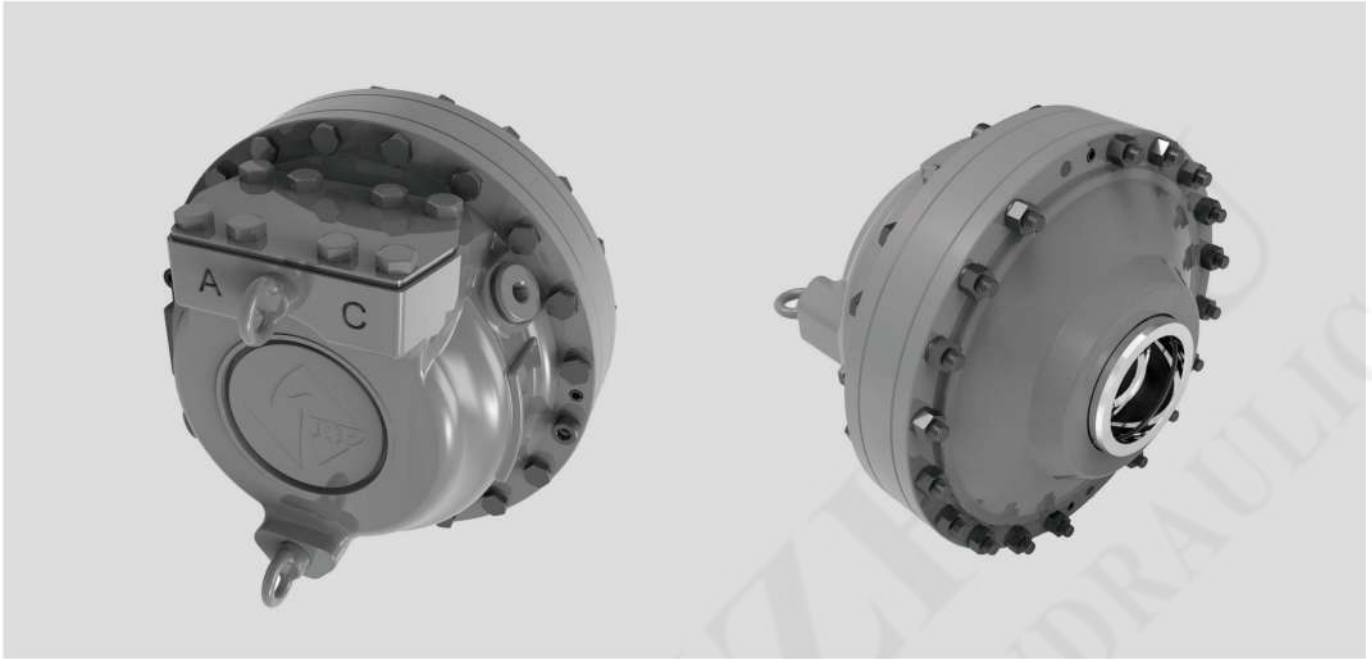
油口尺寸/Connection



主油口A Main Conn. A	主油口C Main Conn. C	泄油口 Drain Conn.	冲洗油口 Flushing Conn.	测压口 Test Conn.
A1	C1	D1	F1	T1
A2	C2	D2	F2	T2
		D3	F3	T3
		D4		T4
SAE 1 1/4" & SAE 1 1/2"		BSP 1 1/4"	BSP 1/4"	BSP 1/4"
		BSP 1"	BSP 1/2"	BSP 1/2"

CRM-HB1120 外形及安装尺寸/ CRM-HB1120 Installation Dimensions





产品特点/Product Feature

CRM-HAB马达是我司在HA马达的基础上，针对高压高功率小型化生产作业需求全新研发的产品。此产品拥有很高的功率密度及机械效率，体积小、安装方式灵活、输出稳定，是液压驱动在轻工应用中的最佳选择。

其主要特点如下：

- 体积小，重量轻，对比同功率其它马达，重量轻50%以上；
- 功率密度高；
- 节能环保，相比其它同排量马达节能10~15%；
- 多种安装方式及中空轴设计；
- 抗冲击能力强、稳定性好；
- 噪音低，液压脉动小；
- 转速范围大，且拥有良好的低速稳定性。

The CRM-HAB motor is a new product developed by our company on the basis of the HA motor for high-pressure, high-power and miniaturized production operations. This product has high power density and mechanical efficiency, small size, flexible installation and stable output. It is the best choice for hydraulic drive in light industrial applications.

Main characteristics:

- Small size, light weight, compared with other motors of the same power, lighter than 50%;
- High power density;
- Energy saving and environmental protection, energy saving 10~15% compared with other motors with the same displacement;
- A variety of installation methods and hollow shaft design;
- Strong impact resistance and good stability;
- low noise, small hydraulic pulsation;
- Wide range of speed, and has good low speed stability;

CRM-HAB产品标识说明/CRM-HAB Ordering code

	**	**	**	*	*	*	*	*	*	**
	1	2	3	4	5	6	7	8	9	10
1、CRM-HAB马达代号 Motor Model	_____									
2、型号 Type	_____									
3、单位扭矩 Specific Torque(Nm/bar)	_____									
4、输出轴安装形式 Mounting Alternatives, Shaft	_____									
内花键S Splines	_____									
5、壳体安装形式 Mounting alternatives, motor case	_____									
前法兰F Front flange	_____									
中心法兰C Center flange	_____									
6、制动器和其他部件 Prepared for brake or tandem kit	_____									
不带制动器或其他部件 0 Motor without break or TA kit	_____									
带制动器或其他部件 A Motor prepared for break or TA kit	_____									
7、排量转换 Displacement shift	_____									
单速马达 0 Single speed motor	_____									
双速马达 2 Two speed motor	_____									
8、通孔 Through Hole	_____									
带通孔 1 With Through Hole	_____									
不带通孔 0 Without Through Hole	_____									
9、密封件 Type of Seal	_____									
丁腈橡胶 N Nitrile	_____									
氟橡胶 V Viton	_____									
10、特殊设计 Special design	_____									
标准 00 Standard	_____									
非标 01-99 Special index	_____									

