



HUADE
AMERICA

Catalog

Hydraulic Motors

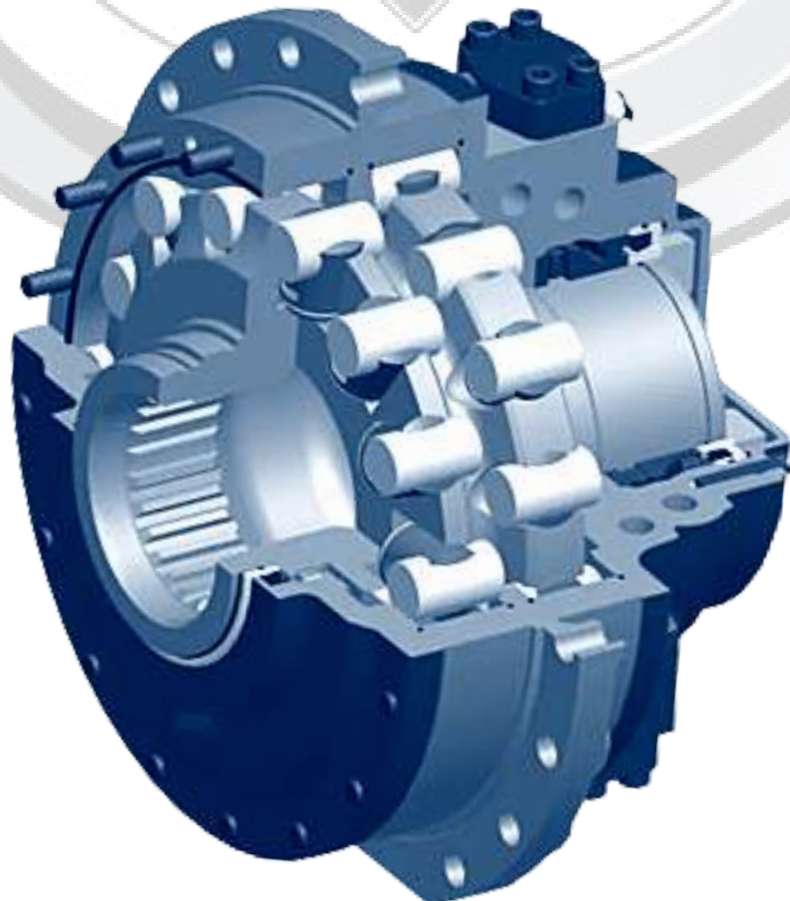
HDCRM-HA / HDCRM-HB Series

- HDCRM-HA50 (20/ 25/ 32/ 40/ 50)
- HDCRM-HA70 (40/ 50/ 60/ 70)
- HDCRM-HA100 (40/ 50/ 64/ 80/ 100)
- HDCRM-HA140 (80/ 100/ 120/ 140)
- HDCRM-HA210 (160/ 180/ 210)
- HDCRM-HA280
- HDCRM-HB280 (240/ 280)
- HDCRM-HB400 (240/ 280/ 320/ 360/ 400/ 480/
520/ 560)
- HDCRM-HB560 (440/ 480/ 520/ 560)
- HDCRM-HB840 (600/ 640/ 680/ 720/ 760/ 800/
840)

HDCRM-HA – Piston Hydraulic Motor

Product features:

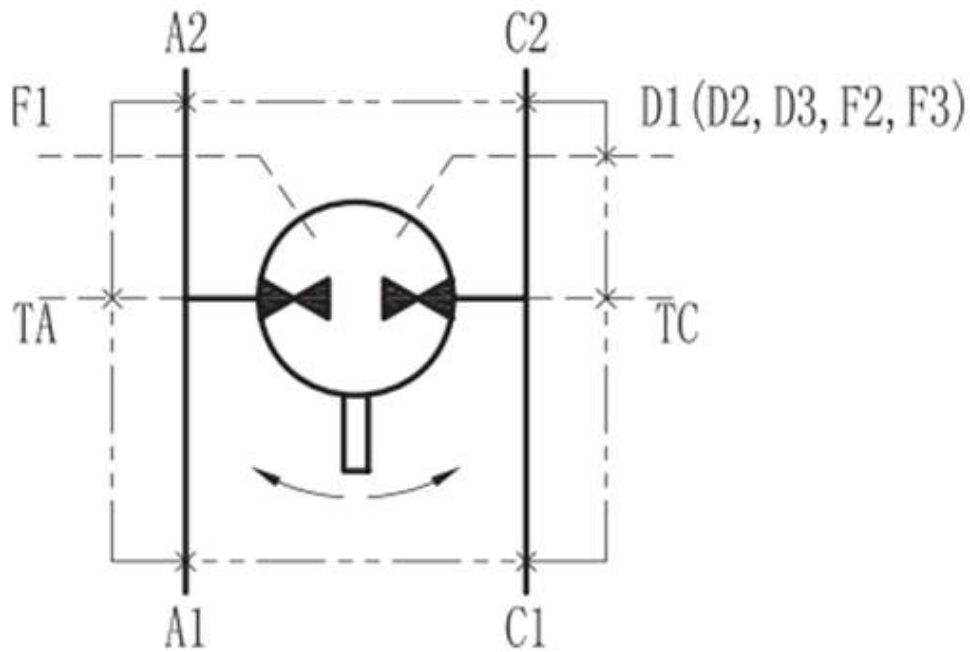
- Strong anti-shock capability and stability;
- Stable variable switch and parking brake;
- Enable free running working condition;
- Multi-mounting options; hollow shaft design;
- Large output torque; wide speed range; directly replace combined devices of high speed motor and gearbox; compact structure;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



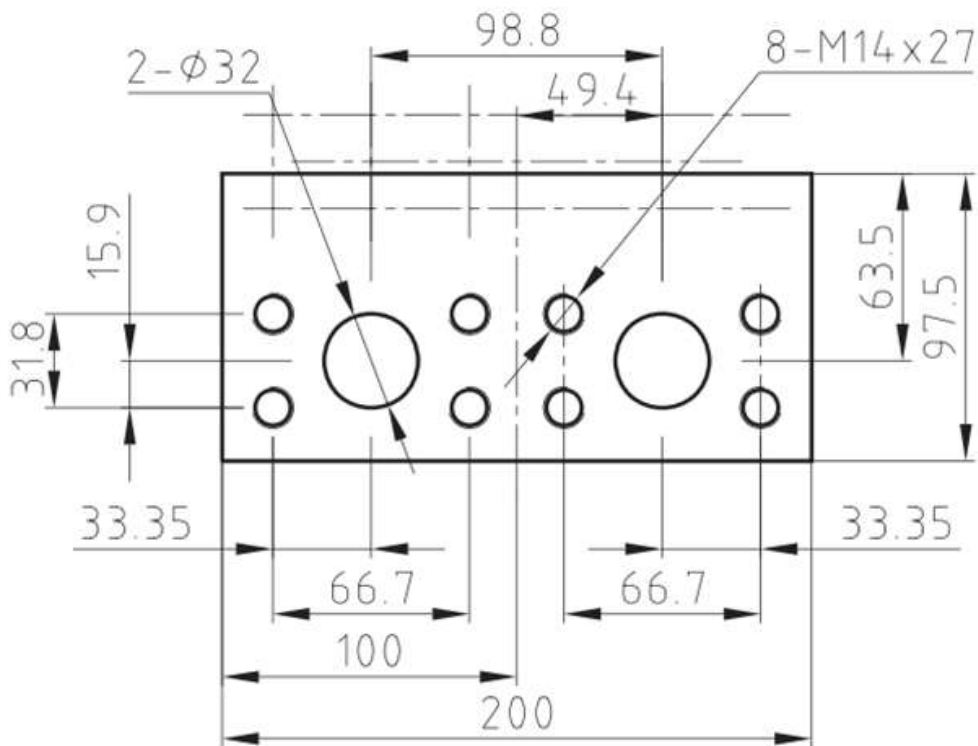
The HDCRM-HA/HB series cam ring piston hydraulic motor is what we designed for high end applications. With the advantage of hollow rotor, HDCRM motor can be mounted with brake, speed encoder and some special equipment mounted in the center of the motor, according to user's needs. It shows its outstanding characteristics of high pressure resistance, low speed stability and high output torque in various lower working conditions.



Hydraulic Schematic

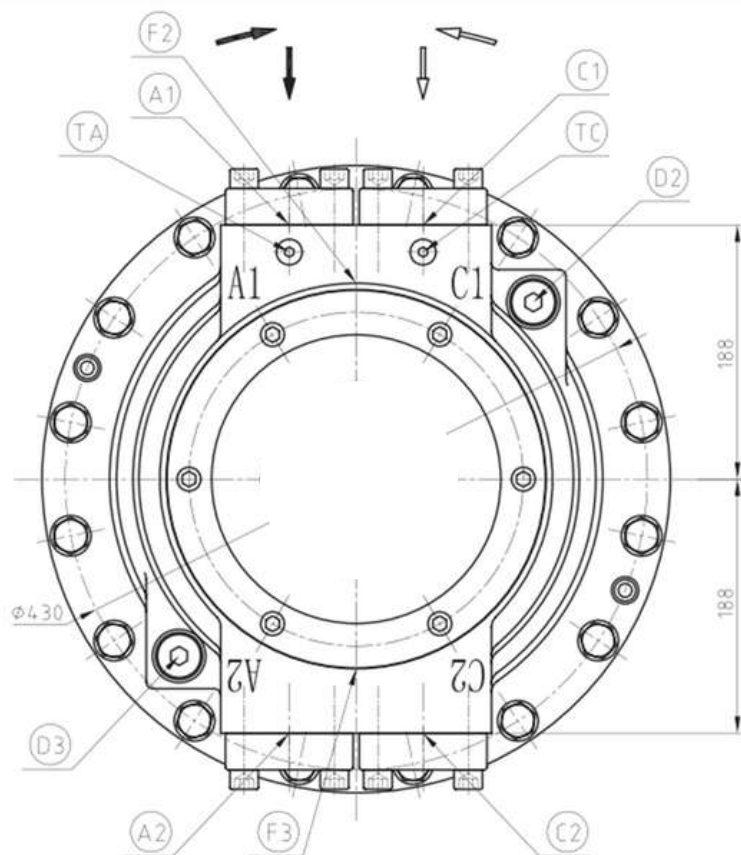
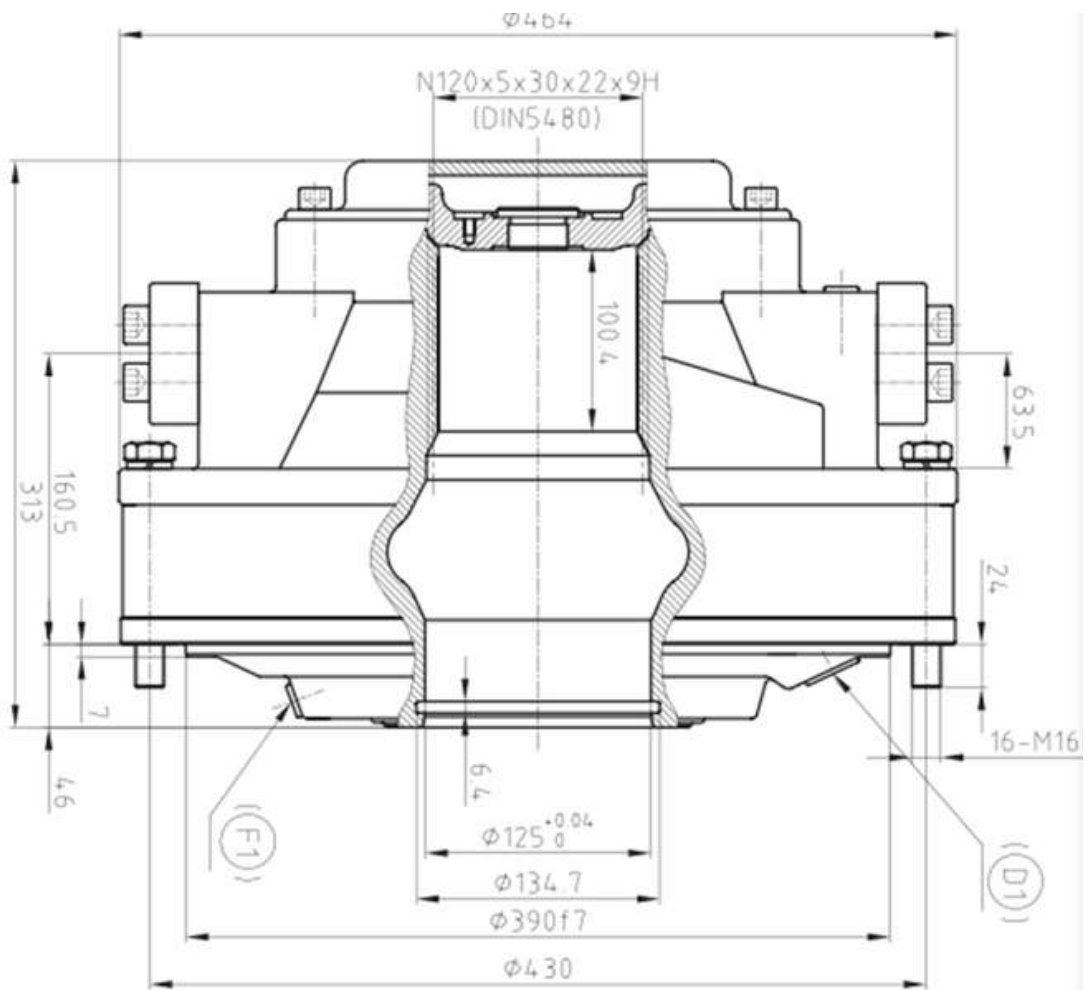


A,C - Connection

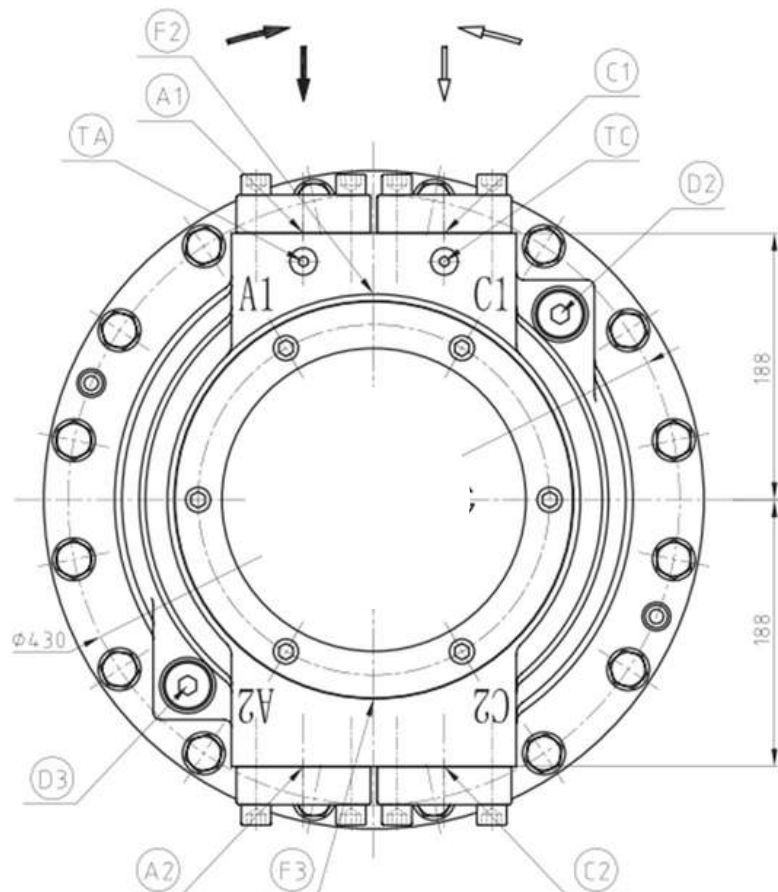
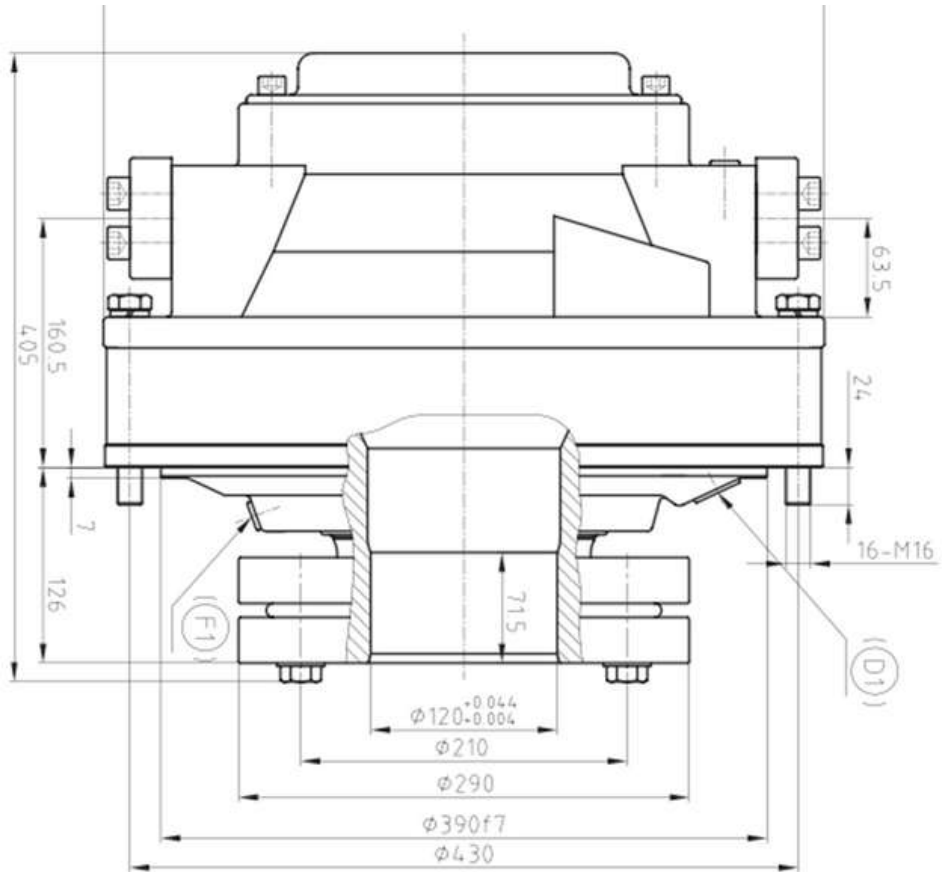


