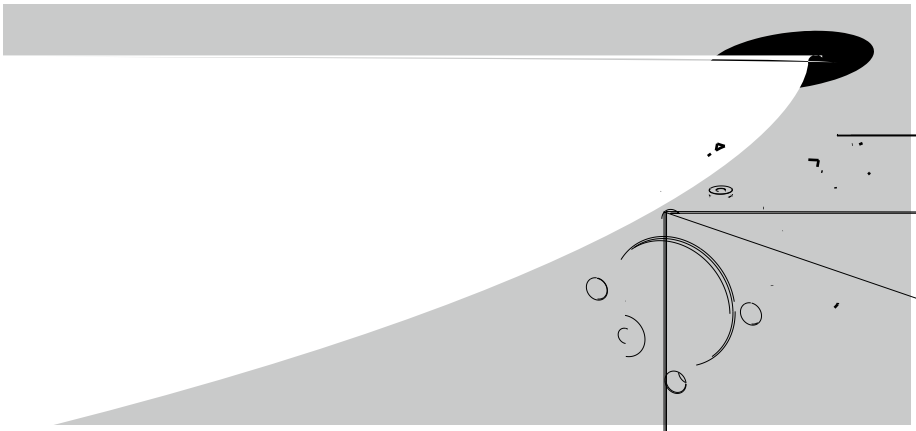

Contents

Overview

The HSD series orbital hydraulic motor, it is a low-speed and high-torque hydraulic motor, the end face distribution makes it to have characteristics of high working pressure, low starting pressure, high e f ciency and high reliability. Customised product can be developed by di f erent application requirement.

Advantages

- Using tapered roller bearing structure, can support larger axial and radial load.
- Advanced disc valve structure, high distribution accuracy, strong automatic compensation ability after-wear, to ensure high volumetric e f ciency, long life, e f cient and stable work.
- Various displacements and installation dimensions are available.

Standard structure

P-0029

S ì p ǔ

Typ		80	100	125	160	200	230	250	315	400	500
Disp c t.(c ³; ɔ v.)		80.2	99.6	124.9	159.2	199.4	232.1	249.3	314.0	391.9	488.3
M .sp (rp ǔ	Co ǧ s	773	739	592	465	372	318	298	236	188	153
	I t t	982	892	714	562	447	385	359	284	229	187
M .t (N· ǔ	Co ǧ s	241	297	370	473	610	658	676	874	897	847
	I t t	316	390	485	580	727	812	855	987	1056	986
M . (kW)	Co ǧ s	15.5	18.0	18.0	16.5	16.5	13.8	14.5	15.0	11.0	9
	I t t	19.5	22.5	22.5	23.0	22.0	17.2	18.0	17.0	12.5	10.5
M . x p (b	Co ǧ s ti=˜	210	210	210	210	210	200	200	200	160	120
	I t t	275	275	275	260	250	250	250	240	190	140
	P	295	295	295	280	270	270	270	260	210	160

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Ordering information

HSD	080	A3	H	S1	A	N	A

Orbital Hydraulic Series

	Orbital Hydraulic Motor	HSD

Type

	Type	080	100	125	160	200	230	250	315	400	500

Mount

	SAE Type A 2 × Ø13.5 mount Ø106.4, pilot Ø82.5 × 6.1	A3
	SAE Type A 4 × Ø13.5 mount Ø106.4, pilot Ø82.5 × 6.1	A2
	SAE Type B 2 × Ø14.3 mount Ø106.4, pilot Ø101.6 × 9.4	B2
	6 × Ø13.5 Magneto mount Ø106.4, pilot Ø82.5 × 2.6	M0
	4 × Ø11.55 Square mount Ø106.4, pilot Ø82.5 × 6.1	F1
	4 × Ø11 Round mount Ø125, pilot Ø100 × 6, bearingless motor	B0
	4 × Ø13.5 Square mount Ø127, pilot Ø101.6 × 6.3, bearingless motor	F0
	SAE Type A 2 × Ø13.5 mount Ø106.4, pilot Ø82.5 × 6.1 with O-rings	A4
	4 × Ø13.5 Magneto mount Ø106.4, pilot Ø82.5(-0.05/-0.1) × 2.6	M2
	4 × Ø13.5 Square mount 90*90, pilot Ø100 × 8	F5
	SAE Type A 4 × Ø13.5 mount Ø106.4, pilot 82.5(-0.05/-0.1) × 6.1	A6

Port

	Port G1/2, drain port G1/4	H
	Port 7/8-14UNF, drain port 7/16-20UNF	2
	Port M22 × 1.5, drain port M14 × 1.5	3
	Port A unthreaded hole Ø12.7, port B unthreaded hole Ø15.88 3 × 3/8-16UNC	7
	Port G1/2, drain port M14 × 1.5	B
	Rear oil port, port M22 × 1.5(ISO 6149), drain port M14 × 1.5	C
	Rear oil port, port 7/8-14UNF, drain port 7/16-20UNF	D
	Port M22 × 1.5(ISO 6149), drain port M14 × 1.5	M
	Port 9/16-18UNF, drain port 7/16-20UNF, without oil port countersink	T

