2.6

HVA series

Orbital hydraulic motor

HVA series orbital hydraulic motor is a new generation of low-speed high-torque hydraulic motor, after the optimization of the internal structure of the motor, the motor has a more compact structure, higher efficiency, higher operating pressure.

Contents

Overview

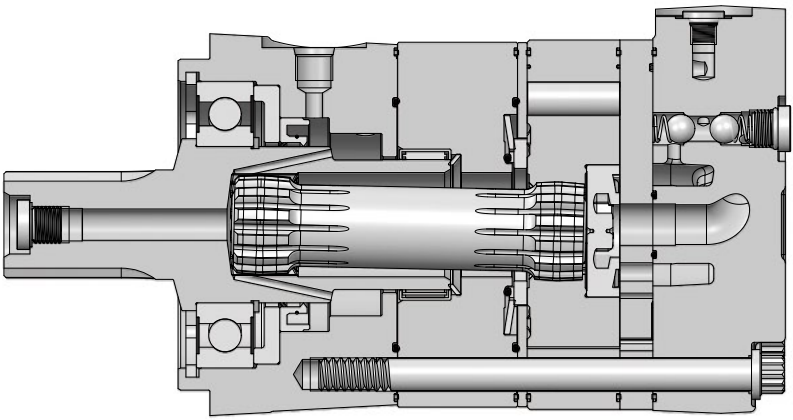
HVA series cycloidal hydraulic motor is a new generation of low-speed high-torque hydraulic motor, after the optimization of the internal structure of the motor, the motor has a more compact structure, higher efficiency, higher operating pressure. The HVA series cycloidal hydraulic motors are mainly used in closed circuits.

Advantages

- Compact structure
- High output torque
- High motor efficiency
- Smooth operation
- A variety of mounting sizes, output shaft sizes are available
- It has passed more than 400 hours of high temperature and high pressure durability test, with long service life and high pressure resistance
- Can be built-in flushometer or one-way stuffing

Standard structure

HVA Orbital hydraulic motor



P-0103

Specification

Type		HVA			
Displacement(cm^3/rev.)		325	400	505	570
Max.speed(rpm)	Continuous	341	280	213	186
	Intermittent	394	330	240	212
Max.flow(L/min)	Continuous	114	114	114	114
	Intermittent	132	132	132	132
Max.torque(Nm)	Continuous	1600	1600	1600	1600
	Intermittent	2000	2000	2000	2000
Max.different pressure(bar)	Continuous	310	255	254	223
	Intermittent	345	320	305	268

T-0097

02

- Intermittent working condition: The working time should be less than 6 seconds per minute under the intermittent working condition.
- Peak differential pressure: At peak differential pressure, the operating time is less than 0.6 seconds per minute.
- It is not recommended for the motor to work at simultaneous maximum torque and maximum speed.
- The filtration standard of ISO 4406 cleaning standard 20/18/15 is recommended.
- High quality anti-wear hydraulic fluids are recommended.
- When the temperature is 50° C, the minimum viscosity of the oil is recommended to be 20mm2/s.
- The recommended maximum operating temperature is 82°C .
- To assure best motor life, run motor 10-15 minutes in low speed high torque mode at approximately 50% of continuous pressure and 50% of continuous flow.

Displacement performance

		Pressure(bar)									Max.Cont	Max.Inter
	325	15	35	70	105	140	170	205	240	275	310	345
	325cm³/rev.	Torque(Nm), **Speed(rpm)**										
Flow (L/min)	15	58	145	301	456	606	751	911	1059	1247	1470	1498
		45	**45**	**44**	**43**	**42**	**42**	**41**	**40**	**38**	**36**	**34**
	30	66	148	306	459	618	771	924	1063	1260	1494	1506
		92	**91**	**89**	**87**	**84**	**83**	**82**	**81**	**77**	**72**	**69**
	45	69	156	306	460	608	764	897	1035	1177	1307	1434
		134	**130**	**128**	**126**	**123**	**123**	**122**	**120**	**119**	**119**	**117**
	61	77	156	289	442	595	750	907	1032	1172	1342	1401
		178	**175**	**172**	**169**	**164**	**161**	**158**	**158**	**157**	**151**	**151**
	76	74	147	282	435	585	745	903	1028	1166	1334	
		225	**221**	**217**	**213**	**207**	**204**	**200**	**200**	**199**	**193**	
	95	74	149	279	430	575	743	876	1030	1169		
		288	**283**	**279**	**276**	**273**	**265**	**260**	**258**	**256**		
Max.Cont	114		151	278	428	578	736	901	1032	1171		
			341	**336**	**332**	**329**	**319**	**313**	**310**	**309**		
Max.Inter	132		147	375	425	573	730	896	1029			
			394	**388**	**385**	**380**	**369**	**361**	**359**			