Installation Dimensions

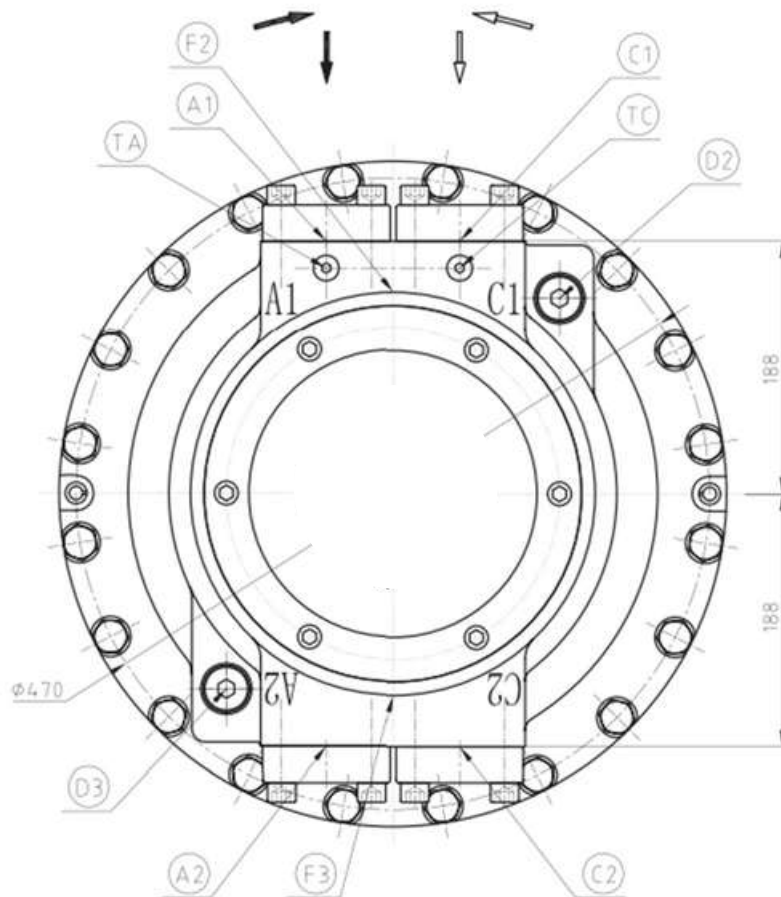
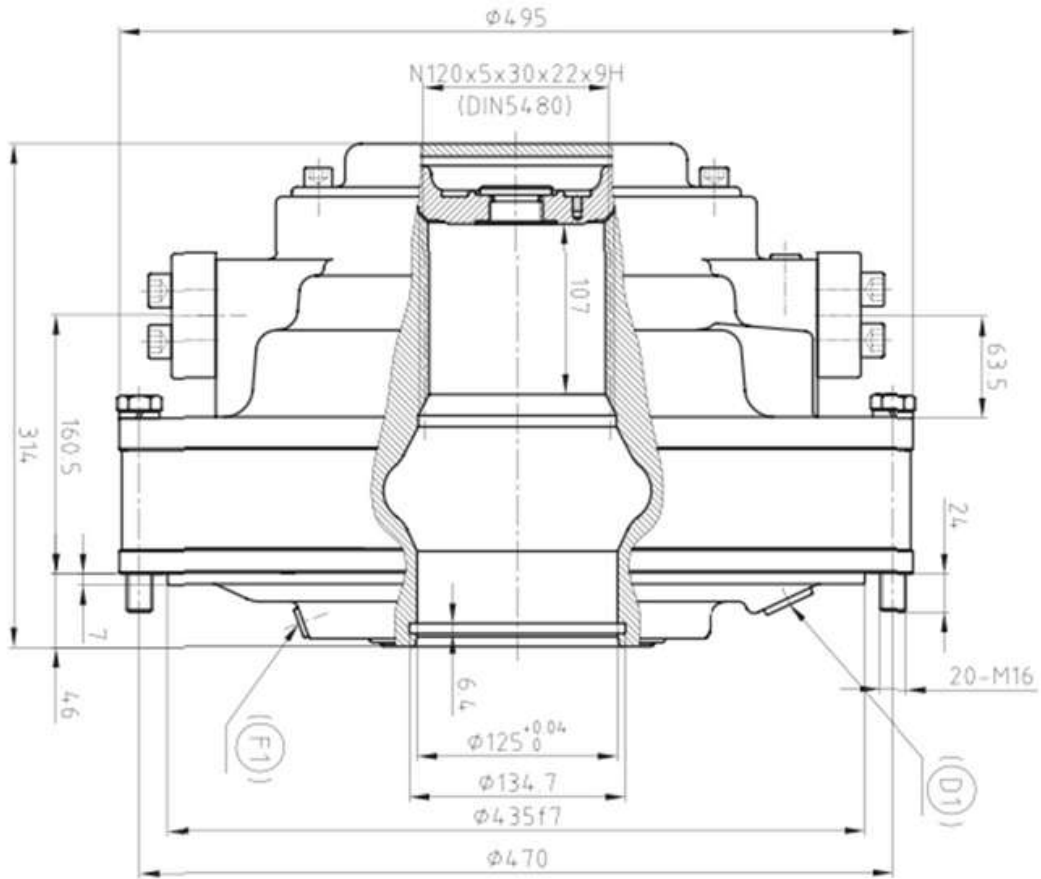
HDCRM-HA50



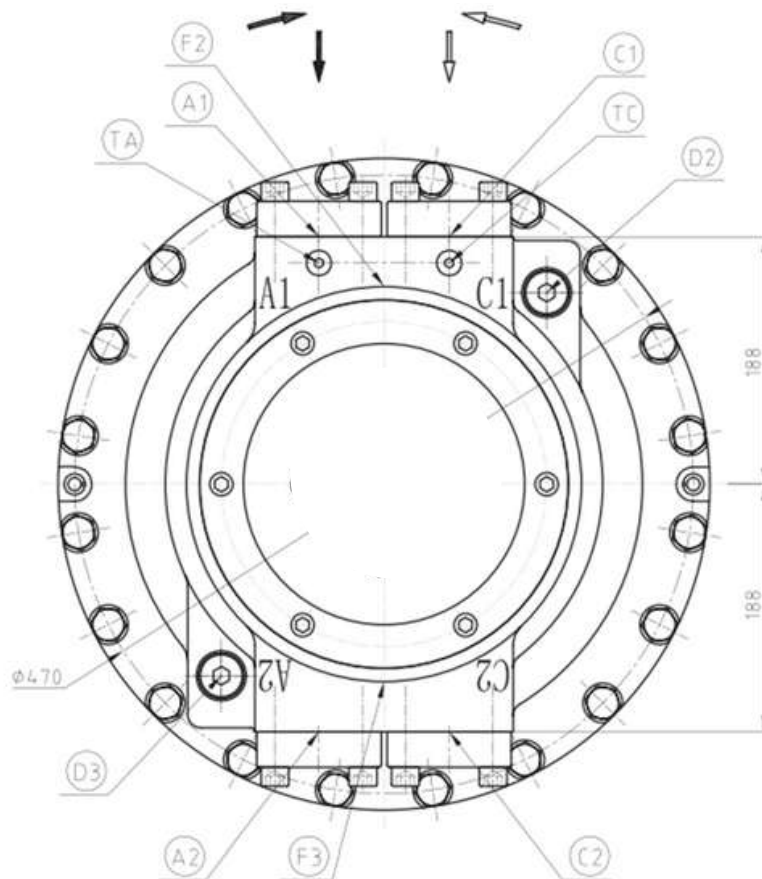
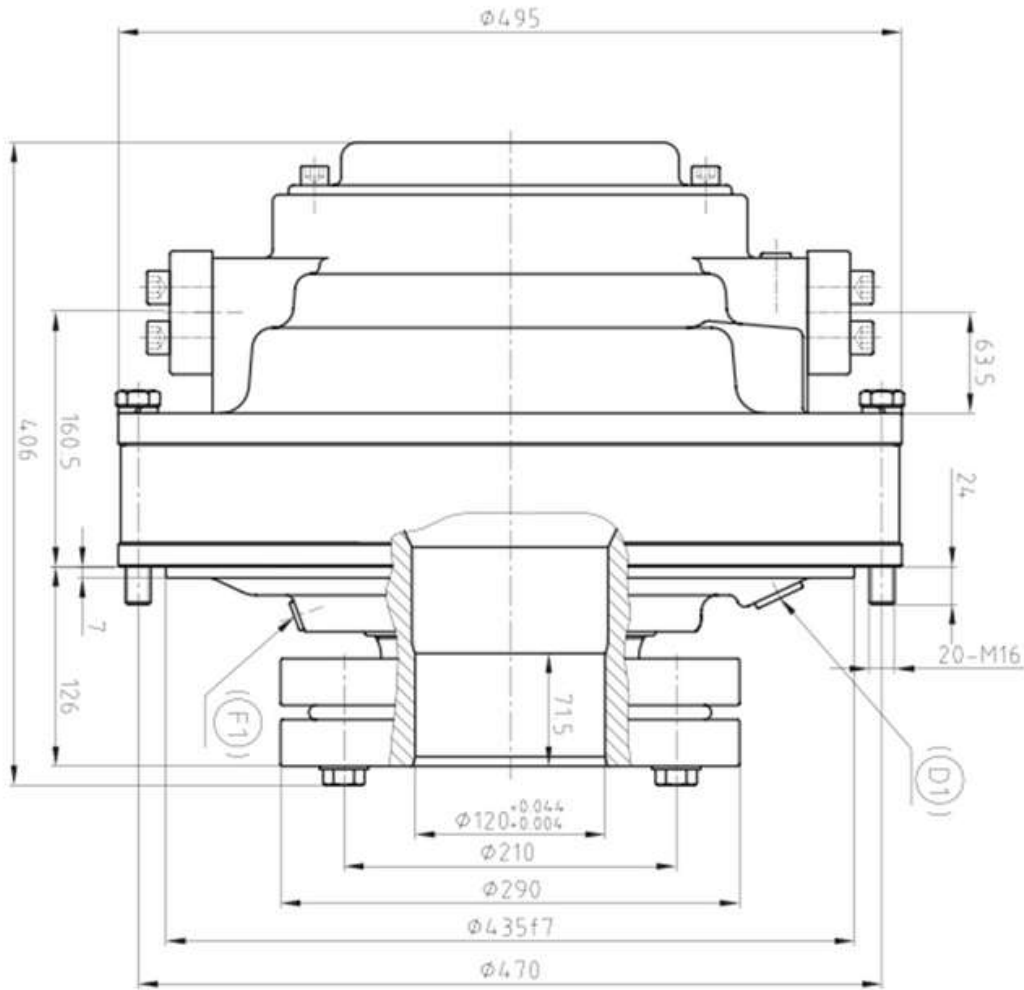
HDCRM-HA50



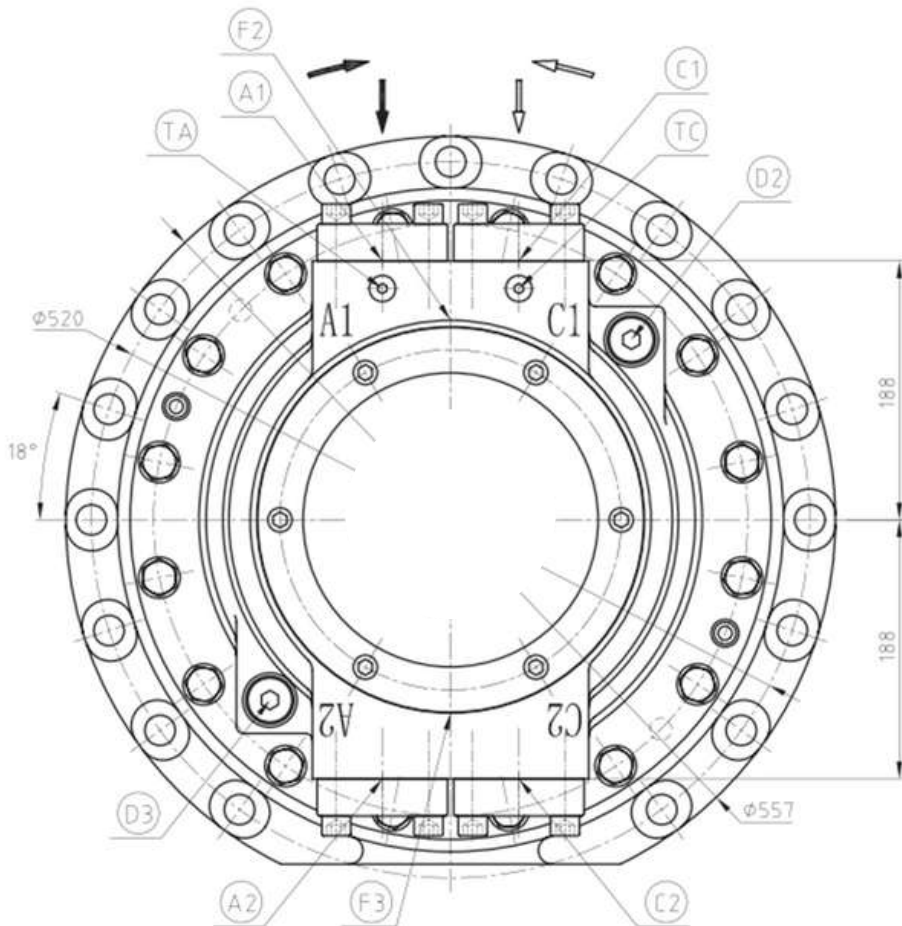
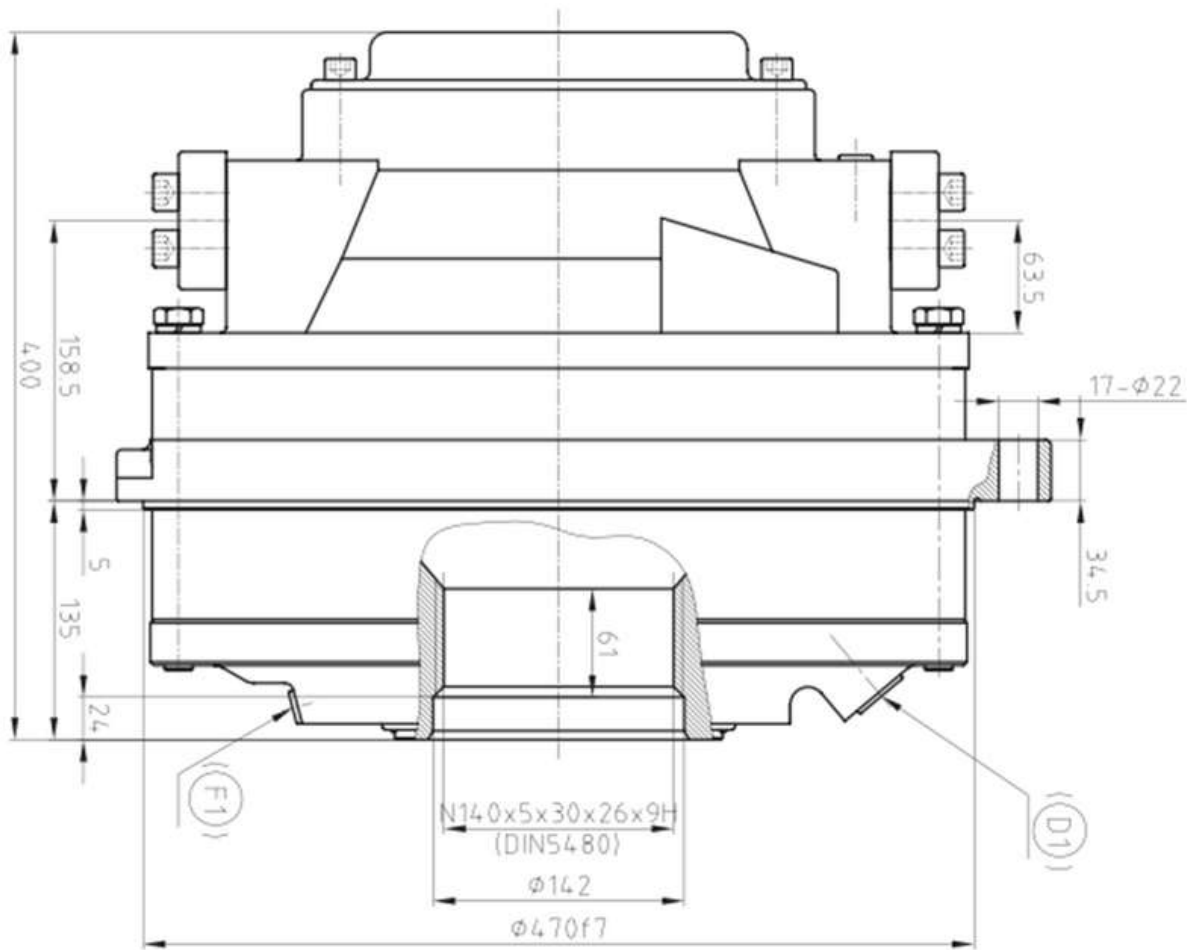
HDCRM-HA70