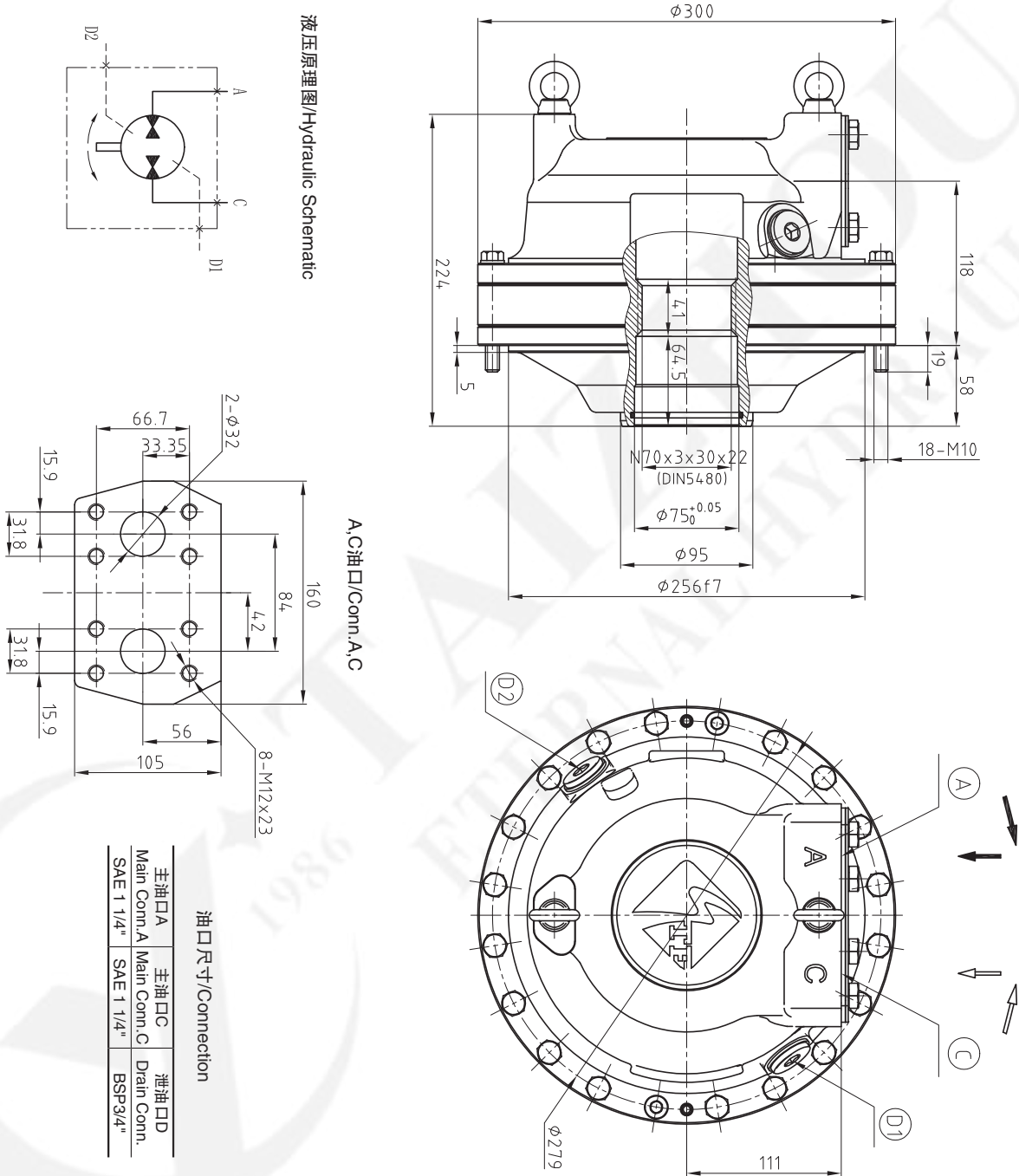


技术参数 / Technical Specification

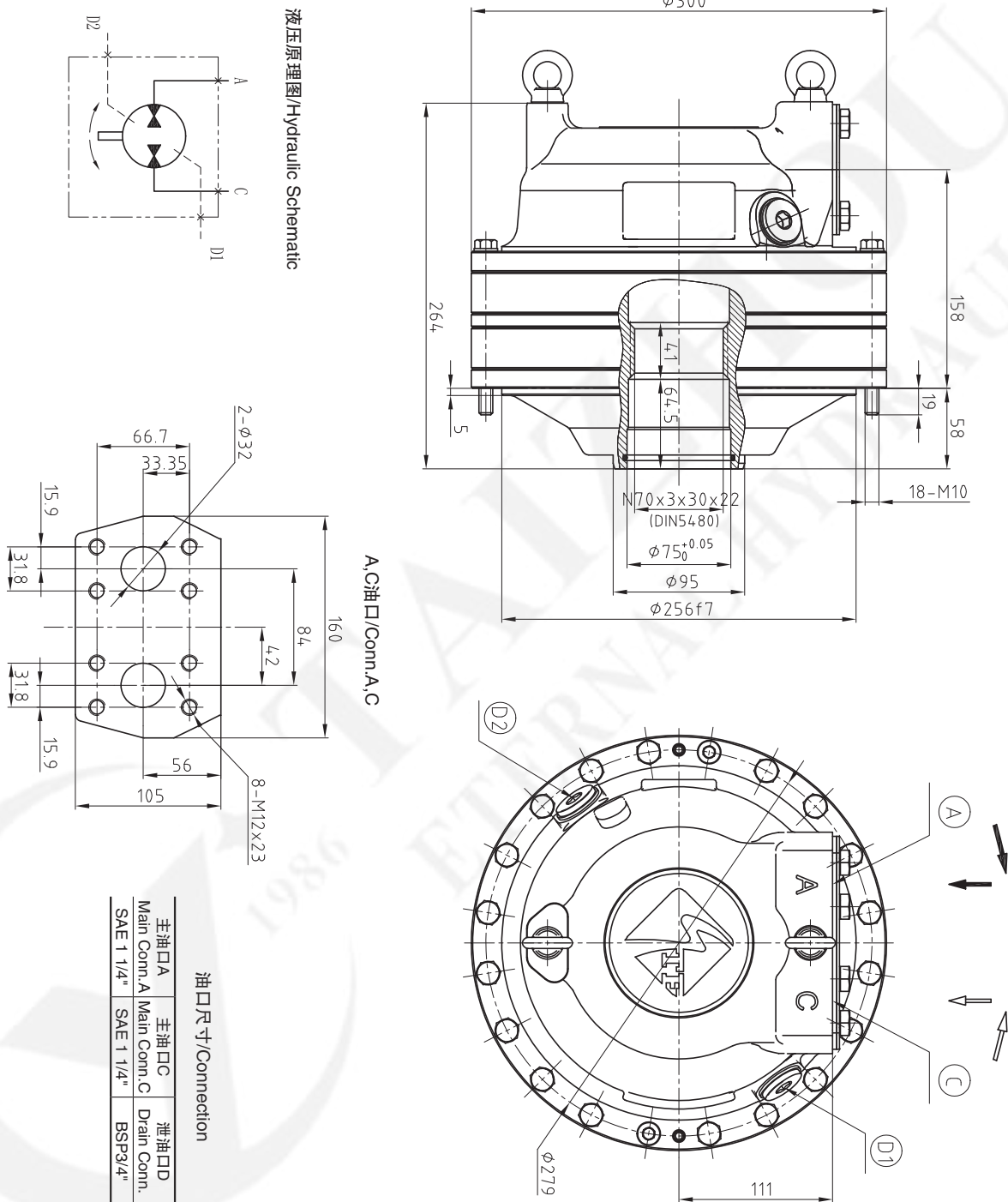
马达型号 TYPE	排量 Displacement	单位扭矩 Unit Torque	最大压力 Max. Pressure	最大扭矩 Max. Torque	最大转速 Max. Speed	最大功率 Max. Power	重量 Weight
	ml/r	N.m/bar	bar	N.m	r/min	Kw	Kg
HAB10-8	503	8	250	1945	350	70	46
HAB10-10	628	10	250	2430	350	86	
HAB10-12.5	785	12.5	250	3040	350	105	
HAB20-16	1005	16	250	3890	350	139	63
HAB20-18	1131	18	250	4375	350	155	
HAB20-20	1257	20	250	4860	350	171	
HAB20-22.5	1414	22.5	250	5470	350	190	
HAB20-25	1571	25	250	6075	350	209	
HAB30-28	1759	28	250	6805	350	226	80
HAB30-30	1885	30	250	7290	350	226	
HAB30-32.5	2042	32.5	250	7900	350	216	
HAB30-35	2199	35	250	8505	350	233	
HAB30-37.5	2356	37.5	250	9115	350	224	
HAB40-40	2513	40	250	9720	350	257	95
HAB40-45	2827	45	250	10935	350	257	
HAB40-50	3142	50	250	12150	350	257	