Overall Efficiency: 70-100% 40-69% 0-39%

T-0114

		Pressure(bar)									Max.Cont	Max.Inter
	400	15	35	70	105	140	170	205	240	275	310	345
	400cm³/rev.	Torque(Nm), **Speed(rpm)**										
Flow (L/min)	15	67	169	364	551	723	837	1053	1197	1444	1618	1761
		37	**31**	**27**	**30**	**28**	**27**	**25**	**27**	**31**	**29**	**28**
	30	67	176	371	564	753	914	1099	1280	1440	1628	1783
		69	**69**	**65**	**64**	**64**	**63**	**62**	**61**	**63**	**60**	**56**
	45	64	173	371	566	756	918	1100	1275	1498	1649	
		104	**104**	**101**	**99**	**99**	**96**	**95**	**96**	**96**	**96**	
	61	56	163	366	562	752	913	1097	1272	1499	1641	
		149	**143**	**139**	**139**	**137**	**128**	**133**	**130**	**127**	**123**	
	76	44	153	357	553	743	898	1084	1264	1507		
		183	**180**	**172**	**175**	**172**	**172**	**168**	**165**	**161**		
	95	23	132	340	538	732	886	1071	1256			
		234	**229**	**216**	**215**	**215**	**212**	**209**	**207**			
Max.Cont	114		157	357	547	723	917	1130	1268			
			280	**274**	**271**	**268**	**260**	**255**	**253**			
Max.Inter	132		151	345	543	717	915	1098	1262			
			330	**316**	**312**	**308**	**299**	**296**	**292**			

Overall Efficiency: 70-100% 40-69% 0-39%

T-0101

Displacement performance

	505	Pressure(bar) 15	35	70	105	140	170	205	240	Max.Cont 275	Max.Inter 310
	505cm³/rev.	Torque(Nm), **Speed(rpm)**									
Flow (L/min)	15	110	225	265	696	931	1137	1360	1543	1826	2038
		28	**28**	**27**	**27**	**26**	**26**	**25**	**25**	**23**	**22**
	30	119	238	492	732	985	1216	1474	1622	1860	
		59	**58**	**57**	**55**	**54**	**54**	**53**	**52**	**48**	
	45	113	238	487	742	990	1222	1487	1695	1892	
		81	**77**	**75**	**74**	**74**	**73**	**71**	**71**	**70**	
	61	94	230	476	724	969	1210	1477	1654		
		108	**103**	**101**	**99**	**99**	**99**	**98**	**98**		
	76	77	205	462	708	948	1200	1474	1699		
		139	**136**	**133**	**129**	**128**	**125**	**124**	**119**		
	95	49	193	447	693	935	1191	1451	1725		
		180	**177**	**173**	**168**	**167**	**163**	**161**	**155**		
Max.Cont	114		167	420	674	916	1169	1423	1603		
			213	**209**	**206**	**201**	**197**	**195**	**189**		
Max.Inter	132			389	646	885	1142	1382			
				240	**237**	**230**	**227**	**225**			

Overall Efficiency: 70-100% 40-69% 0-39%

T-0115

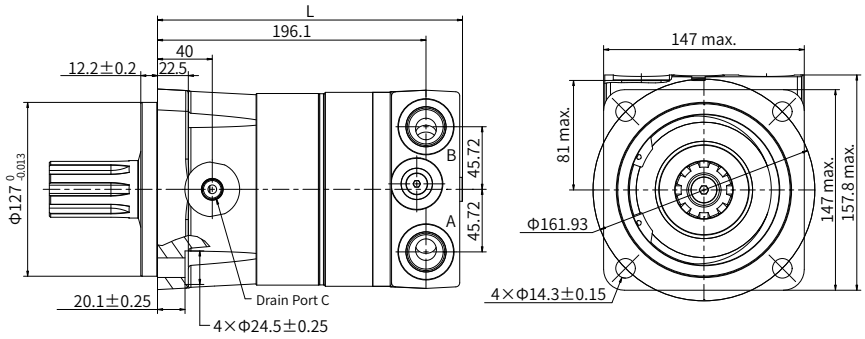
	570	Pressure(bar) 15	35	70	105	140	170	205	Max.Cont 225	Max.Inter 260
	570cm³/rev.	Torque(Nm), **Speed(rpm)**								
Flow (L/min)	15	102	255	527	793	1055	1286	1513	1654	1886
		24	**21**	**21**	**21**	**20**	**20**	**19**	**18**	**18**
	30	141	274	570	856	1144	1427	1702	1852	2003
		49	**46**	**46**	**46**	**45**	**45**	**44**	**44**	**44**
	45	132	267	566	870	1150	1433	1713	1889	2157
		69	**67**	**66**	**64**	**64**	**63**	**62**	**62**	**62**
	61	93	252	556	849	1135	1420	1716	1873	1466
		92	**90**	**89**	**87**	**87**	**86**	**86**	**85**	**126**
	76	67	222	533	829	1114	1401	1687	1862	1452
		119	**118**	**117**	**113**	**112**	**110**	**109**	**105**	**158**
	95	34	201	499	790	1087	1383	1653	1675	
		158	**155**	**153**	**151**	**148**	**144**	**143**	**135**	
Max.Cont	114		159	449	750	1043	1339	1614	1671	
			186	**184**	**183**	**179**	**175**	**177**	**161**	
Max.Inter	132			396	694	984	1284	1098	1185	
				212	**210**	**207**	**201**	**296**	**292**	