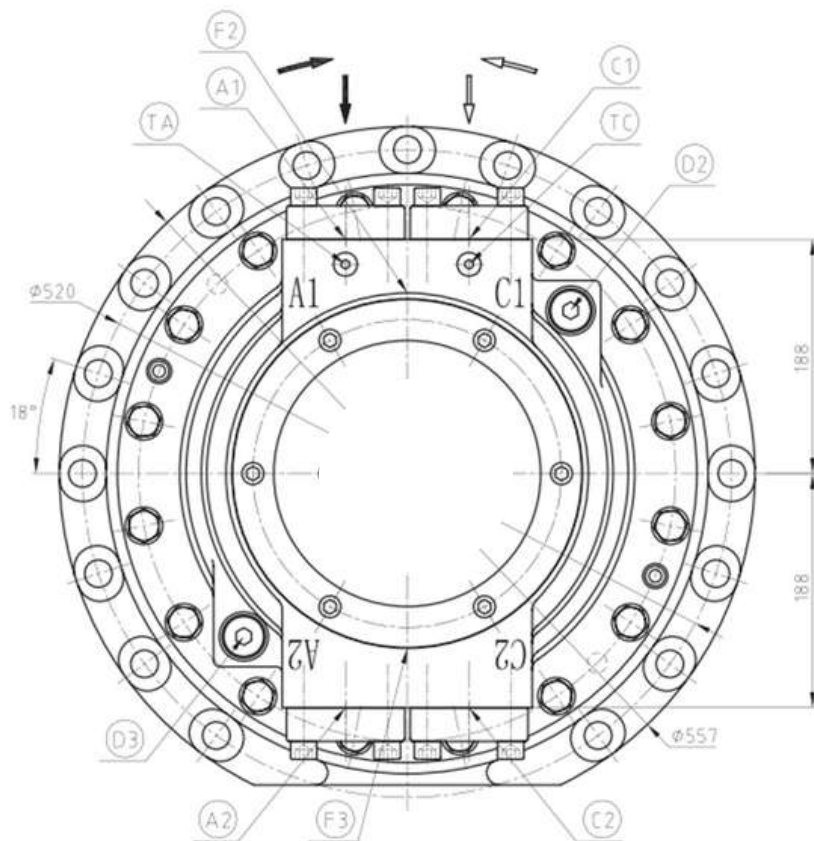
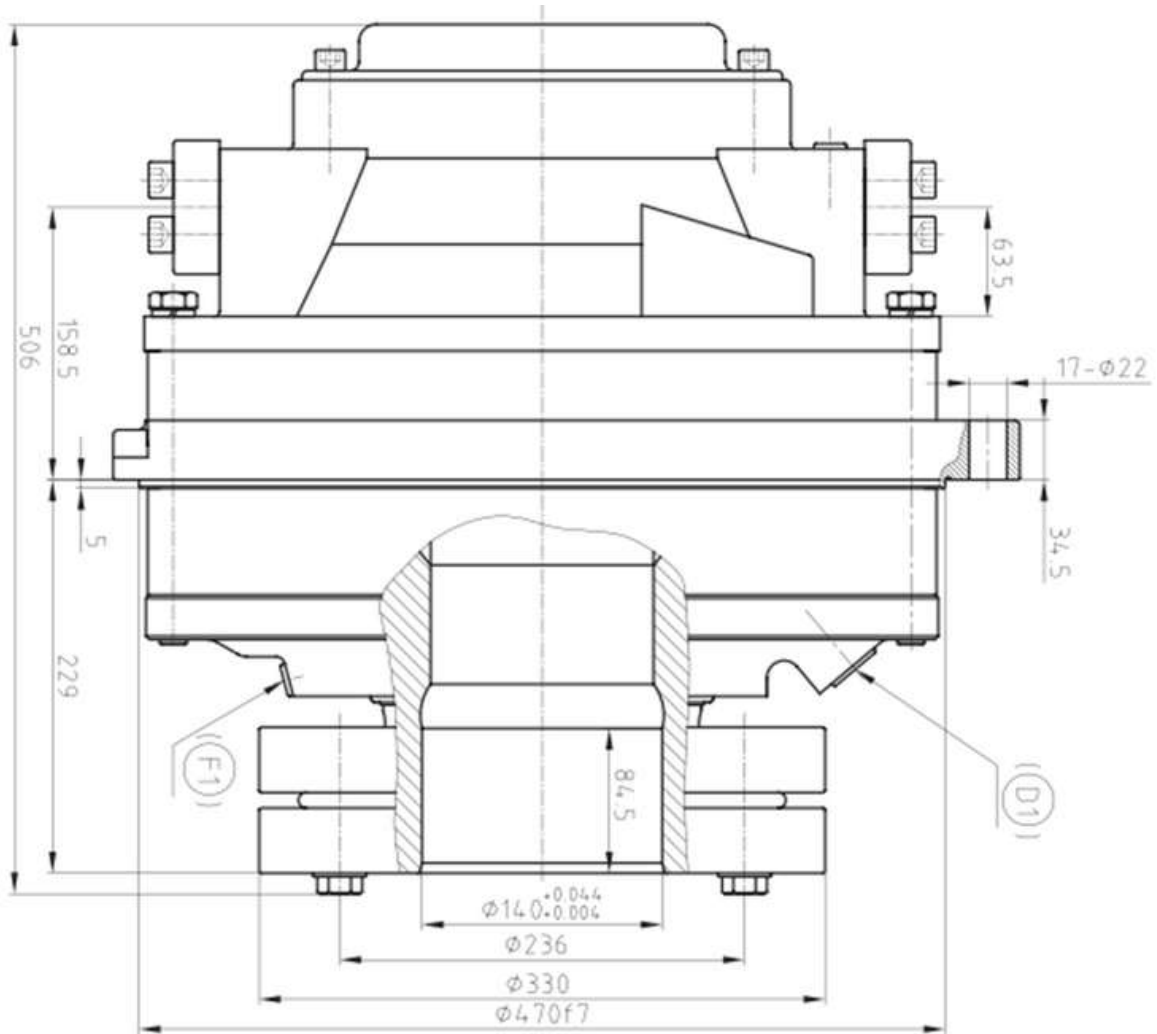
HDCRM-HA70



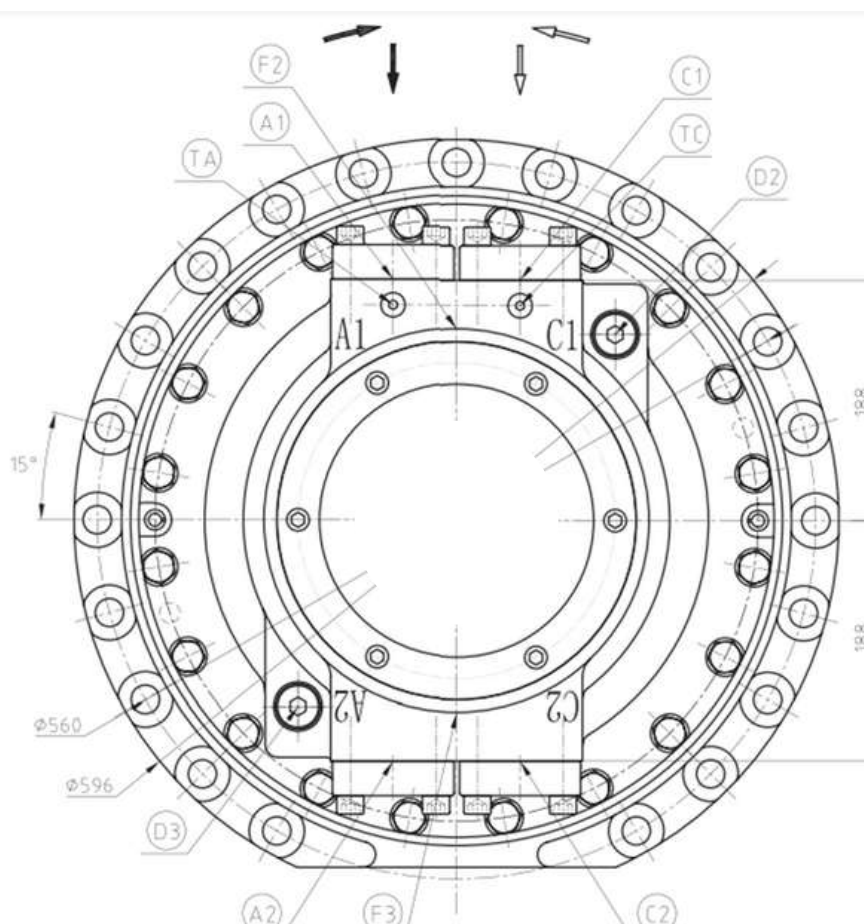
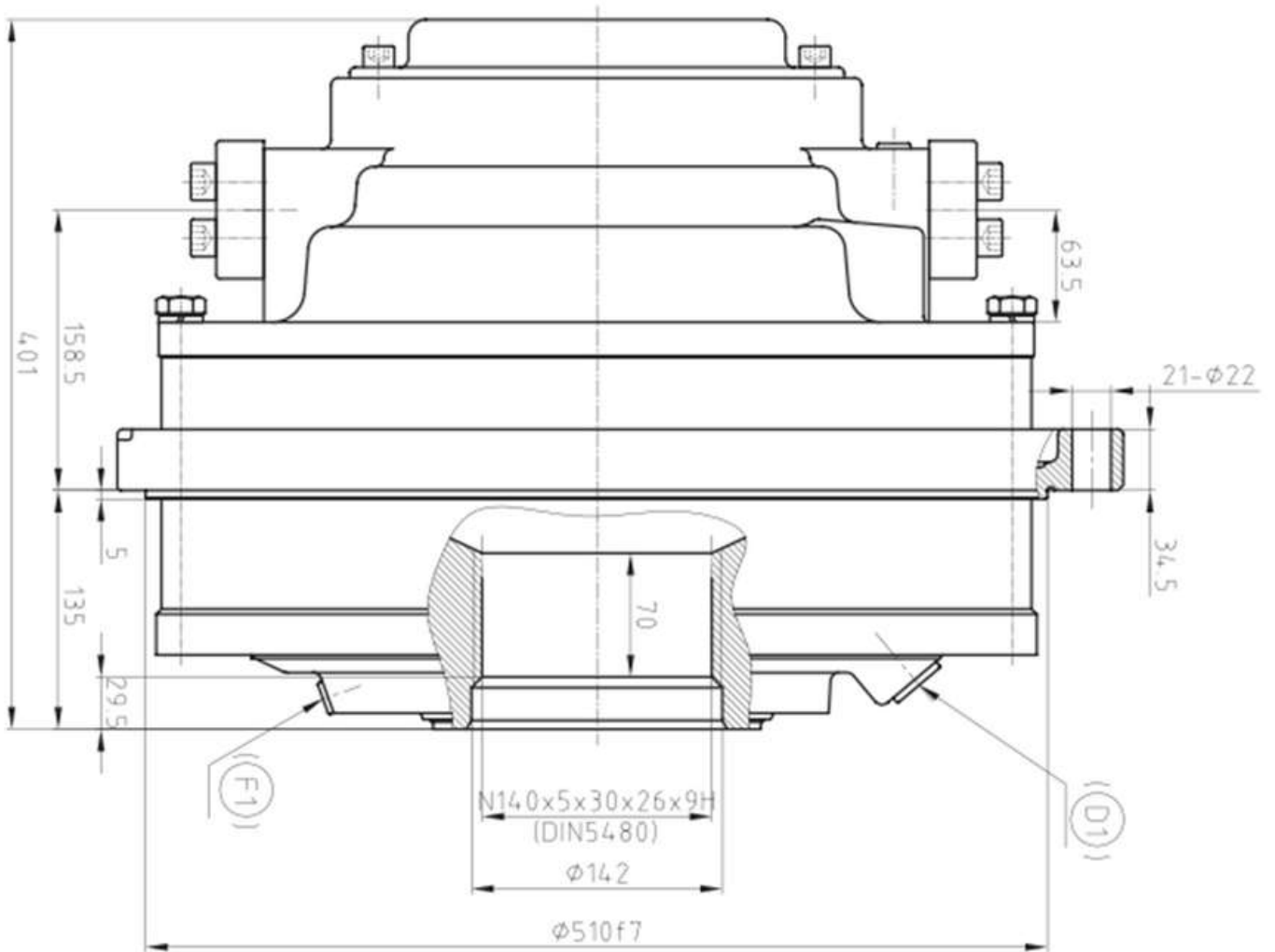
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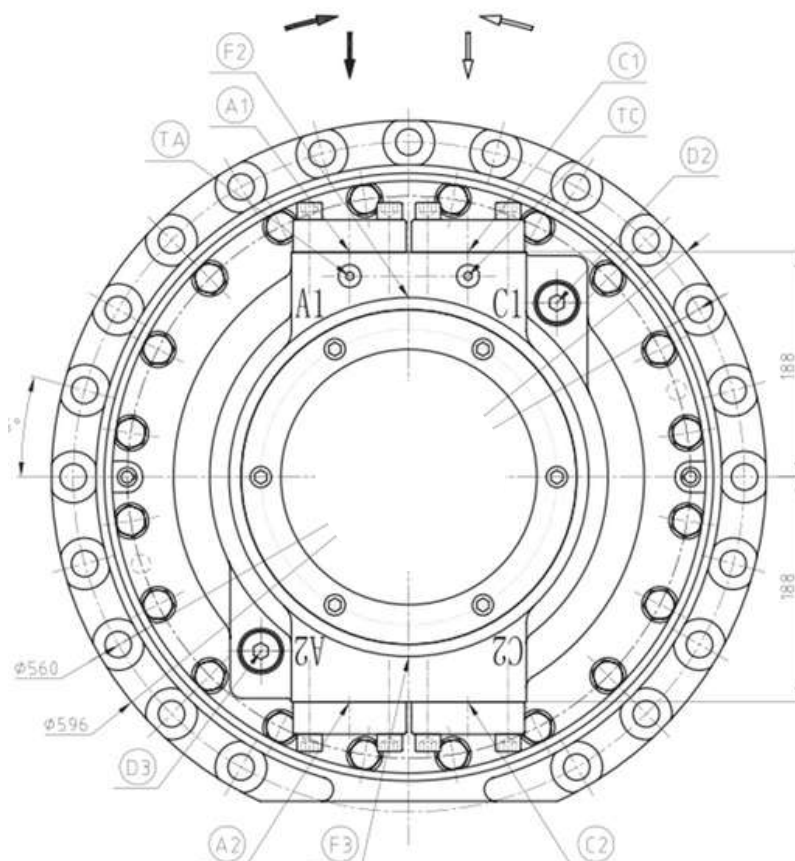
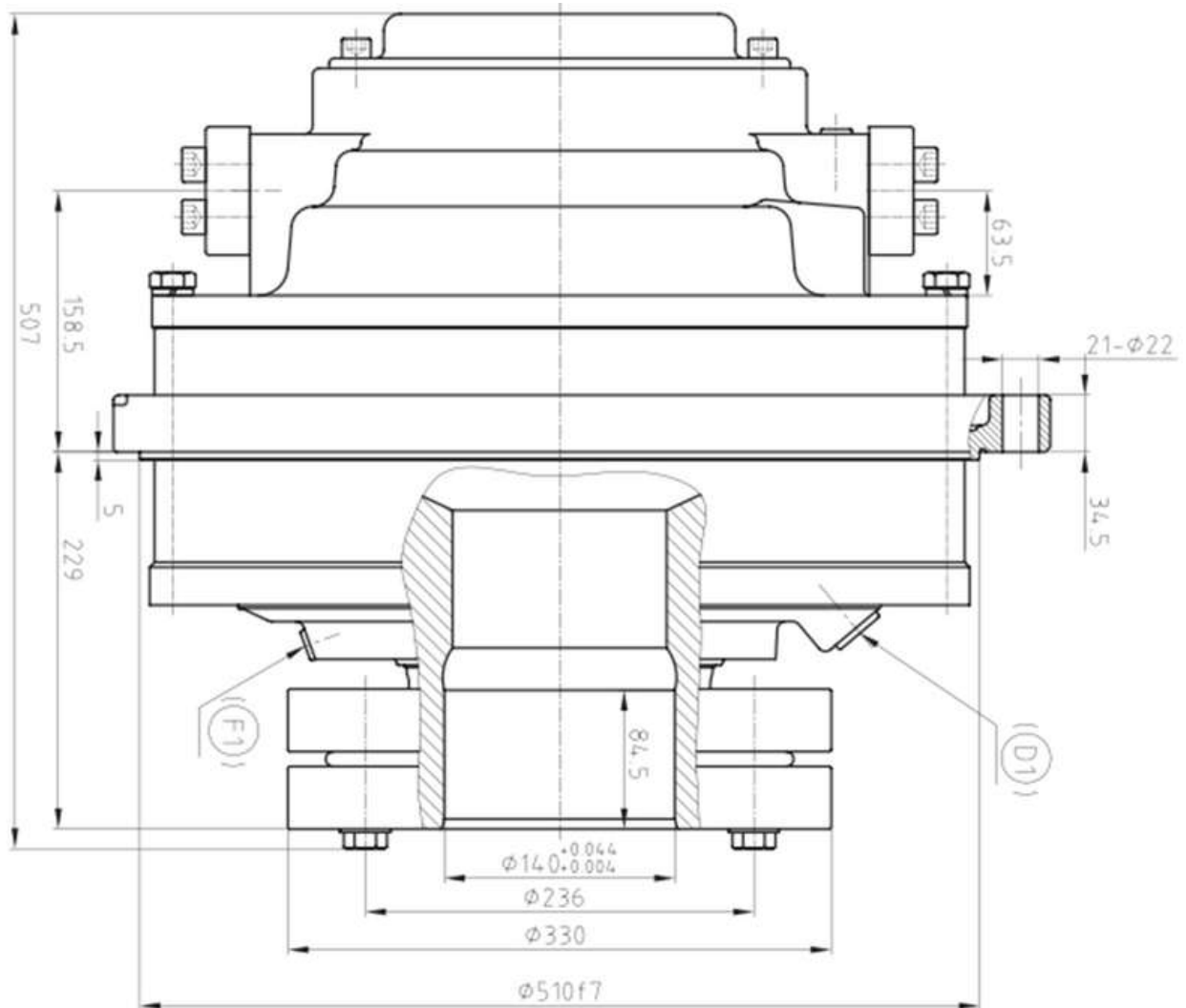
HDCRM-HA100