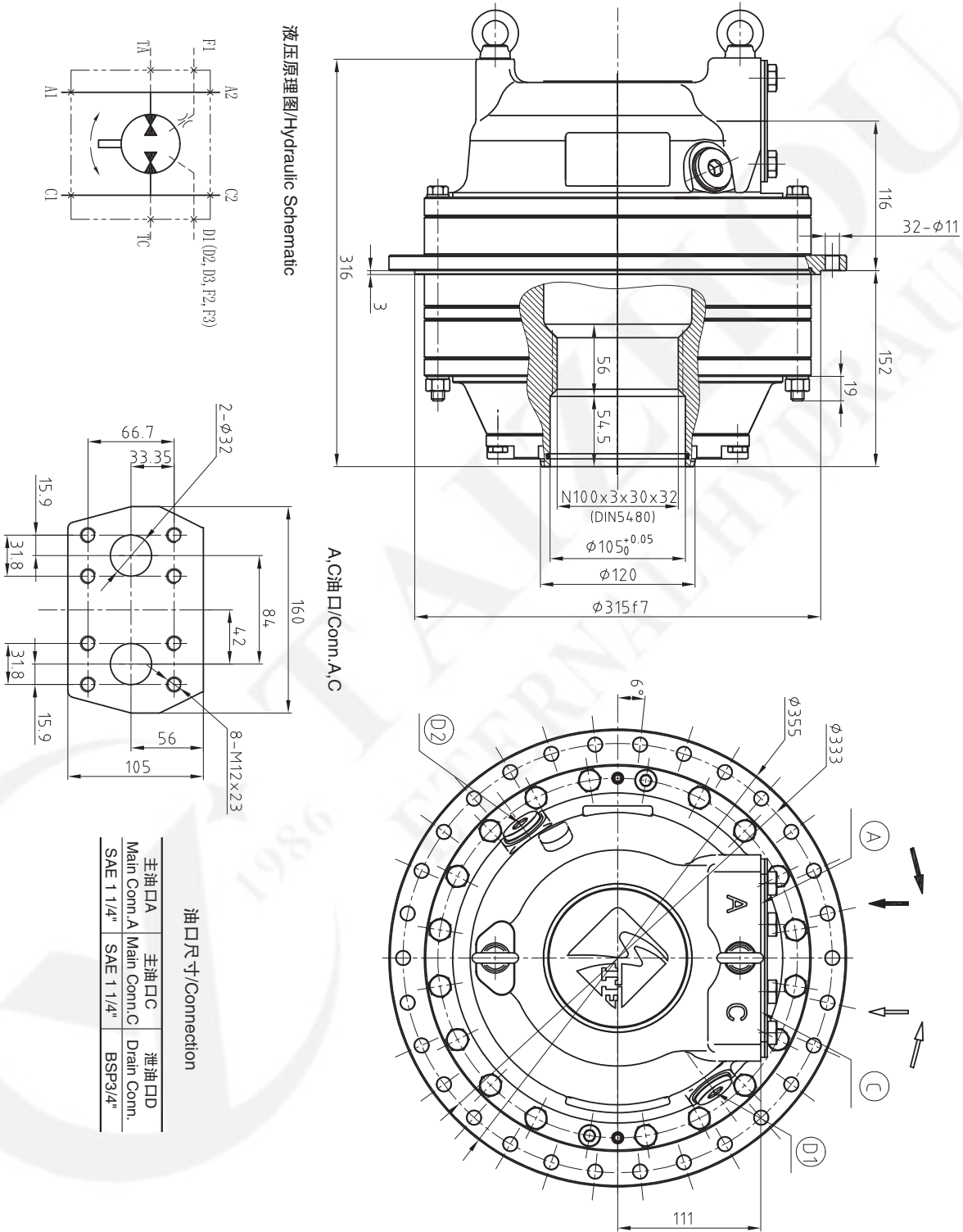
CRM-HAB10 外形及安装尺寸/ CRM-HAB10 Installation Dimensions



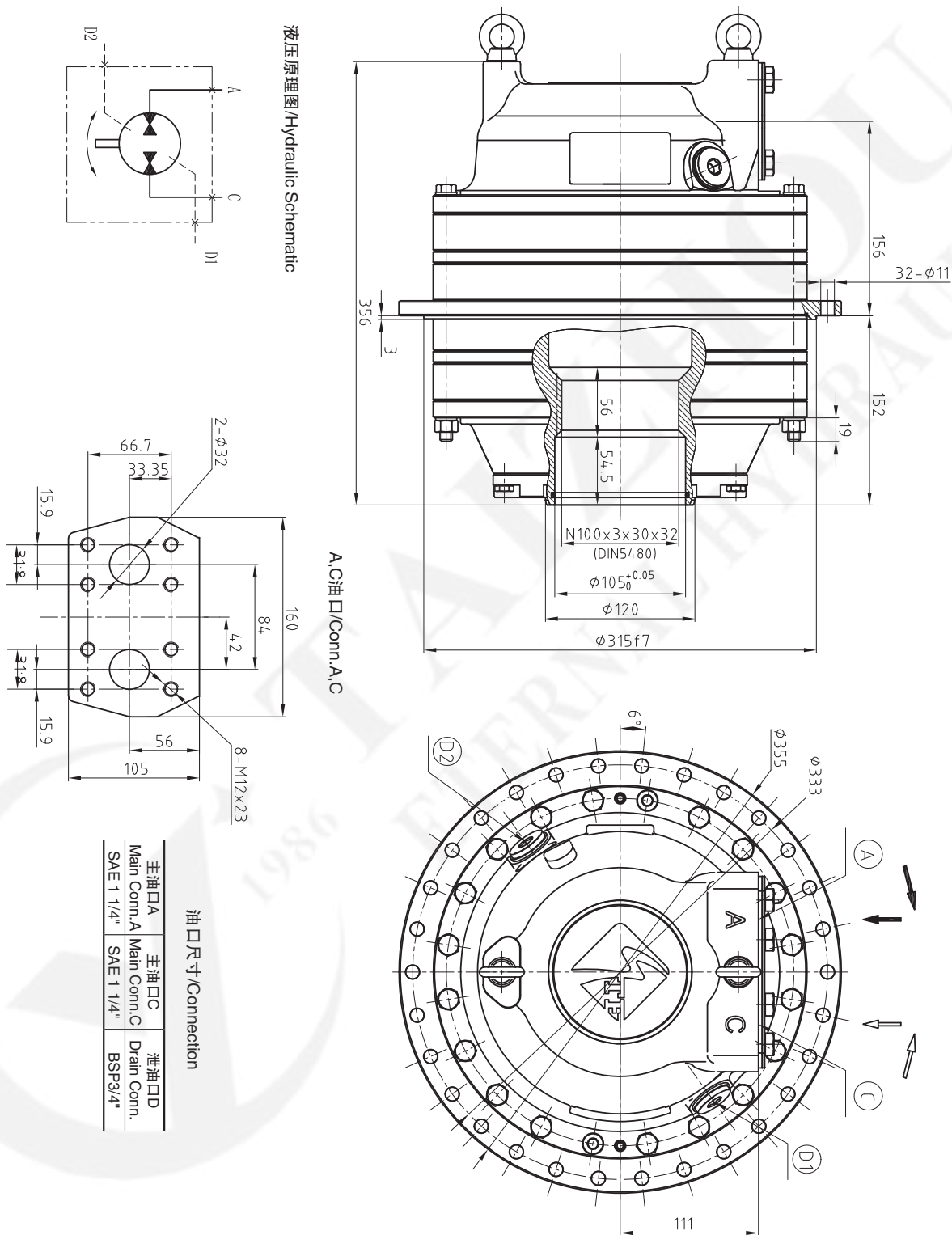
CRM-HAB20 外形及安装尺寸 / CRM-HAB20 Installation Dimensions