Ordering information

Output Shaft

		A3/A2/B2/M0/F1/A4/M2/F5/A6	B0/F0	Code
	Ø25.4 Straight, parallel key 6.35 × 6.35 × 31.75	●		S1
	Ø31.75 Straight, parallel key 7.96 × 7.96 × 31.75	●		S5
	Ø32 Straight, parallel key 10 × 8 × 45	●		S3
	Ø22 Spline 13-DP16/32	●		R2
	Ø25.4 Shaft, spline SAE 6B, center hole 1/4-20UNC	●		R1
	Ø31.75 Spline 14-DP12/24, center hole 3/8-16UNC	●		R4
	Ø31.75 Spline 14-DP12/24, center hole M8	●		R5
	Ø31.75Tapered, parallel key 7.96 × 7.96 × 31.75	●		T2
	Ø25 Straight, parallel key 8 × 7 × 32, center hole M8	●		S2
	Ø31.75 Spline 14-DP12/24, center hole 3/8-16UNC, with unloading groove	●		RA
	Ø30.6B Spline, 30 × 26 × 6, with ring groove	●		R9
	Ø31.75 Tapered, parallel key 7.96 × 7.96 × 22.6, with dust cover	●		TB
	Ø25.4 Tapered, parallel key 7.96 × 7.96 × 31.75, shaft extension 12mm	●		T4
	Ø25.4 Straight, parallel key 6.35 × 6.35 × 31.75, center hole 1/4-20UNC	●		SB
	Ø25(-0.01/-0.03) Straight, parallel 8 × 7 × 32, center hole M8	●		SA
	Cardan		●	C1

Rotation Direction

	CW	A
	CCW	R

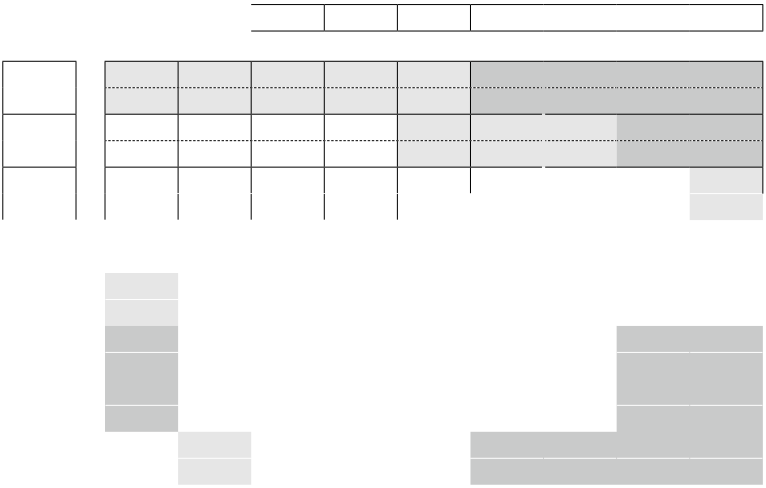
Paint Option

	No Paint	N
	Black	B
	Hengli blue	C

		A3/A2/B2/M0/F1/A4/ M2/F5/A6	M0	Code
	Standard	●	●	A
	Free.running	●	●	F
	High.temperature	●	●	V
	Low.temperature	●	●	S.