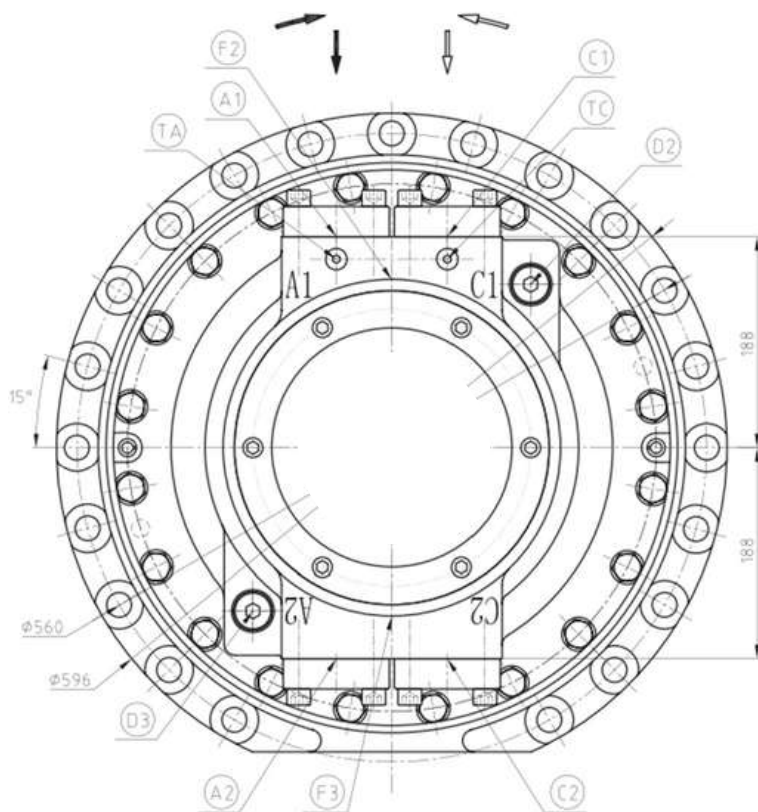
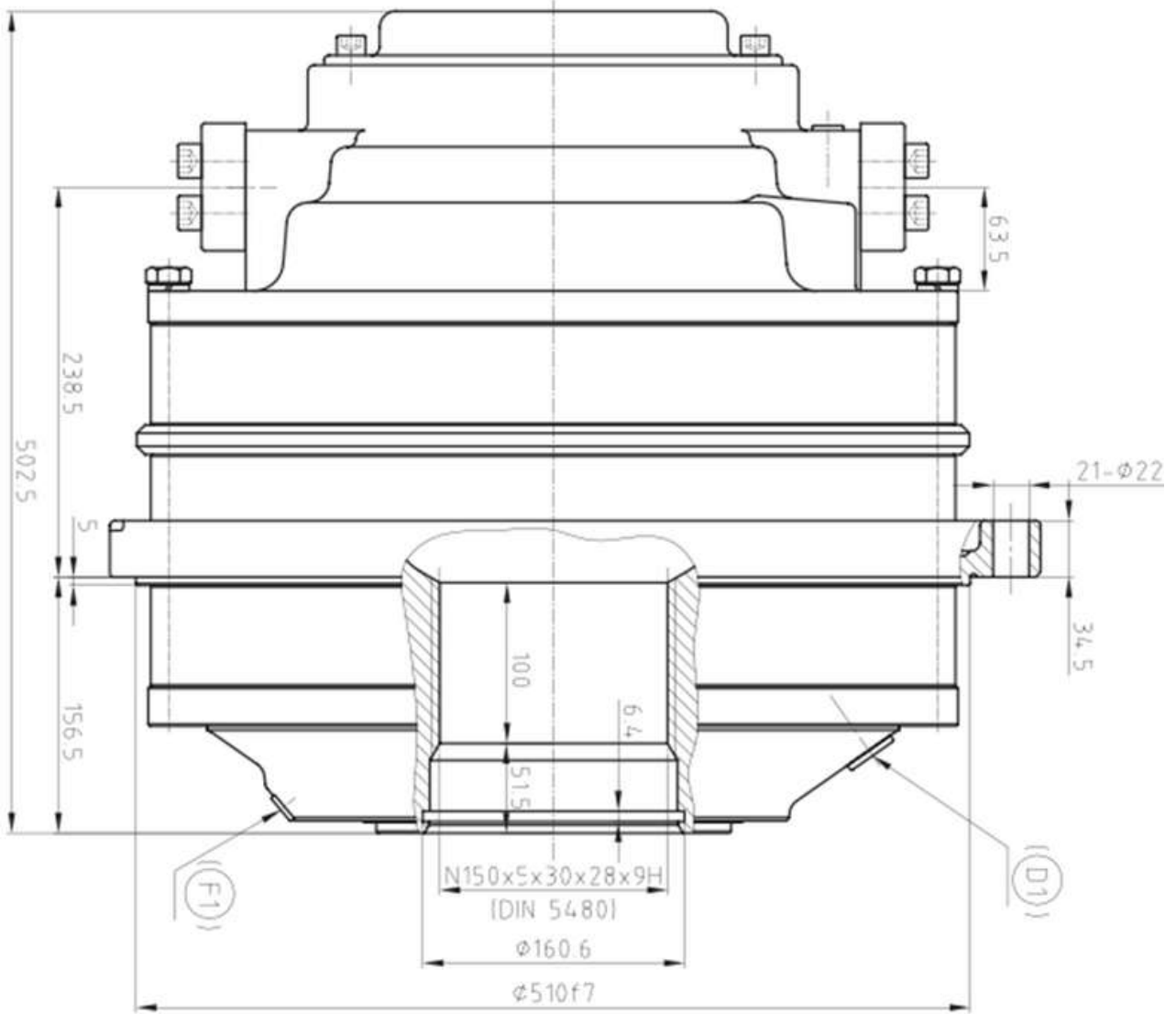
HDCRM-HA140



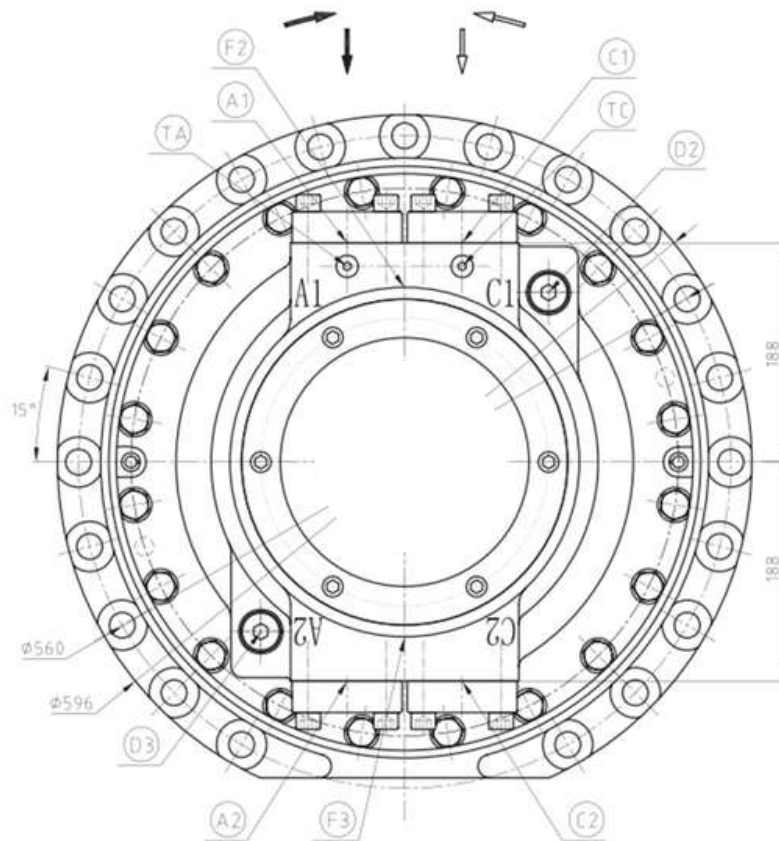
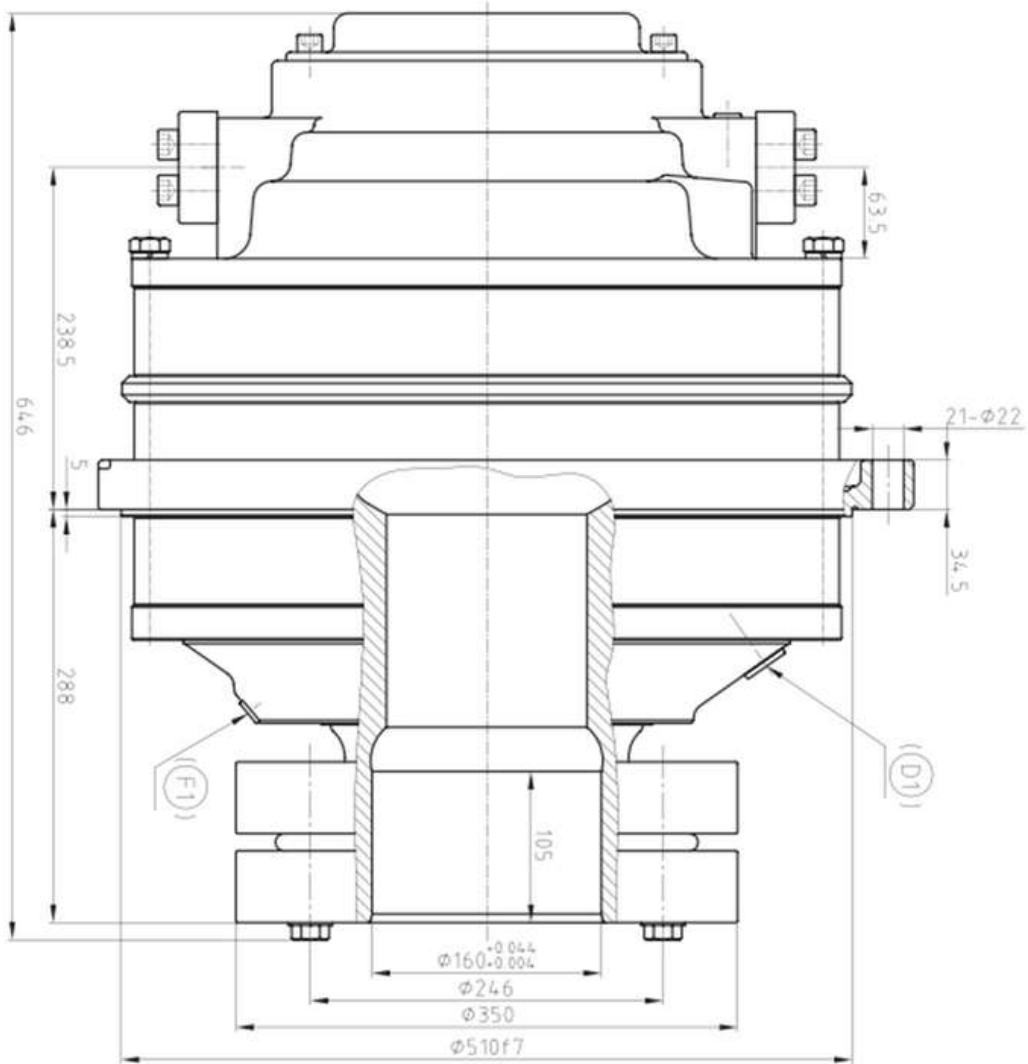
HDCRM-HA140



HDCRM-HA210



HDCRM-HA210



Specific data

Type	Displacement	Unit Torque	Rated Pressure	Max Pressure	Rated Torque	Rated Speed	Max Speed	Weight (Spline)	Weight (Shrink Disc Coupling)
HDCRM	ml/r	N.m bar	bar	bar	N.m	r/min	r/min	Kg	Kg
HA50-20	1,256	20	250	315	5,000	340	340	175	203
HA50-25	1,570	25	250	315	6,250	298	340		
HA50-32	2,010	32	250	315	8,000	238	340		
HA50-40	2,512	40	250	315	10,000	196	298		
HA50-50	3,140	50	250	315	12,500	170	238		
HA70-40	2,512	40	250	315	10,000	230	340	205	232
HA70-50	3,140	50	250	315	12,500	191	272		
HA70-60	3,771	60	250	315	15,000	166	234		
HA70-70	4,400	70	250	315	17,500	153	204		