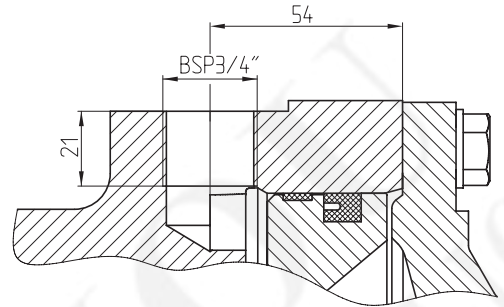
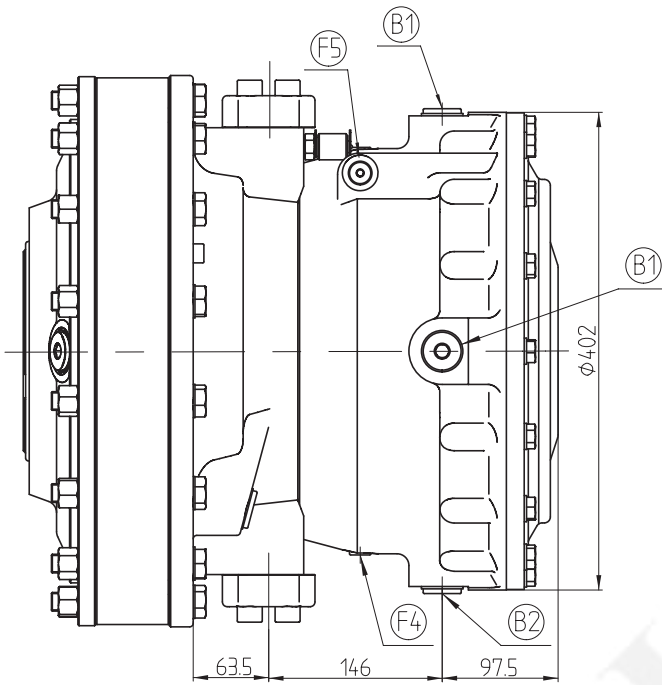
CRM-HAB30 外形及安装尺寸/ CRM-HAB30 Installation Dimensions



CRM-HAB40 外形及安装尺寸/ CRM-HAB40 Installation Dimensions



制动器/Brake



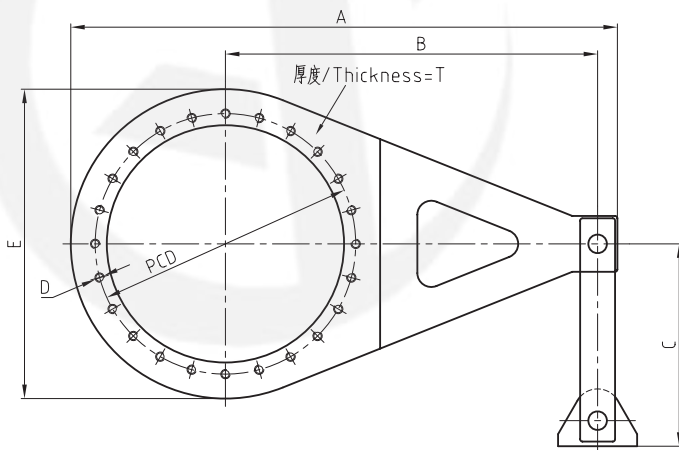
油口尺寸/Connection

制动器主油口 Main brake conn.		冲洗油口 Flushing Conn.	
B1	B2	F4	F5
BSP3/4"		BSP1/4"	

制动器参数/Brake Data

制动器 Brake	马达 Motor	制动扭矩 Braking torque	开始开启压力 Begins to open at	完全开启压力 Fully open at	推荐开启压力 Rec. opening pressure	最大允许压力 Max allowed pressure	排量 Displacement	重量 Weight
		N.m	bar	bar	bar	bar	cm ³	Kg
MDA05	HA050	21900	16	19	20-25	50	96	100
MDA07	HA070	29500	16	19	20-25	50	134	100
MDA10	HA100 HA140 HA210	39500	16	19	20-25	50	192	100

扭力臂/Torque Arm



扭力臂 Torque arm	马达 motor	A mm	B mm	C mm	D mm	E mm	T mm	最大扭矩 Max torque(Nm)
TCA05	HA050	890	600	340	M16	500	25	17500
TCA07	HA070	915	600	340	M16	550	25	24500
TCA10	HA100	1175	800	435	M20	665	39	35000
TCA14	HA140 HA210	1175	800	435	M20	665	39	70000
TCA40	HB280 HB400	1721	1250	545	M20	820	36	140000
TCA84	HB560 HB840	2088	1500	545	M24	1088	36	294000
TCA112	HB1120	2588	2000	545	M24	1088	36	392000

安装使用说明/Installation Instructions

油液选择/Choice Of Hydraulic Fluid

油液必须具备耐磨、防泡沫、防氧化、稳定性好等特性，同时要加有抗氧化、防锈和抗泡等添加剂。
含水量应小于0.1%；对使用寿命有较高要求的工业应用，含水量应小于0.05%。

The oil must have wear-resisting, prevent bubble, anti-oxidation, good stability and other characteristics. The oil must also contain inhibitors to prevent oxidation, corrosion and foaming.