r } D

Displacement performance



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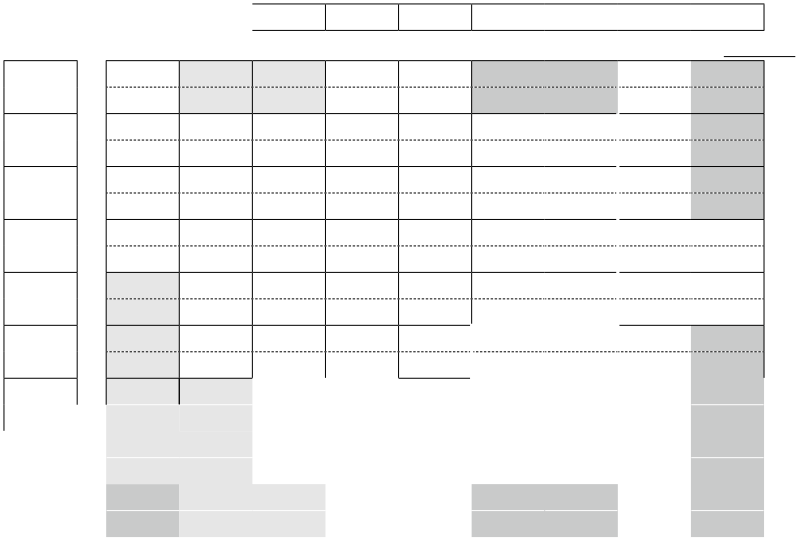
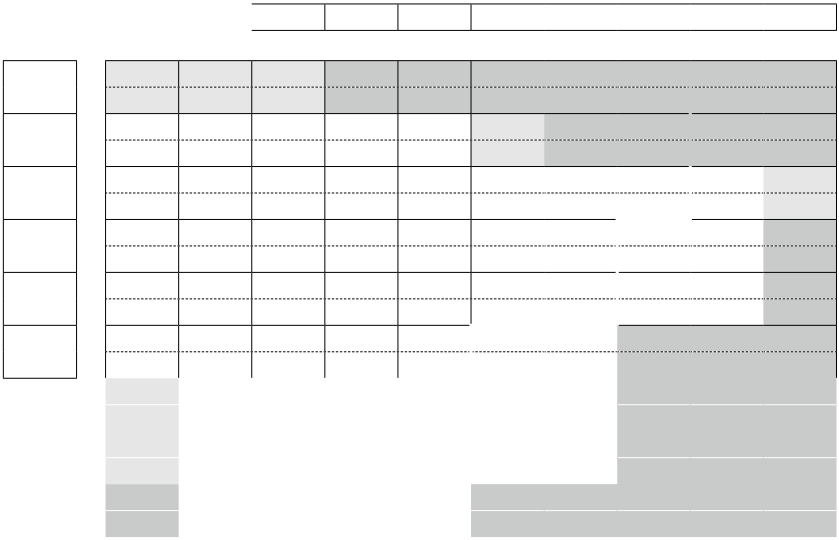
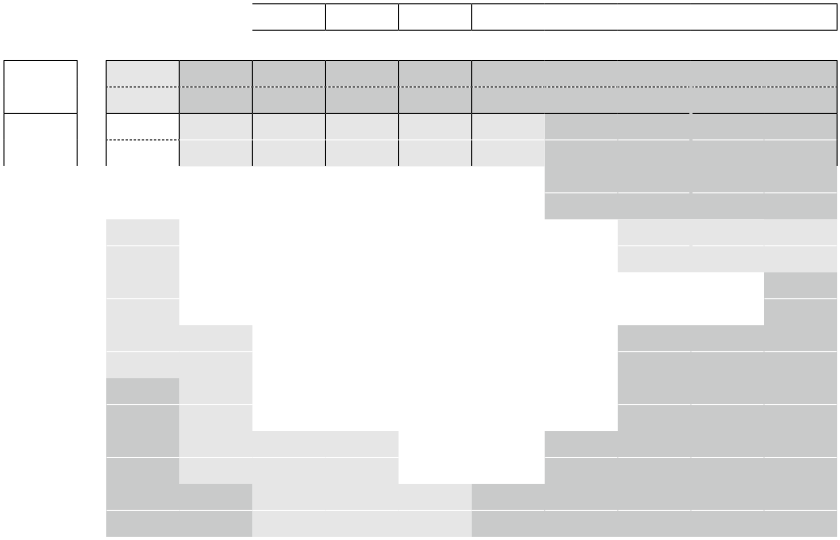
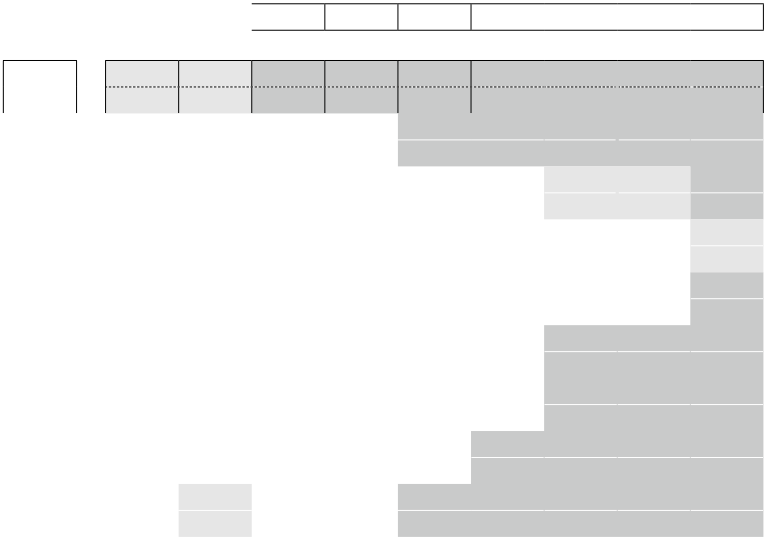