Specific data

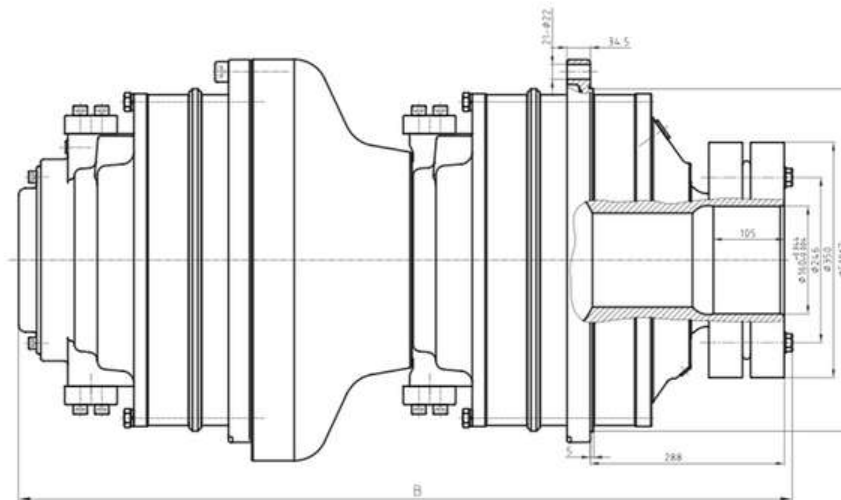
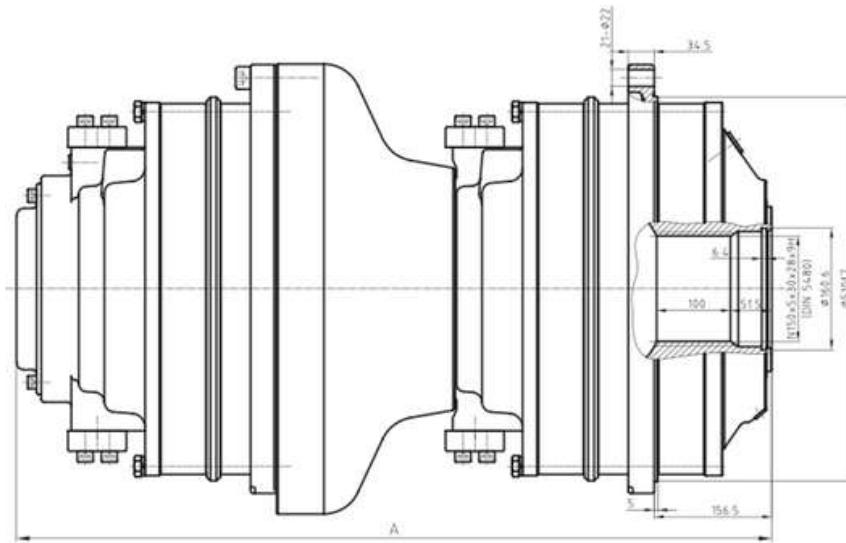
Type	Displacement	Unit Torque	Rated Pressure	Max Pressure	Rated Torque	Rated Speed	Max Speed	Weight (Spline)	Weight (Shrink Disc Coupling)
HDCRM	ml/r	N.m bar	bar	bar	N.m	r/min	r/min	Kg	Kg
HA100-40	2,512	40	250	315	10,000	332	340	265	310
HA100-50	3,140	50	250	315	12,500	272	340		
HA100-64	4,020	64	250	315	16,000	221	332		
HA100-80	5,024	80	250	315	20,000	187	264		
HA100-100	6,280	100	250	315	25,000	162	230		
HA140-80	5,024	80	250	315	20,000	208	289	305	347
HA140-100	6,280	100	250	315	25,000	174	234		
HA140-120	7,543	120	250	315	30,000	153	208		

Specific data

Type	Displacement	Unit Torque	Rated Pressure	Max Pressure	Rated Torque	Rated Speed	Max Speed	Weight (Spline)	Weight (Shrink Disc Coupling)
HDCRM	ml/r	N.m bar	bar	bar	N.m	r/min	r/min	Kg	Kg
HA140-140	8,800	140	250	315	35,000	145	187	305	347
HA210-160	10,051	160	250	315	40,000	89	128	395	456
HA210-180	11,314	180	250	315	45,000	85	115		
HA210-210	13,200	210	250	315	52,500	72	98		

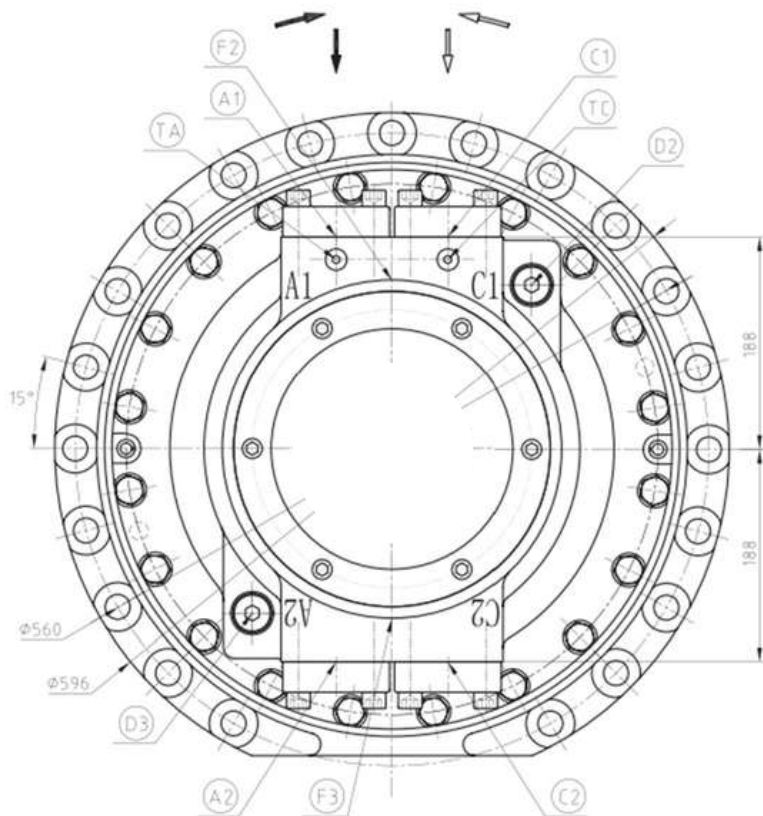
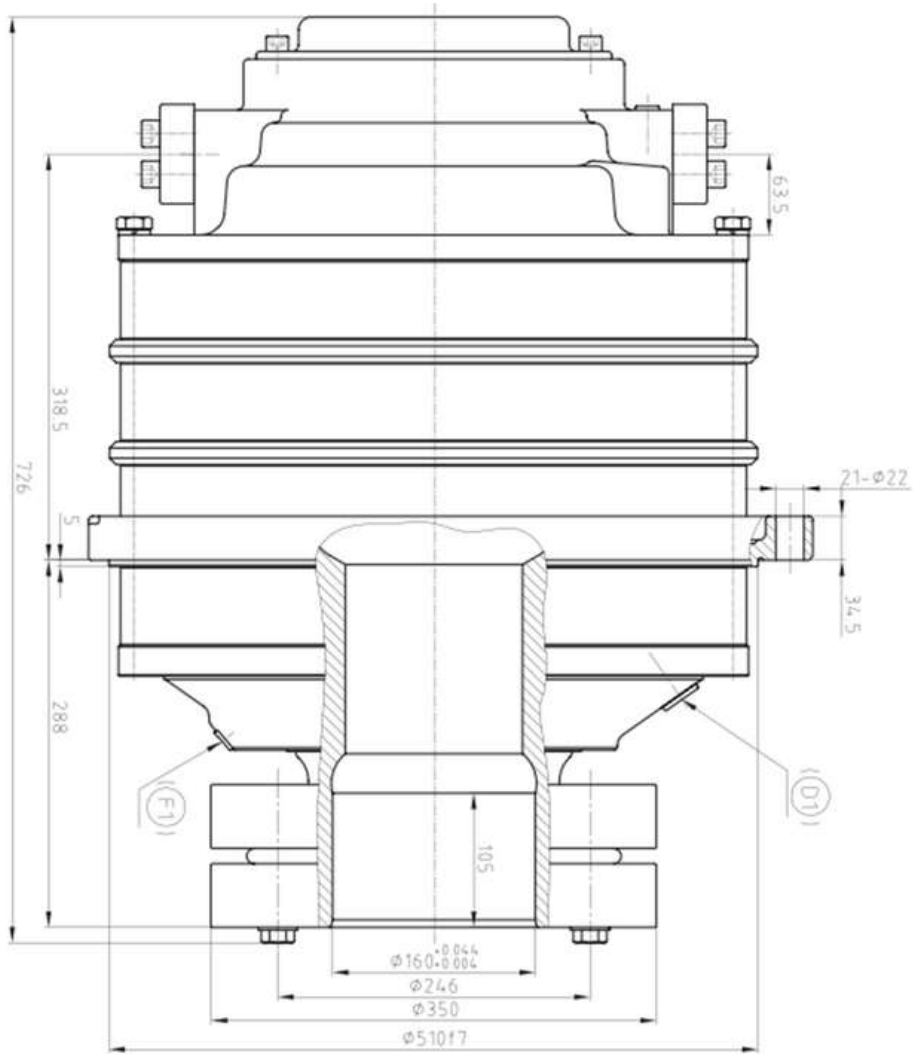
Motor connected In Series

HDCRM-HA210

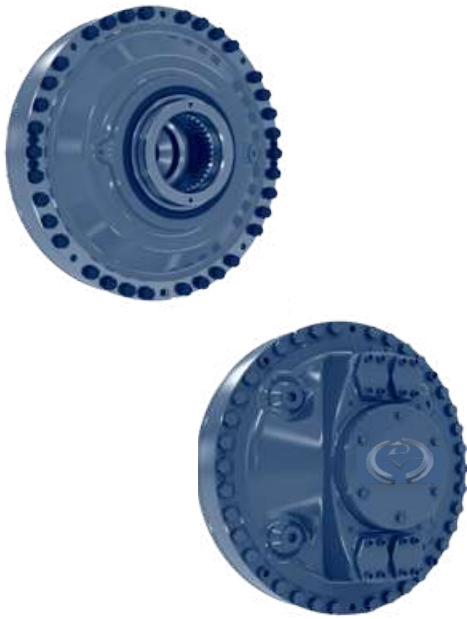


Type	Max. Pressure (bar)	Max. Speed (r/min)	Weight (Spline) Kg	Weight (Shrink disc coupling) Kg	Size A (mm)	Size B (mm)
HA210+HA50	240	98	619	680	826	969
HA210+HA70	220		652	713		
HA210+HA100	200		768	829	924	1067
HA210+HA140	180		808	869		
HA210+HA210	160		898	959		

HDCRM-HA280



HDCRM-HB – Radial Piston Hydraulic Motor



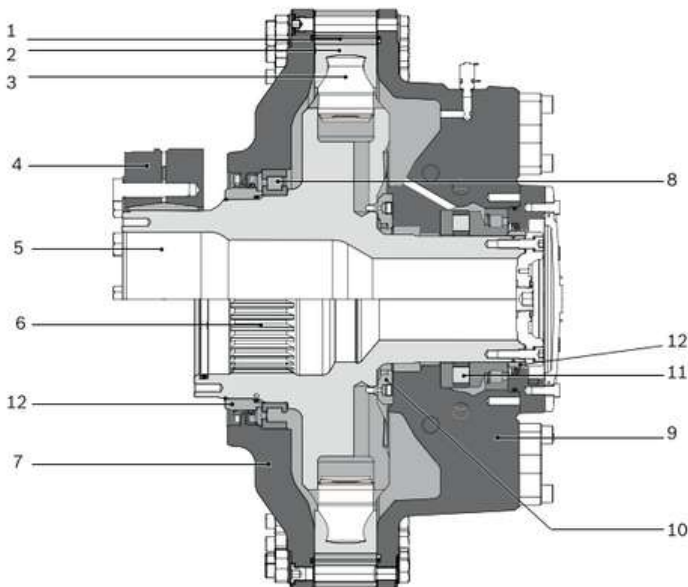
Product features:

- High power density
- High torque density
- Energy efficient
- Flexible, many sizes, few mechanical interfaces.
- Insensitive for shock loads
- Very low moment of inertia
- Small footprint (total occupied volume) Freewheeling possibility
- Through hole diameter 110 mm

Functional description

Shaft side

Connection side

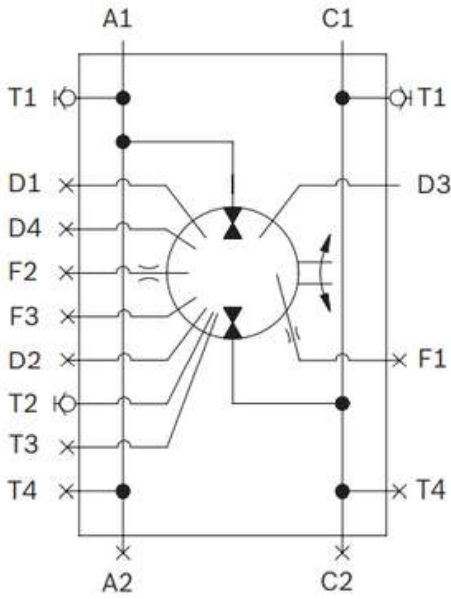


1. Cam ring
2. Cam roller
3. Piston
4. Shrink disc
5. Cylinder block, hollow shaft
6. Cylinder block, spline
7. Housing cover
8. Cylindrical roller bearing
9. Connection housing
10. Distributor
11. Combined axial and radial bearing
12. Wear ring

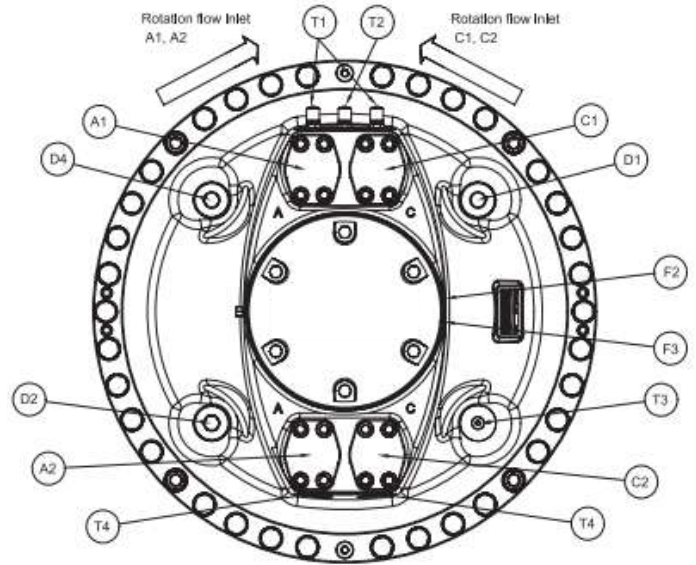
The engine of this series is a radial piston type with a rotating cylinder block/hollow shaft and a stationary housing. The cylinder block is mounted on roller bearings fixed in the housing. An even number of pistons are located radially in holes within the cylinder block, and the distributor directs inlet and outlet oil to and from the working piston. Each piston is working against a cam roller.

Fluid connections

Hydraulic symbol



Port connections



Connection	Description	Dimensions	Remarks
A1, A2	Main connection	1 1/4" e 1 1/2"	If A is used as the inlet, the motor shaft rotates counterclockwise, viewed from the motor shaft side.
C1, C2	Main connection	1 1/4" e 1 1/2"	If C is used as the inlet, the motor shaft rotates clockwise, viewed from the motor shaft side.
D1	Drain connection	G 1 1/4"	-
D2, D4	Alternative drain connection	G 1 1/4"	-
D3	Alternative drain connection	G 1"	-
T1	Test connection	G 1/4"	Used to measure pressure and/or temperature at the main connections.
T2	Test connection	G 1/4"	Used to measure pressure and/or temperature in drain oil.
T3	Test connection	G 1/4"	Used to measure pressure and/or temperature in drain oil.

Connection	Description	Dimensions	Remarks
T4	Pressure connection	G 1/2"	Connection for double ended torque arm.
F1, F2	Flushing connections	G 1/4"	For flushing of radial lip seal. Normally plugged.
F3	Flushing connections	G 1/2"	For flushing of axial bearing and motor case.

All connections are normally plugged at delivery.