Overall Efficiency: 70-100% 40-69% 0-39%

T-0116

Installation size

HVA series orbital hydraulic motor



P-0104

F32 Port A,B：1-1/16-12UN，Drain Port C:9/16-18UNF

02

Length and weight

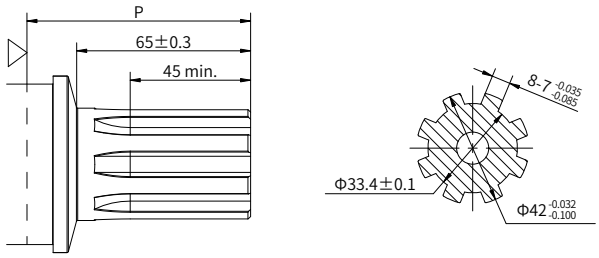
Displacement cm^3/rev.	L mm
325	216.0
400	222.7
505	232.0
570	237.8

T-0100

Note: Dimensions L are the length from the flange mounting surface to the rear end of the motor, and the tolerance is ±1.2mm.

Shaft end dimensions

R2 Φ42mm spline 8 teeth



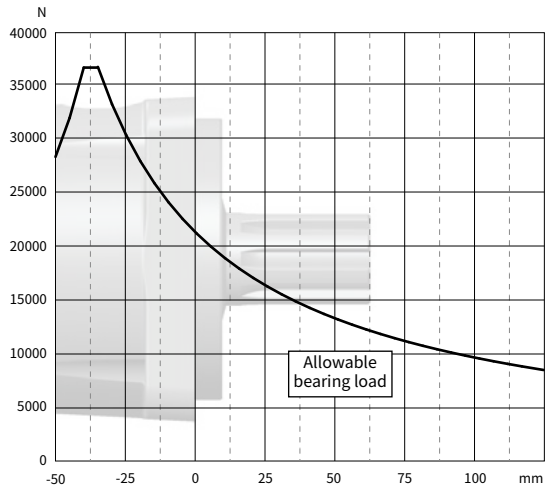
P-0107

Shaft depth	P mm
R2	79.1

Note: Dimension P is the overall distance from the flange mounting surface to the end of the shaft, and the tolerance is ±1.2mm.

Allowable shaft load/bearing curve

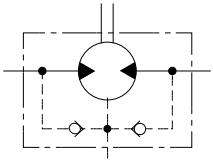
As shown in the figure, when the axial load is 0, the radial allowable load of the output shaft is related to the distance from the flange mounting surface to the load action point.
The solid line shows the allowable radial load of the bearing.It is based on L_{10} bearing life 2000 hrs at 100 RPM with rated output torque.
Any shaft load exceeding the values quoted in the curve will involve a risk of failure.



P-0111

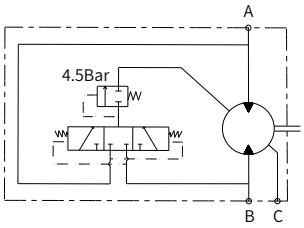
Schematic diagram of the functional module

·Schematic diagram with check valve



P-0010

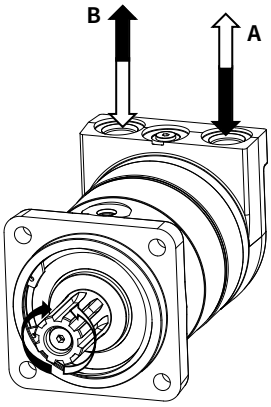
·Schematic diagram with flushometer



P-0108

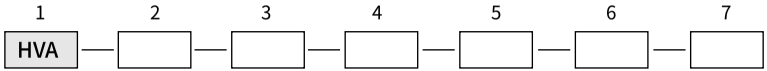
Rotation direction: CW

When facing the motor shaft extension direction,port A is high pressure oil,the output shaft rotates CW; Otherwise, it rotates CCW.



P-0109

Ordering information



Pos.1	2	3		4		5		6		7	
Series code	Displacement	Mount, Port		Output shaft		Rotation direction		Paint option		Special features	
HVA	400	F32	4×φ14.3 Square Mount，pilot φ127×12.2，Port 1-1/16-12UN，Drain Port 9/16-18UNF	R2	Φ42，Spline 8×7	A R	CW CCW	N B C	No Paint Black Hengli blue	A F V S	Standard Free running High temperature Low temperature

T-0107

Note: When using the order information, the user can select the motor series, displacement, installation flange, port, shaft and other information. If the selected specification is not in the table or has special requirements, please contact us.