Content of water shall be less than 0.1%. In Industrial applications with high demands for service life, the content of water shall be less than 0.05%.

1、粘度范围/Viscosity limits

粘度指数Viscosity index	= 100 推荐值recommended = 150对运行温差很大的工况 for operation with large temperature difference
连续工况下允许的最小值 Min. permitted in continuous duty	40cSt
瞬时工况下允许的最小值 Min. permitted in intermittent duty	20cSt

2、温度范围/Temperature limits

正常运行温度/Normal operating temperature: $\leq 50^{\circ}\text{C}$
丁腈橡胶 (标准马达) /Nitrile seals (std motor): $-35^{\circ}\text{C}\sim 70^{\circ}\text{C}$
氟橡胶/Viton seals: $-20^{\circ}\text{C}\sim 100^{\circ}\text{C}$

过滤/Filtration

系统油液需要持续进行过滤，新油也必须经过严格过滤后才能加注。起动前，应检查系统油液清洁度是否达标。

过滤推荐：

—马达油液污染度等级不超过ISO 4406 19/15 (NAS 10)。

—对于重载工况污染度等级不应超过ISO 4406 16/13 (NAS 7)。

—当向油箱和马达壳体加油时，过滤器的过滤等级推荐使用 $\beta 10=75$ 。

(“过滤等级”说明：“ $\beta 10$ ”表示尺寸 $\geq 10\mu\text{m}$ 的颗粒将被过滤器滤掉；“=75”表示上述尺寸颗粒的过滤等级。过滤等级即过滤前油液中颗粒的数目与过滤后油液中颗粒的数目的比值。)

The oil in a hydraulic system must always be filtered and also the oil from your supplier has to be filtered when adding it to the system. Before start-up, check that the system is thoroughly cleaned.

Filtering recommendations:

—In general the contamination level in our motors should not exceed ISO 4406 19/15.(NAS 10)

—For heavy-duty industrial applications the contamination level should not exceed ISO4406 16/13. (NAS 7)

—When filling the tank and motor housing, we recommend the use of a filter with the grade of filtration $\beta 10=75$.

Explanation of“GRADE OF FILTRATION”: $\beta 10$ means the size of particle $\geq 10\mu\text{m}$ that will be removed by filtration. “=75” means the grade of filtration of above mentioned size of particle. The grade of filtration is defined as number of particles in the oil before filtration in relation to number of particles in the oil after filtration.

背压使用要求/Backpressure Requirements

马达回油口必须保证始终有足够的背压（推荐值：8bar）。

壳体压力增加则背压必须相应增加，壳体最高承载压力为3bar，停机时允许的最大壳体压力为8bar。

在起升负载应用中，马达油口的背压必须依据下图曲线所示。

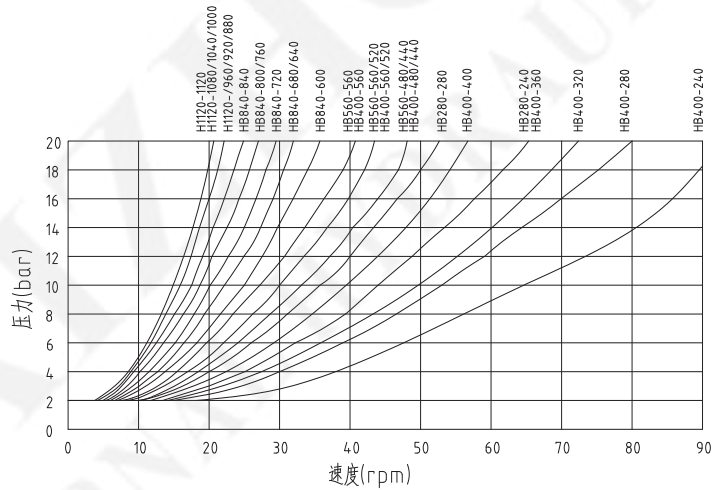
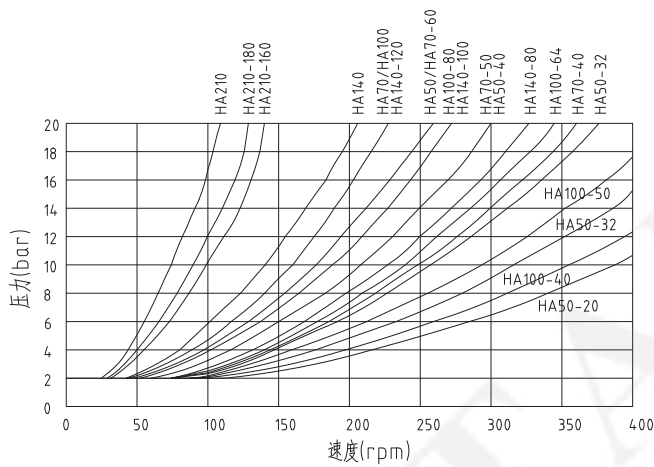
The hydraulic system must be such that the motor will receive sufficient back pressure. (Recommended: 8bar)