General data

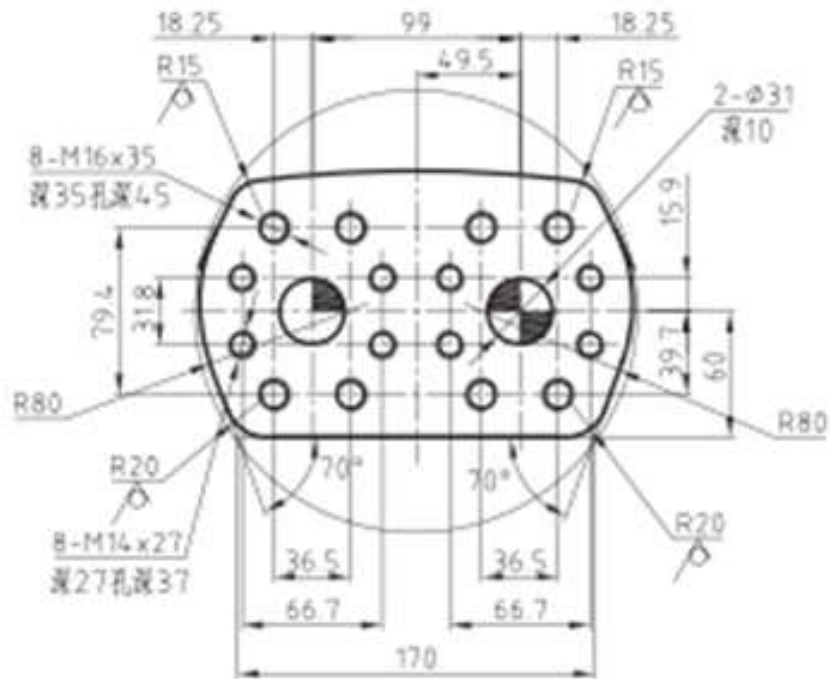
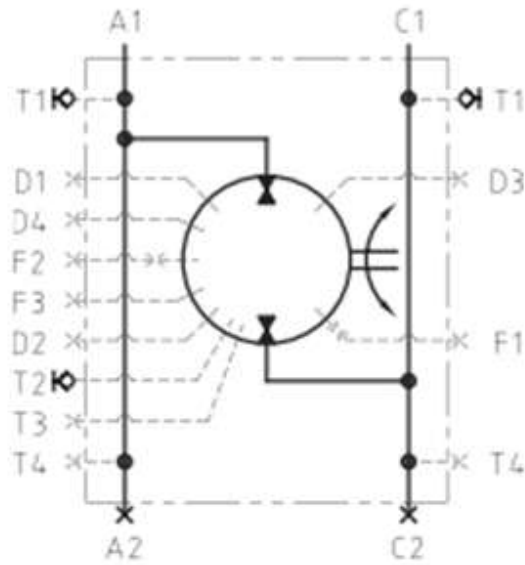
	Frame size			
	HDCRM-HB 280	HDCRM-HB 400	HDCRM-HB 560	HDCRM-HB 840
Type of mounting	Mounting alternatives			
Port connections	Port connections			
External loads	Permissible external loads			
Hydraulic fluids	Hydraulic fluids			

				Frame size			
				HDCRM-HB 280	HDCRM-HB 400	HDCRM-HB 560	HDCRM-HB 840

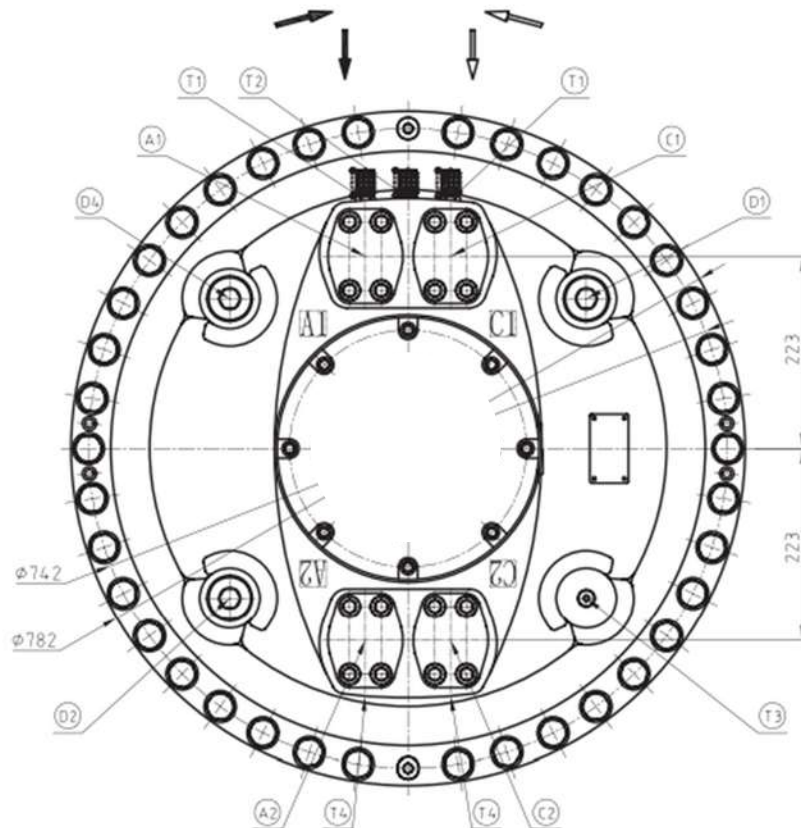
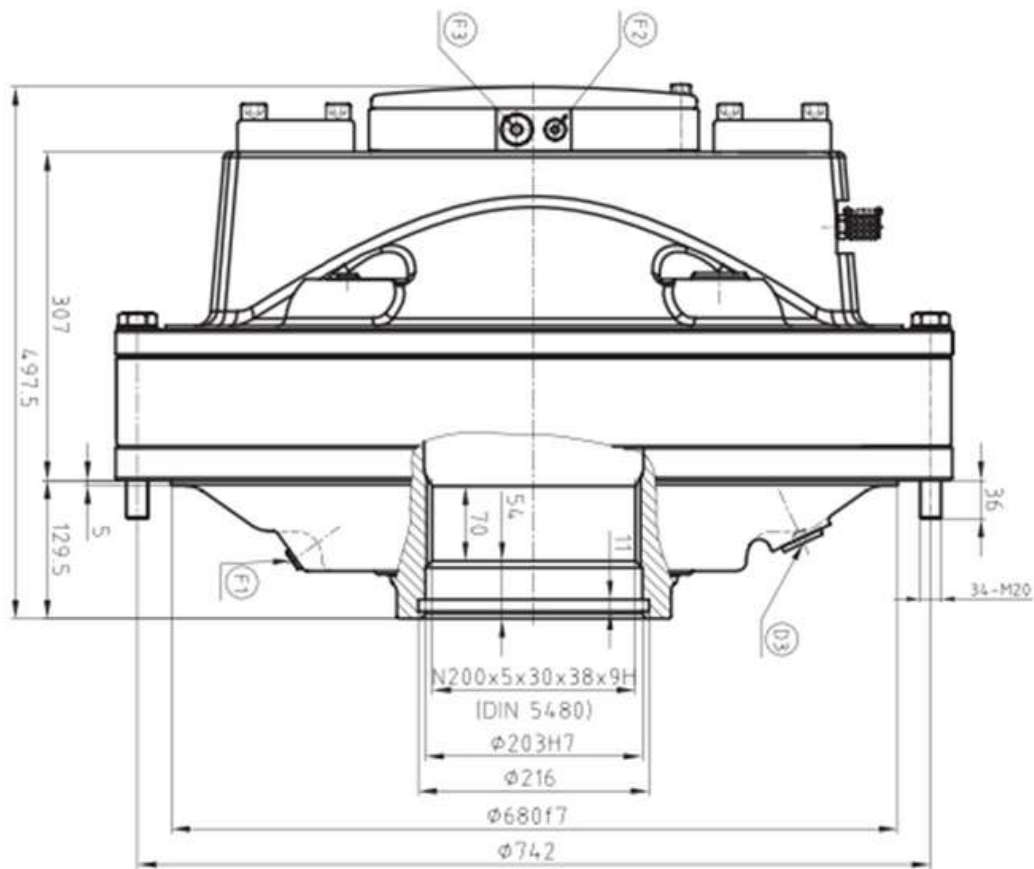
Pressure	Maximum operating pressure	Psi	5076	5076	5076	5076
	Maximum peak pressure	Psi	6091	6091	6091	6091
	Charge pressure	Psi	Recommended charge pressure			
	Maximum case pressure	Psi	44	44	44	44
	Maximum case peak pressure	Psi	116	116	116	116
Seal type: NBR (Nitrile)	Minimum	°F	-31	-31	-31	-31
	Maximum	°F	+158	+158	+158	+158
Seal type: FPM (Viton)	Minimum	°F	-4	-4	-4	-4
	Maximum	°F	+212	+212	+212	+212

Frame size			
HDCRM-HB 280	HDCRM-HB 400	HDCRM-HB 560	HDCRM-HB 840

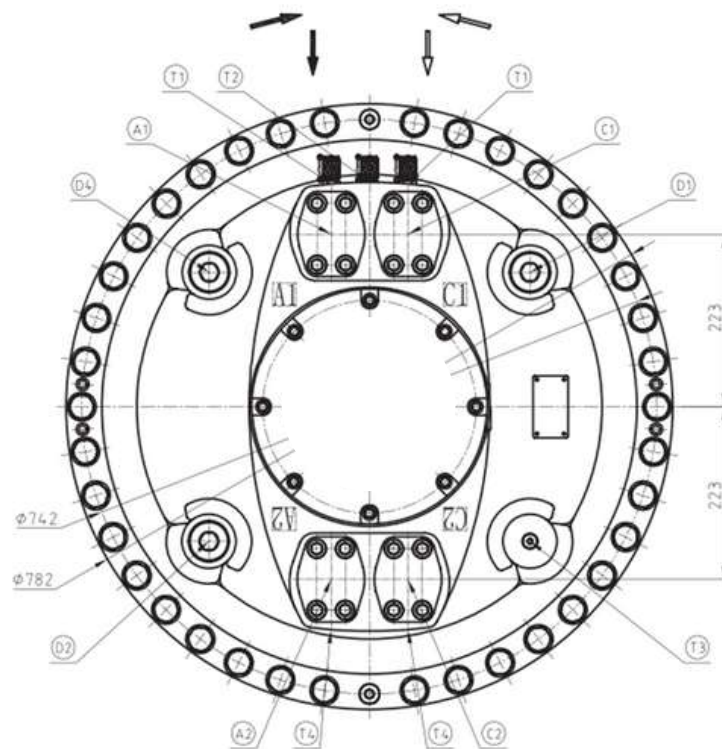
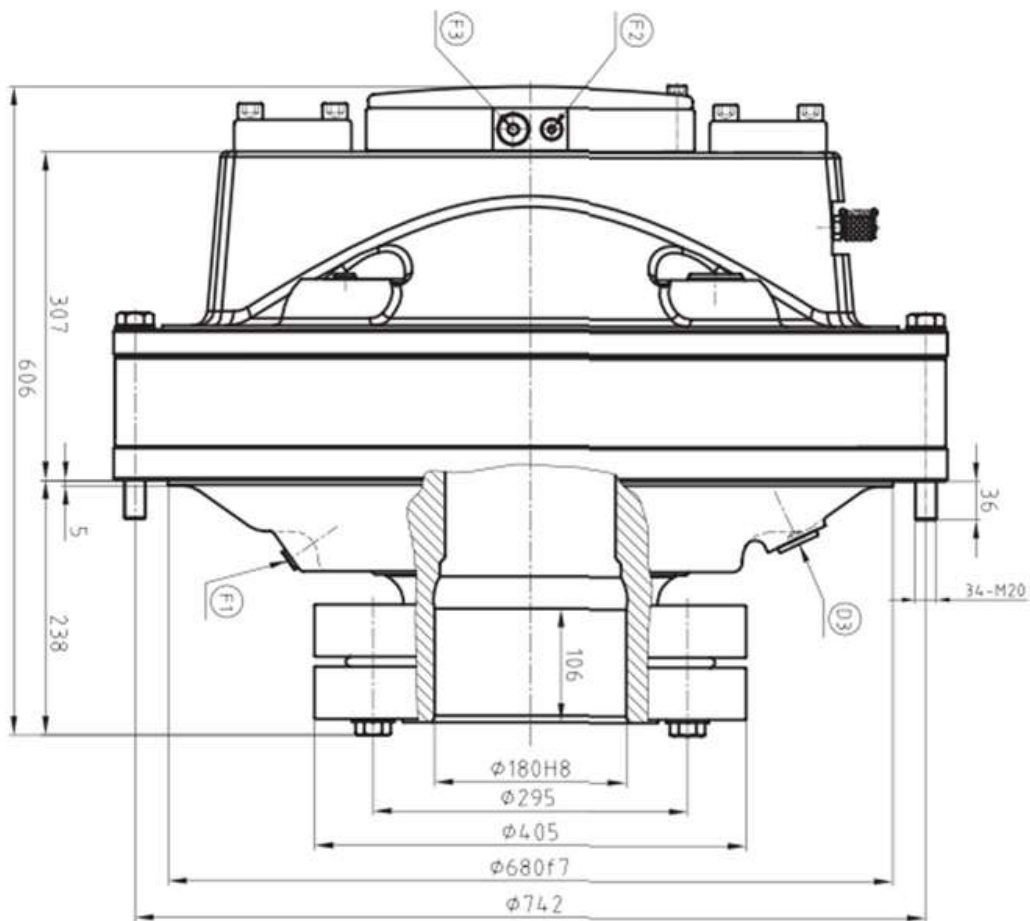
Oil volume in motor case		EUA gal	4.0	5.6	5.0	6.6
Moment of inertia for rotary group	Motor with splines	lb·ft ²	170.859	355.955	429.520	738.014
	Motor with shaft coupling	lb·ft ²	215.946	434.266	538.679	847.174
Weight	Motor with splines	lb	1555	2335	2450	3185
	Motor with shaft coupling	lb	1760	2555	2840	3570



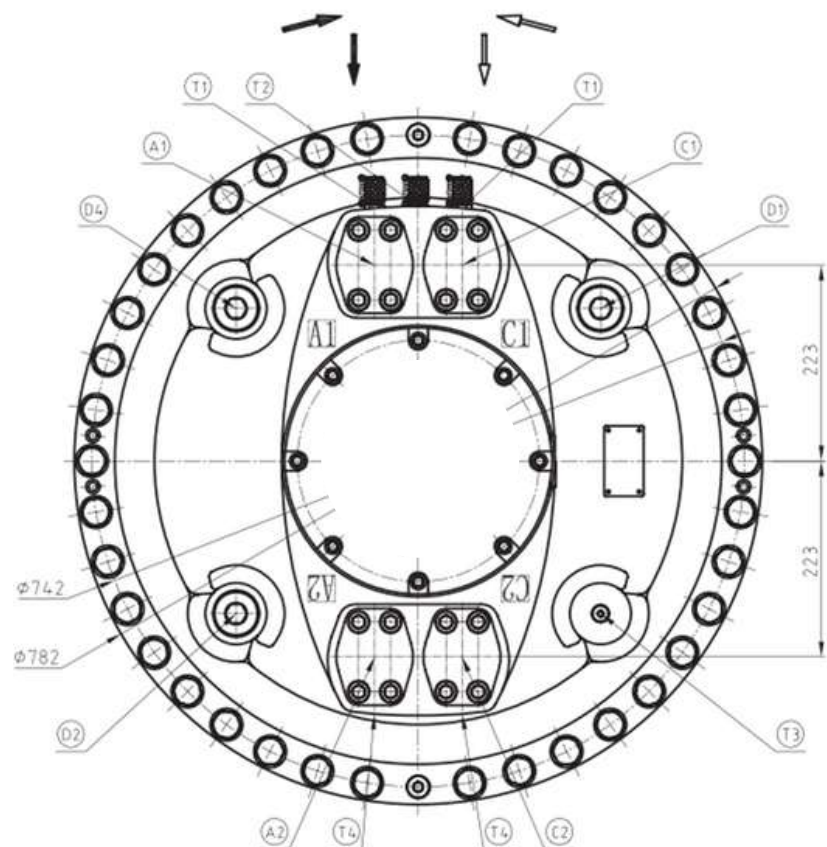
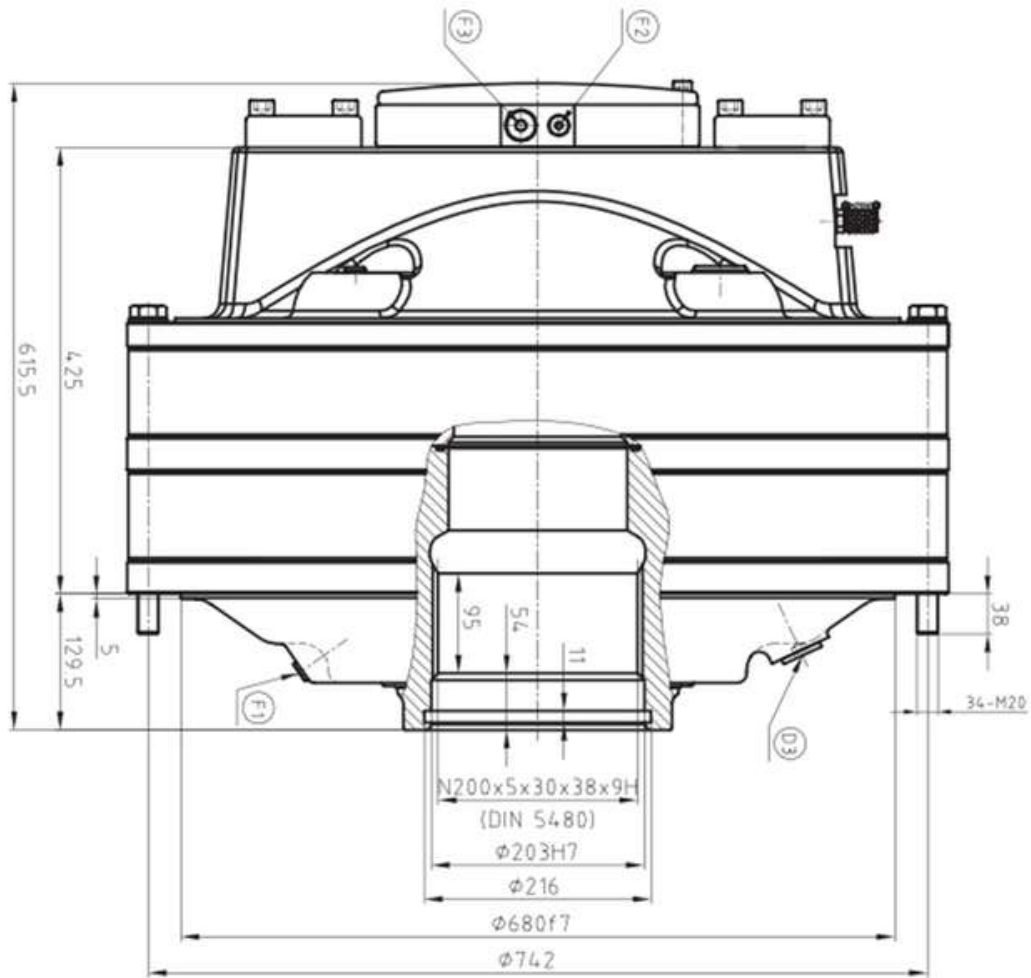
HDCRM-HB280