		Pressure(bar)							Max.Cont		Max.Inter
	315	35	70	100	120	140	160	175	200	225	240
	314.0cm³/rev	Torque(N·m), **Speed(rpm)**									
	5	127	254	339							
		15	**14**	**14**							
	10	133	272	393	465	547	609				
		31	**30**	**28**	**26**	**24**	**22**				
	20	141	305	441	528	613	669				
		62	**61**	**59**	**58**	**55**	**50**				
	30	144	310	453	545	635	721	783	874	969	987
		93	**92**	**91**	**89**	**87**	**81**	**74**	**66**	**53**	**50**
	40	134	297	440	535	627	719	785	873	949	
		125	**123**	**122**	**121**	**119**	**116**	**113**	**102**	**95**	
	50	129	291	434	529	623	717	784			
		156	**155**	**153**	**152**	**151**	**148**	**145**			
	60	108	272	414	509	604	697	767			
		188	**186**	**185**	**184**	**182**	**180**	**177**			
Max.Cont	75	85	254	395	490	585	679				
		236	**234**	**232**	**231**	**229**	**226**				
Max.Inter	90	60	228	370	464	559					
		284	**283**	**281**	**279**	**277**					

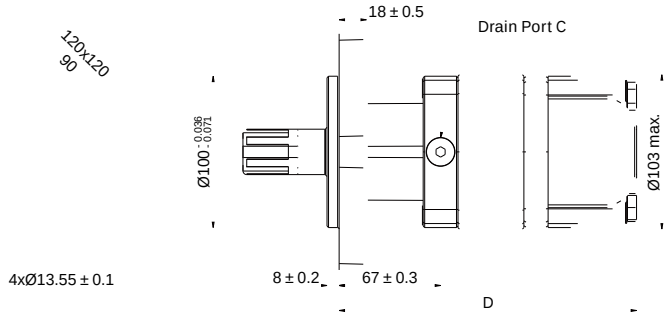


		Pressure(bar)					Max.Cont	Max.Inter
	500	25	50	80	90	105	120	140
488.3cm³/rev.		Torque(N·m), **Speed(rpm)**						
	10	160	329					
		20	**20**					
	20	152	333	547	616	722		
		41	**40**	**40**	**39**	**34**		
	30	160	342	561	633	740	847	986
		57	**57**	**56**	**56**	**56**	**55**	**54**
	40	153	337	557	629	736	842	
		81	**81**	**80**	**80**	**79**	**79**	
	50	132	316	538	613	723	835	
		102	**101**	**100**	**100**	**100**	**99**	
	60	121	304	526	597	708		
		122	**122**	**121**	**121**	**135**		
Max.Cont	75	92	260	478	552	664		
		153	**153**	**152**	**151**	**151**		
Max.Inter.	90	56	223	447	518			
		177	**186**	**184**	**184**			

Installation size

02

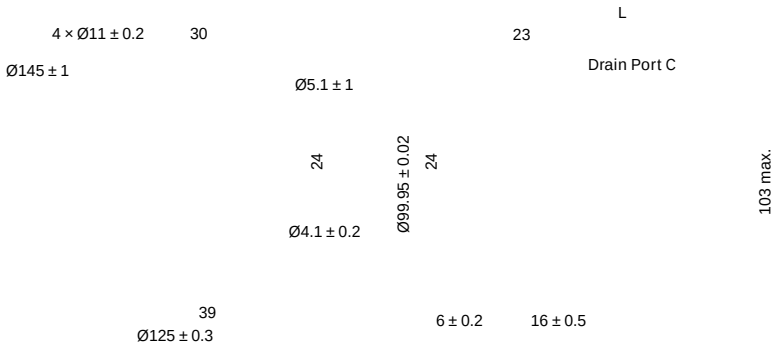
02


120x120
90
18 ± 0.5
Drain Port C
Ø100 -0.036 -0.071
Ø103 max.
4xØ13.55 ± 0.1
8 ± 0.2
67 ± 0.3
D

Installation size

M2 4-HOLE, MAGNETO MOUNT

P - 0294



Installation size

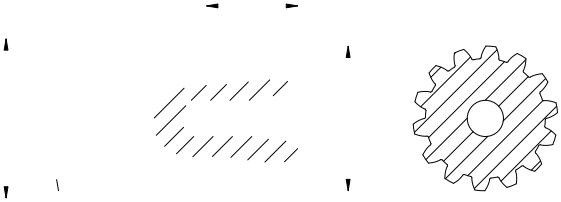
A: O-ring: 100 × 3
B: External drain channel
C: Drain connection 12mm
D: Conical seal ring
E: Internal drain channel
F: 15 mm deep
G: Oil circulation hole
H: Hardened stop plate

Installation size

Speed sensor

■ WIRING DIAGRAM

■ TERMINAL ASSIGNMENT



Shaft end dimensions

02

P - 0297