Casing pressure increase, the back pressure must be increased accordingly. The max casing pressure is 3 bar (43.5 psi). The permitted max. casing pressure when the motor is stationary is 8 bar

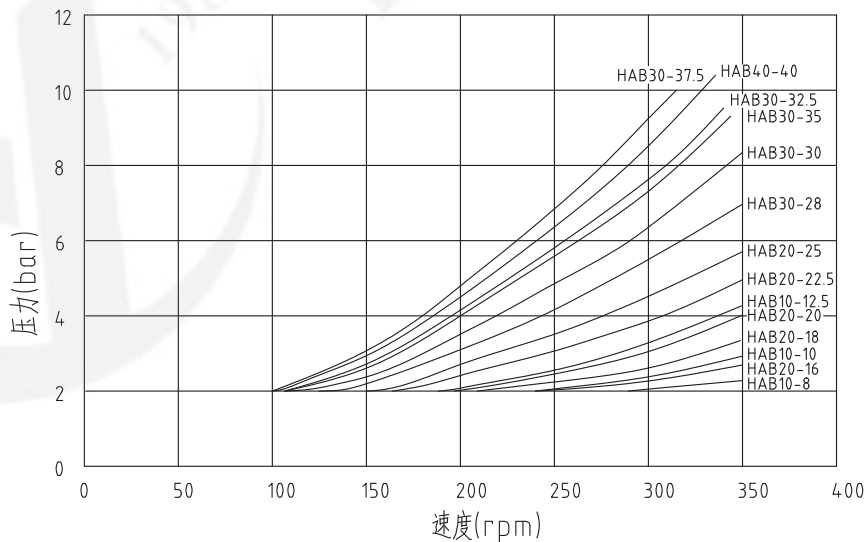
In lifting load applications, required back pressure at the inlet port should according to diagram below.

HA马达推荐背压/HA recommend back pressure

HB马达推荐背压/HB recommend back pressure



HAB马达推荐背压/HAB recommend back pressure



冲洗说明/Flushing Instruction

为避免马达壳体温度过高，必须对马达进行冷却。高温会降低油液粘度，导致马达磨损加大，使用寿命下降，同时，低粘度也会降低马达的最大输出功率。

环境温度为 +20°C 的连续工况，当输出功率超过下列数值时，马达壳体需要冲洗。

To avoid high temperature in the motor case the heat must be cooled away. Because high temperature gives lower viscosity and that gives reduction in basic rating life. Low viscosity also gives reduced permitted output power from the motor.

For continuous duty in applications with an ambient temperature of +20°C, the motor case must be flushed when the output power exceeds the values shown below.

不需冲洗的最大功率/Max.power without flushing

HAB10/20/30/40	30 kW
HA50/70	60 kW
HA100/140/210/280	120 kW
HB280	120 kW
HB400/560/840	170 kW

安装/Installation

1) 安装说明/Mounting instructions

液压马达必须在正确安装的情况下正常工作，液压马达在初次安装前应检查外部有无磕碰、变形等运输过程中的损坏。

马达使用前必须完全充满油液，马达安装时，使用泄油口中位置最高的一个，并且建议泄油管路上需要装一个单向阀以确保马达充满油液。泄油管规格必须适当，确保马达壳体压力最高不超过3bar。

If the motor is to work properly it must be installed with the greatest possible precision. Check the integrity and make sure there is no deformation and damage in the process of transportation.

Normally the motor must be completely filled with oil before operation, When the motor is mounted the drain outlet must be connected to the highest drain hole. A preloaded check valve suggested to be connected in the drain line to ensure that the motor is filled with oil.

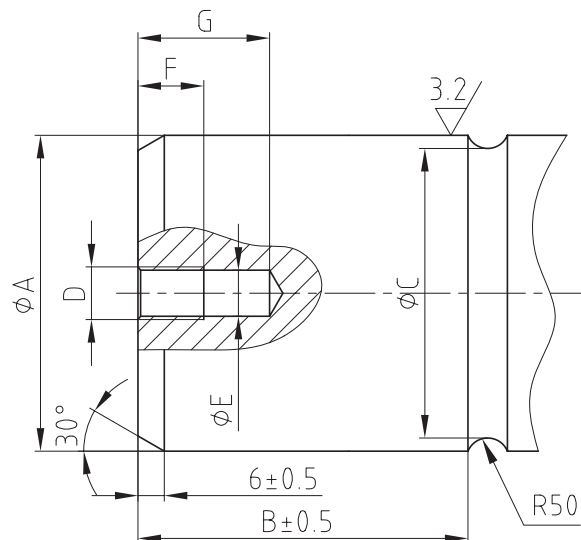
The drain line must be dimensioned so that max. 3 bar motor housing pressure is not exceeded.

2) 被驱动轴端设计/Design of the end of the driven shaft

• 重载被驱动轴端设计/Heavily-loaded shaft.

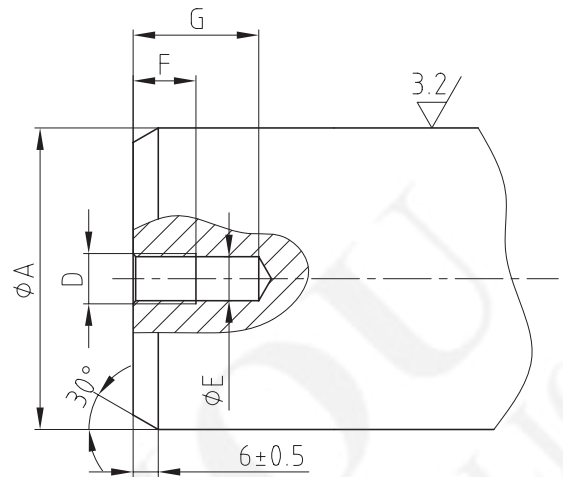
若被驱动轴为重载且承受较高应力，比如旋转或交变负载，则建议在轴上加工一个消除应力槽。

Where the driven shaft is heavily loaded and is subject to high stresses, for example on changes in the direction of rotation, it is recommended that the driven shaft should have a stress relieving groove.