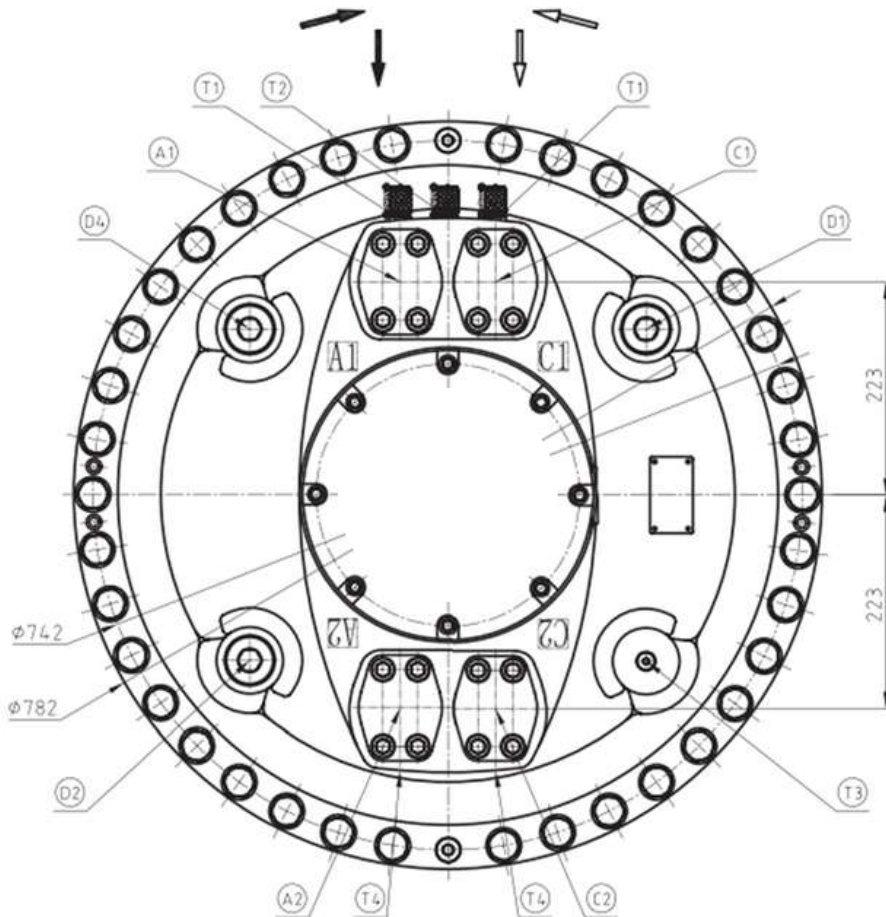
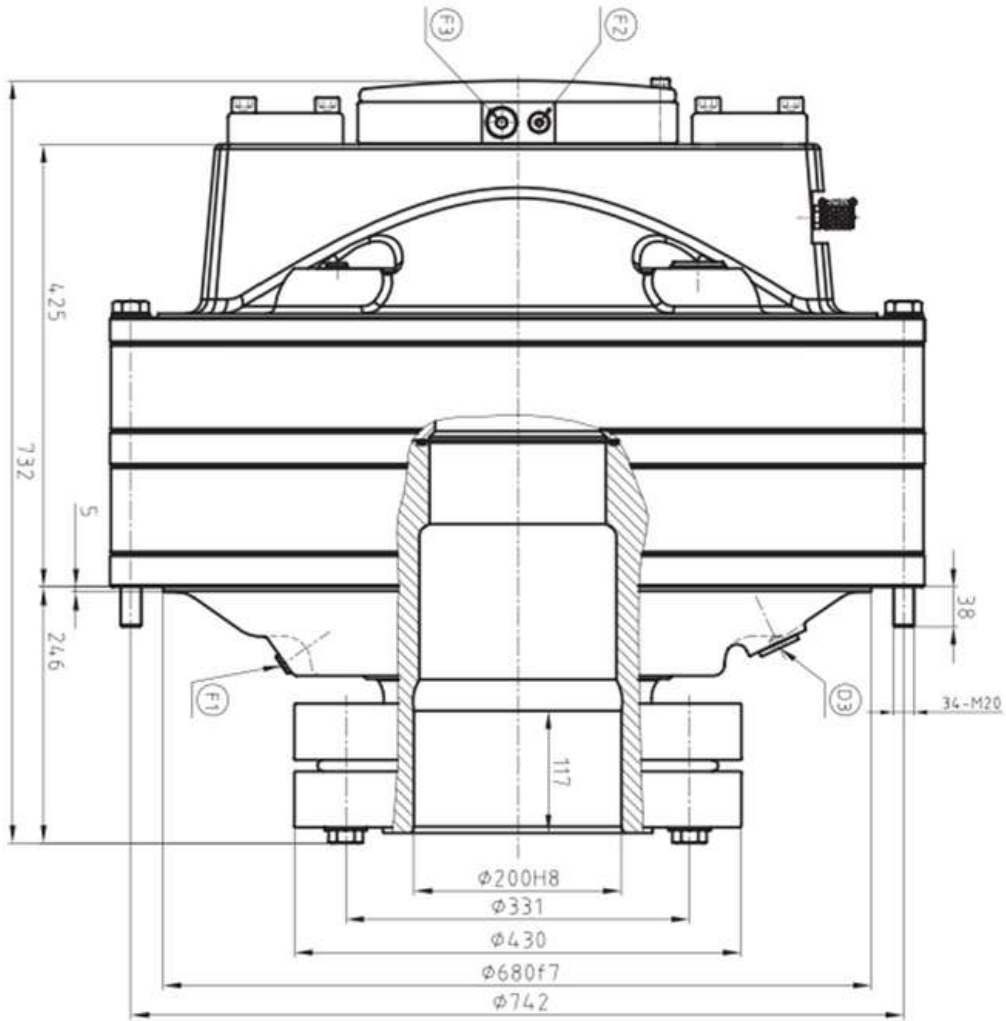
HDCRM-HB280



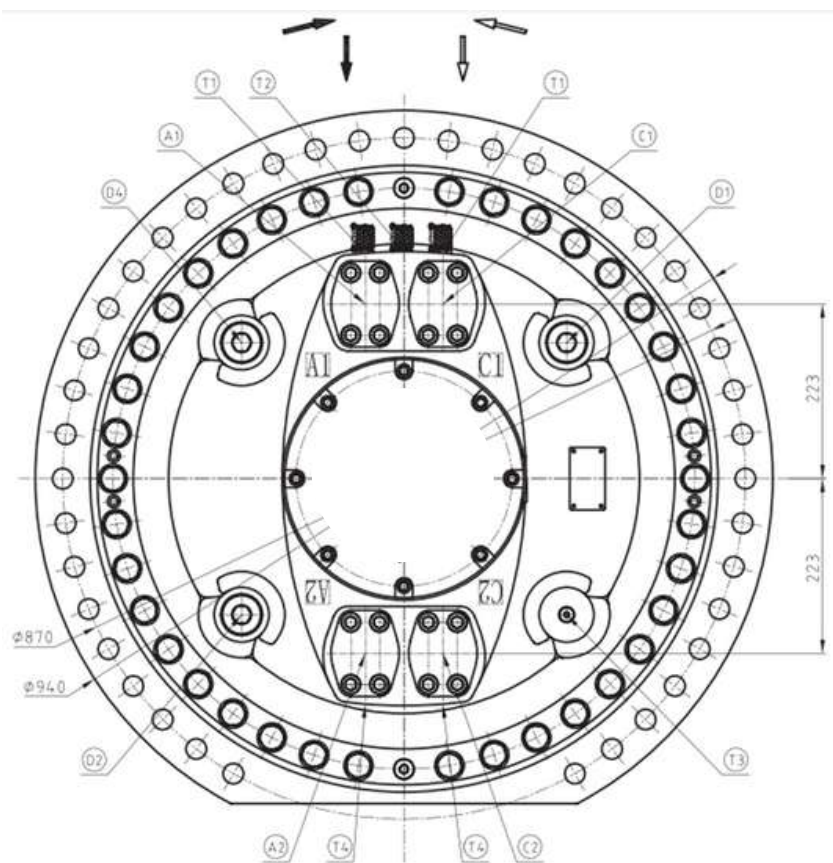
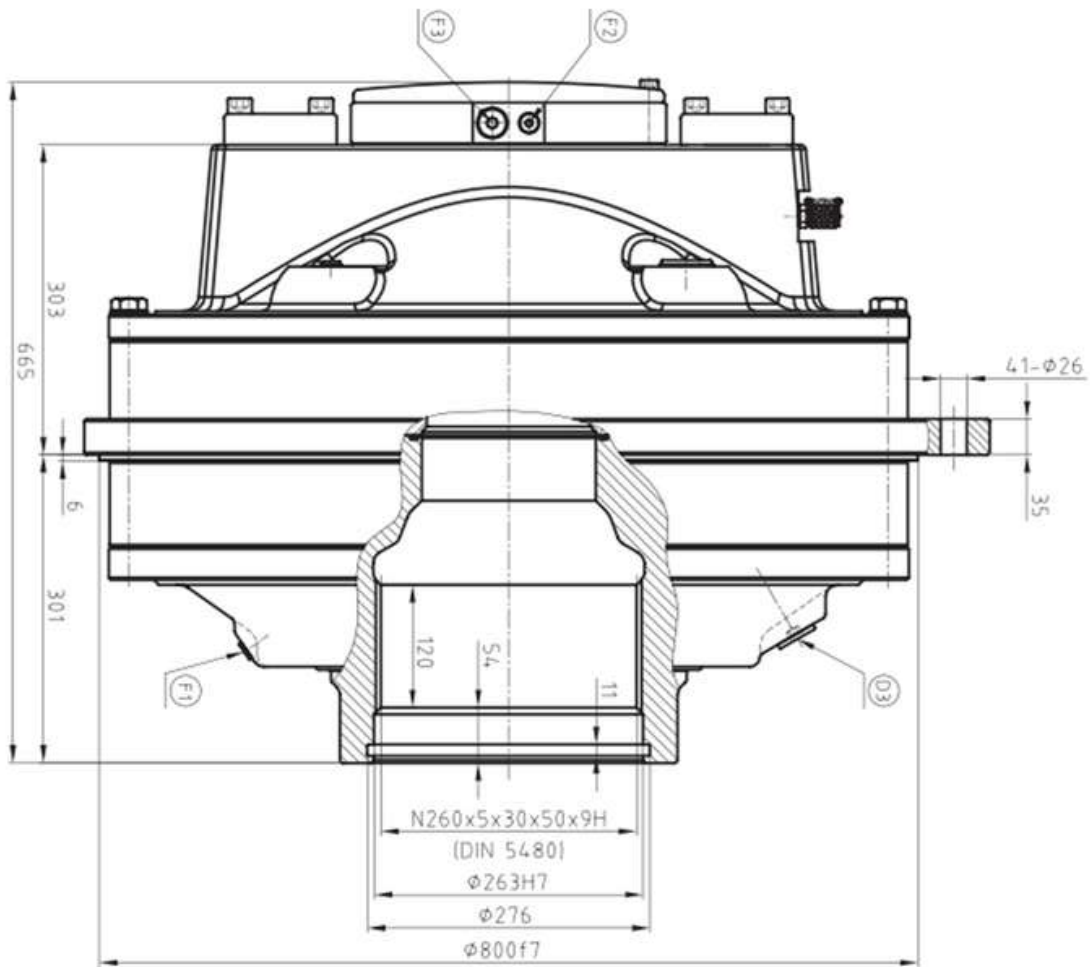
HDCRM-HB400



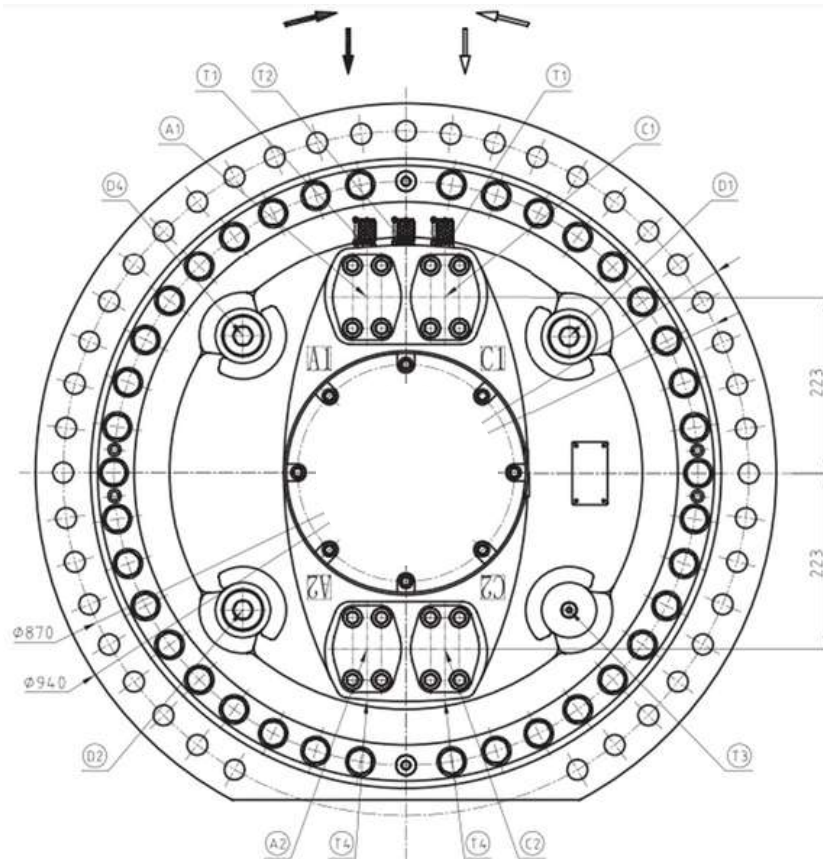
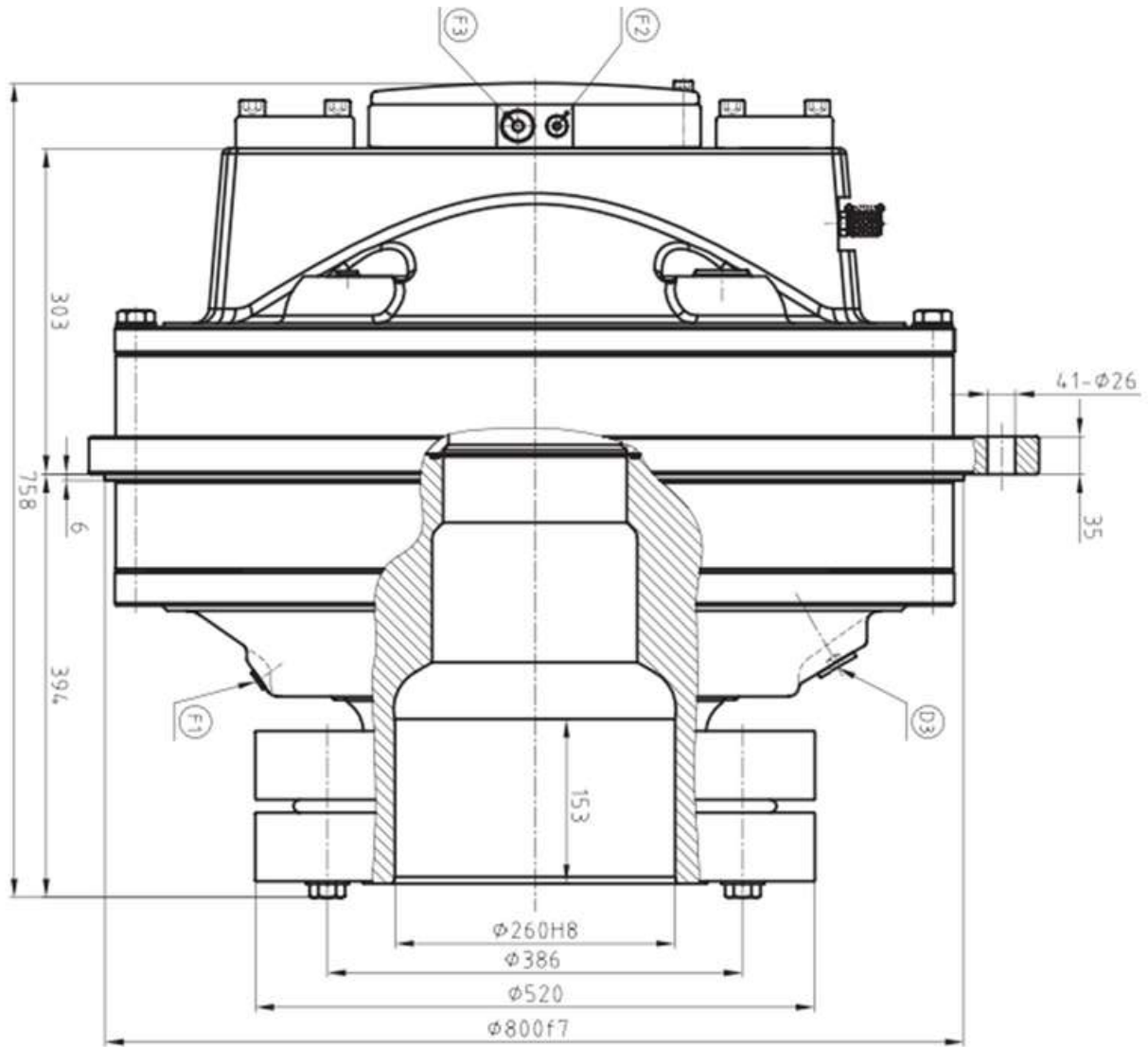
HDCRM-HB400



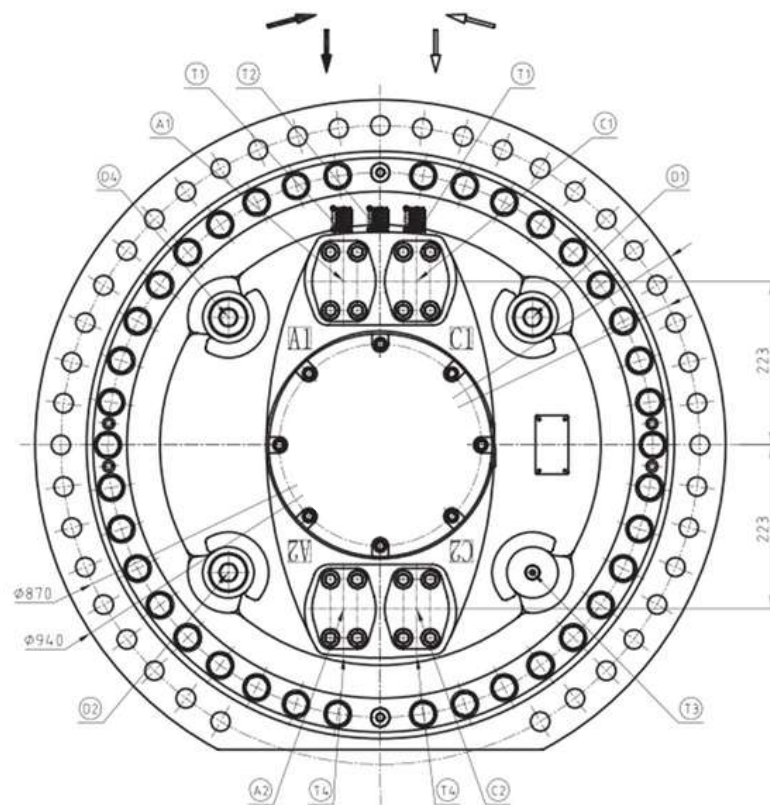
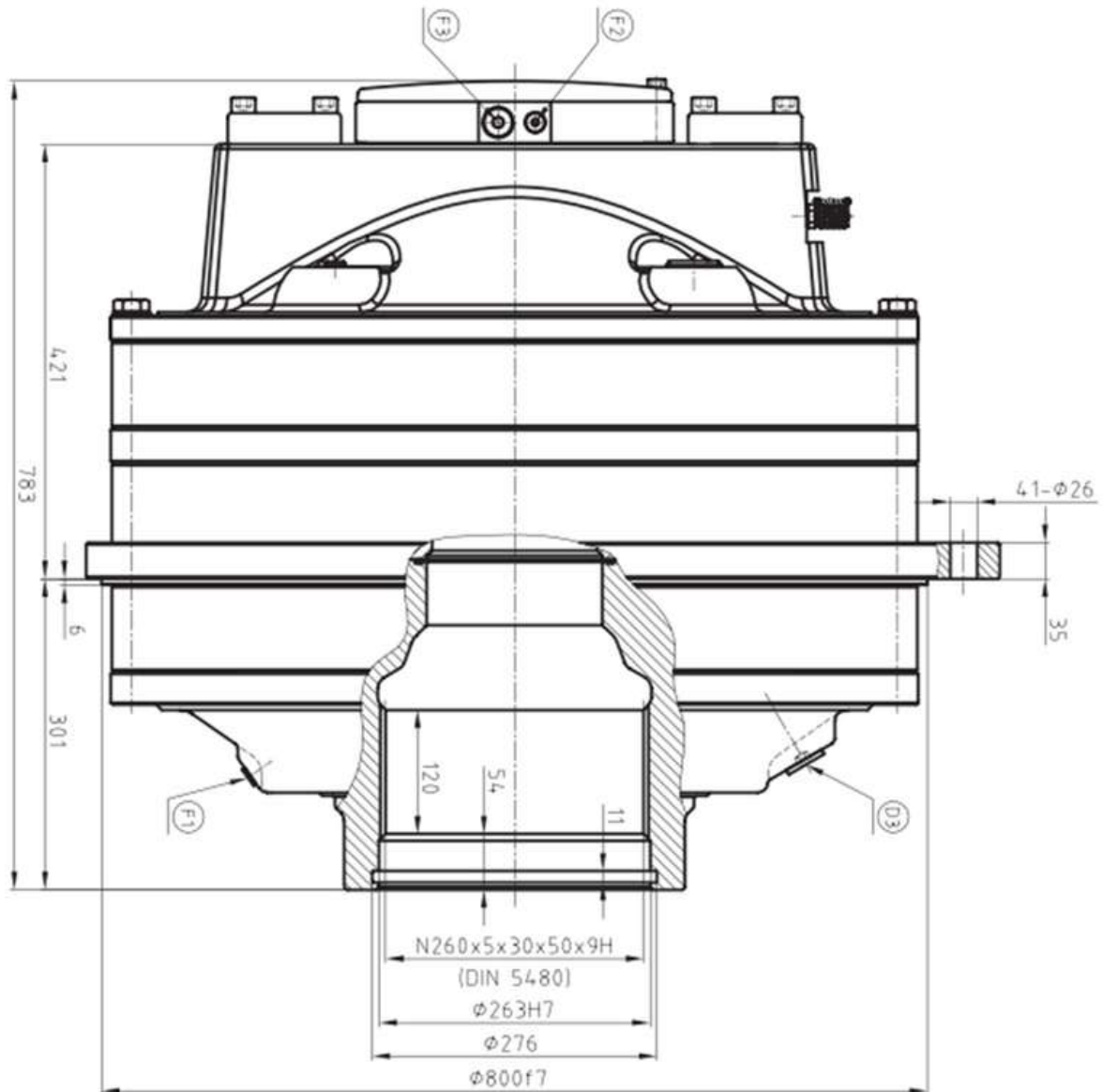
HDCRM-HB560



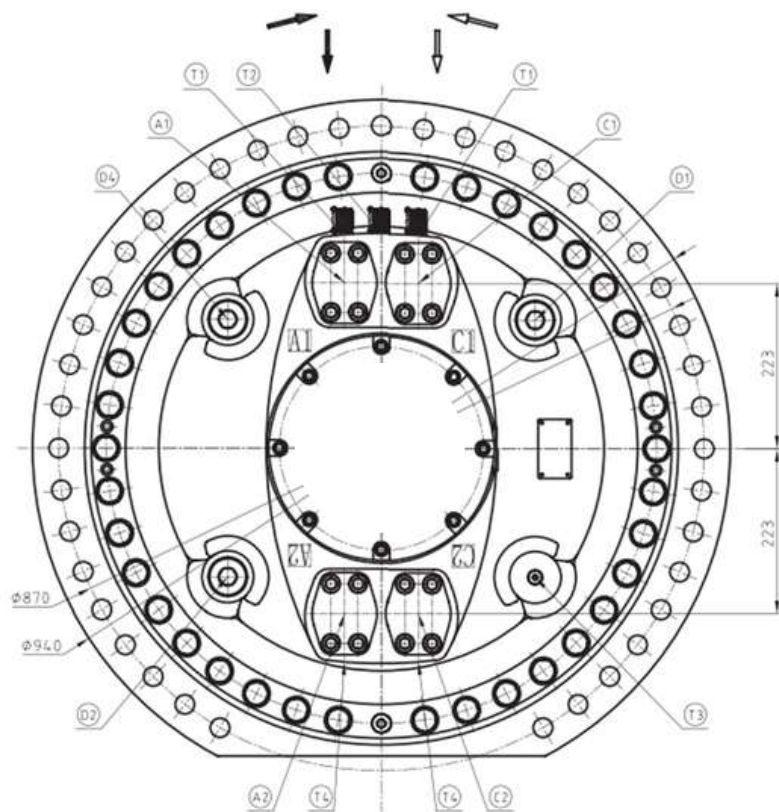
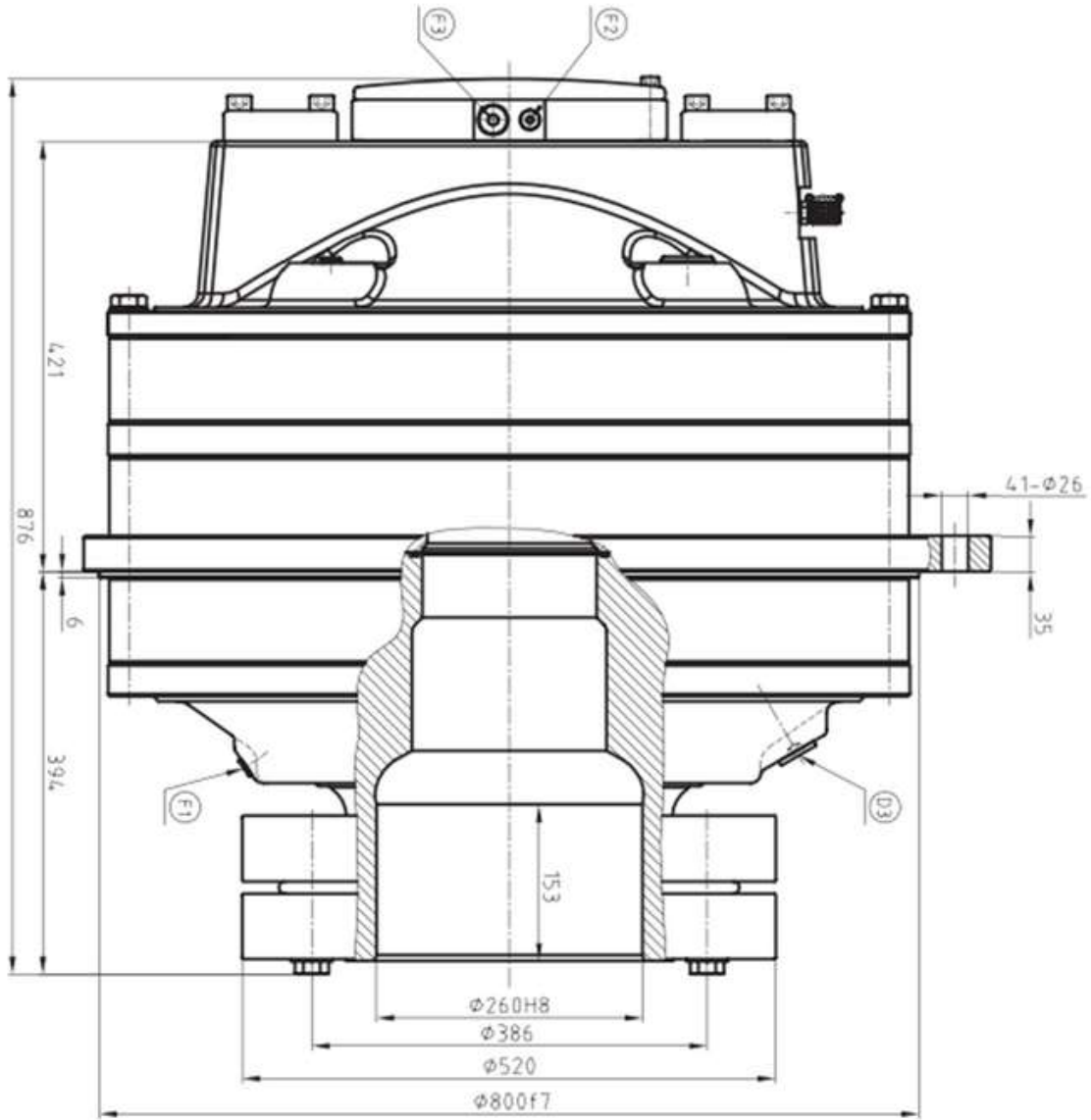
HDCRM-HB560



HDCRM-HB840



HDCRM-HB840



Motor data

Type	serie	Specific torque	Displacement	Max Torque	Max Speed	Max operating pressure	Max operating power
	serie	N.m bar	cm3/rev	kNm	rpm	bar	kW
HDCRM- HB280	240	240	15100	79	68	350	530
	280	280	17600	92	58	350	530
HDCRM- HB400	240	240	15100	79	125	350	970
	280	280	17600	92	105	350	950
	320	320	20100	110	94	350	970
	360	360	22600	120	82	350	960
	400	400	25100	130	75	350	970
	440	440	27600	131	65	320	820

Motor data

Type	serie	Specific torque	Displacement	Max Torque	Max Speed	Max operating pressure	Max operating power
	serie	N.m bar	cm3/rev	kNm	rpm	bar	kW
HDCRM- HB400	480	480	30200	129	62	290	660
	520	520	32700	130	57	270	670
	560	560	35200	129	53	250	630
HDCRM- HB560	440	440	27600	140	65	350	930
	480	480	30200	160	62	350	970
	520	520	32700	170	57	350	960
	560	560	35200	180	53	350	970
HDCRM- HB840	600	600	37700	200	45	350	880

Motor data

Type	serie	Specific torque	Displacement	Max Torque	Max Speed	Max operating pressure	Max operating power
	serie	N.m bar	cm3/rev	kNm	rpm	bar	kW
HDCRM- HB840	640	640	40200	210	41	350	850
	680	680	42700	220	40	350	890
	720	720	45200	240	37	350	870
	760	760	47800	250	34	350	840
	800	800	50300	260	34	350	890
	840	840	52800	280	32	350	870

Specific data

		Specific Torque	Displacement	Max Torque	Max Speed	Max operating pressure	Max operating Power
Type	serie	lbf-ft/1000 psi	in3/rev	lbf-ft	rpm	psi	hp
HDCRM-HB280	240	12200	920	5700	68	5000	710
	280	14200	1070	67000	58	5000	710
HDCRM-HB400	240	12200	920	57000	125	5000	1300
	280	14200	1070	67000	105	5000	1300
	320	16300	1230	76000	94	5000	1300
	360	18300	1380	86000	82	5000	1300
	400	20300	1530	95000	75	5000	1300
	440	22400	1690	97000	65	4600	1100
	480	24400	1840	95000	62	4200	890

Specific data

		Specific Torque	Displacement	Max Torque	Max Speed	Max operating pressure	Max operating Power
Type	serie	lbf-ft/1000 psi	in3/rev	lbf-ft	rpm	psi	hp
HDCRM-HB400	520	26400	1990	96000	57	3900	900
	560	28500	2150	95000	53	3600	840
HDCRM-HB560	440	22400	1690	100000	65	5000	1300
	480	24400	1840	110000	62	5000	1300
	520	26400	1990	140000	67	5000	1300
	560	28500	2150	130000	53	5000	1300
HDCRM-HB840	600	30500	2300	140000	45	5000	1200
	640	32500	2450	150000	41	5000	1100
	680	34600	2610	160000	40	5000	1200

Specific data

		Specific Torque	Displacement	Max Torque	Max Speed	Max operating pressure	Max operating Power
Type	serie	lbf-ft/1000 psi	in3/rev	lbf-ft	rpm	psi	hp
HDCRM-HB840	720	36600	2760	170000	37	5000	1200
	760	38700	2910	180000	34	5000	1100
	800	40700	3070	190000	34	5000	1200
	840	42700	3220	200000	32	5000	1200