• 一般载荷被驱动轴端设计/ Normally-loaded shaft

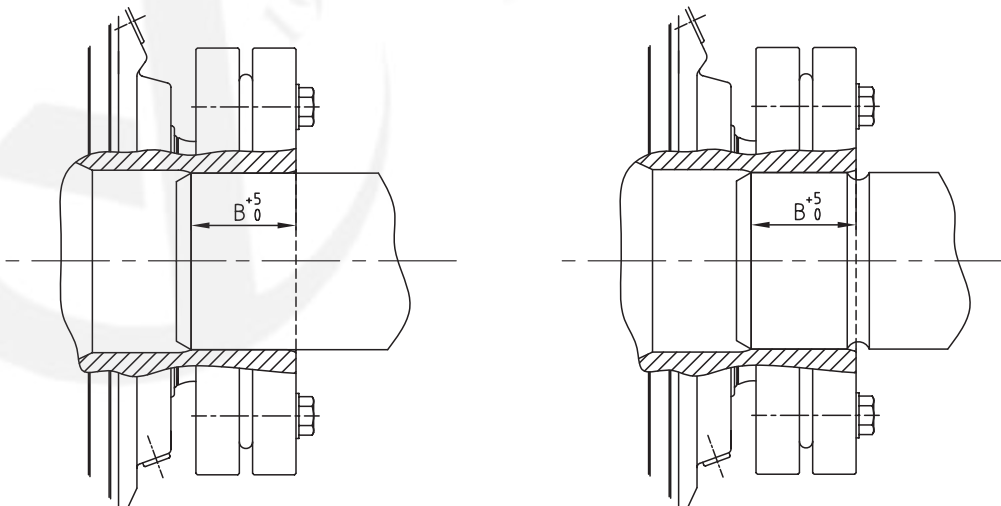
若旋转或负载均为单向，则轴上应力中等，可做成光轴。
In drives with only one direction of rotation where the stresses in the shaft are moderate, the shaft can be plain.



Dim	HA50/70	HA100/140	HA210	HB280	HB400	HB560/840/1120
A mm	120 ⁰ _{-0.025}	140 ⁰ _{-0.025}	160 ⁰ _{-0.025}	180 ⁰ _{-0.054}	200 ⁰ _{-0.061}	260 ⁰ _{-0.069}
B mm	71.5	84.5	105	106	117	153
C mm	116	133	153	174	194	254
D	M20					
E mm	>17					
F mm	25					
G mm	50					

驱动轴与马达转子输出端压紧长度/The clamping length between the driven shaft and the hollowshaft

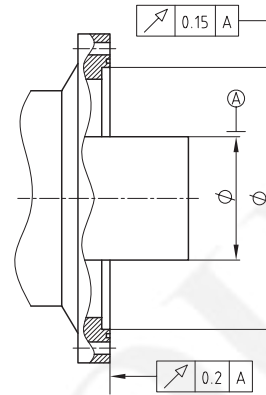
马达/motor	B mm
HA50/ HA70	71.5
HA100/ HA140	84.5
HA210	105
HB280	106
HB400	117
HB560/ HB840/1120	153



• 花键轴端设计/The spline shaft

马达装配时，用液压油或润滑脂润滑花键。为保证马达的正常运转，安装必须在右图给定的公差范围内。

The splines shall be lubricated with hydraulic oil, or filled with grease. To make sure the motor operation normally, the installation must be within the specified tolerances as below.



花键参数/The data of the spline

马达型号/Type		HA50/70	HA100/140	HA210	HB280/400	HB560/840/1120
公差等级/Grade of tolerance		DIN5480-8f	DIN5480-8f	DIN5480-8f	DIN5480-8f	DIN5480-8f
齿数/Number of teeth	z	22	26	28	38	50
模数/Module	m	5	5	5	5	5
压力角/Pressure angle	a	30°	30°	30°	30°	30°
变位系数/Odification coefficient	x	-0.45	-0.45	-0.45	-0.45	-0.45
渐开线终止圆直径/Minor diameter	D_{F1min}	109.90	129.90	139.90	189.90	249.89
量棒检测距离/Measure over measuring pins	M_l	129.781 ^{-0.083} _{-0.1474}	149.908 ^{-0.085} _{-0.150}	159.961 ^{-0.085} _{-0.150}	210.158 ^{-0.088} _{-0.157}	270.307 ^{-0.103} _{-0.181}
量棒直径/Diameter of measuring pins	D_M	10	10	10	10	10

马达型号/Type		HAB10/20	HAB30/40
公差等级/Grade of tolerance		DIN5480-8f	DIN5480-8f
齿数/Number of teeth	z	22	32
模数/Module	m	3	3
压力角/Pressure angle	a	30°	30°
变位系数/Odification coefficient	x	0.117	0.117
渐开线终止圆直径/Minor diameter	D_{F1min}	66	96
量棒检测距离/Measure over measuring pins	M_l	76.183 ^{-0.067} _{-0.121}	106.275 ^{-0.091} _{-0.178}
量棒直径/Diameter of measuring pins	D_M	6	6

