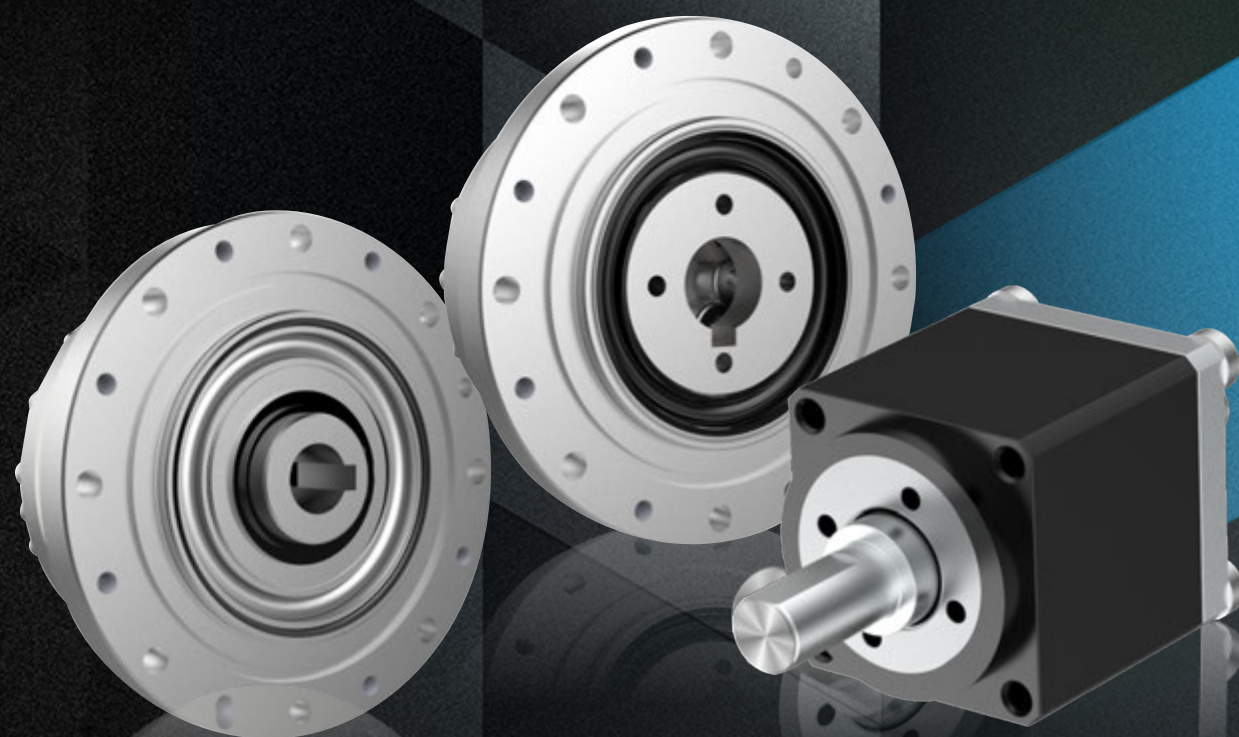


CSF

Harmonic Drive Series



CSF-I
Spindle Adjustable Series



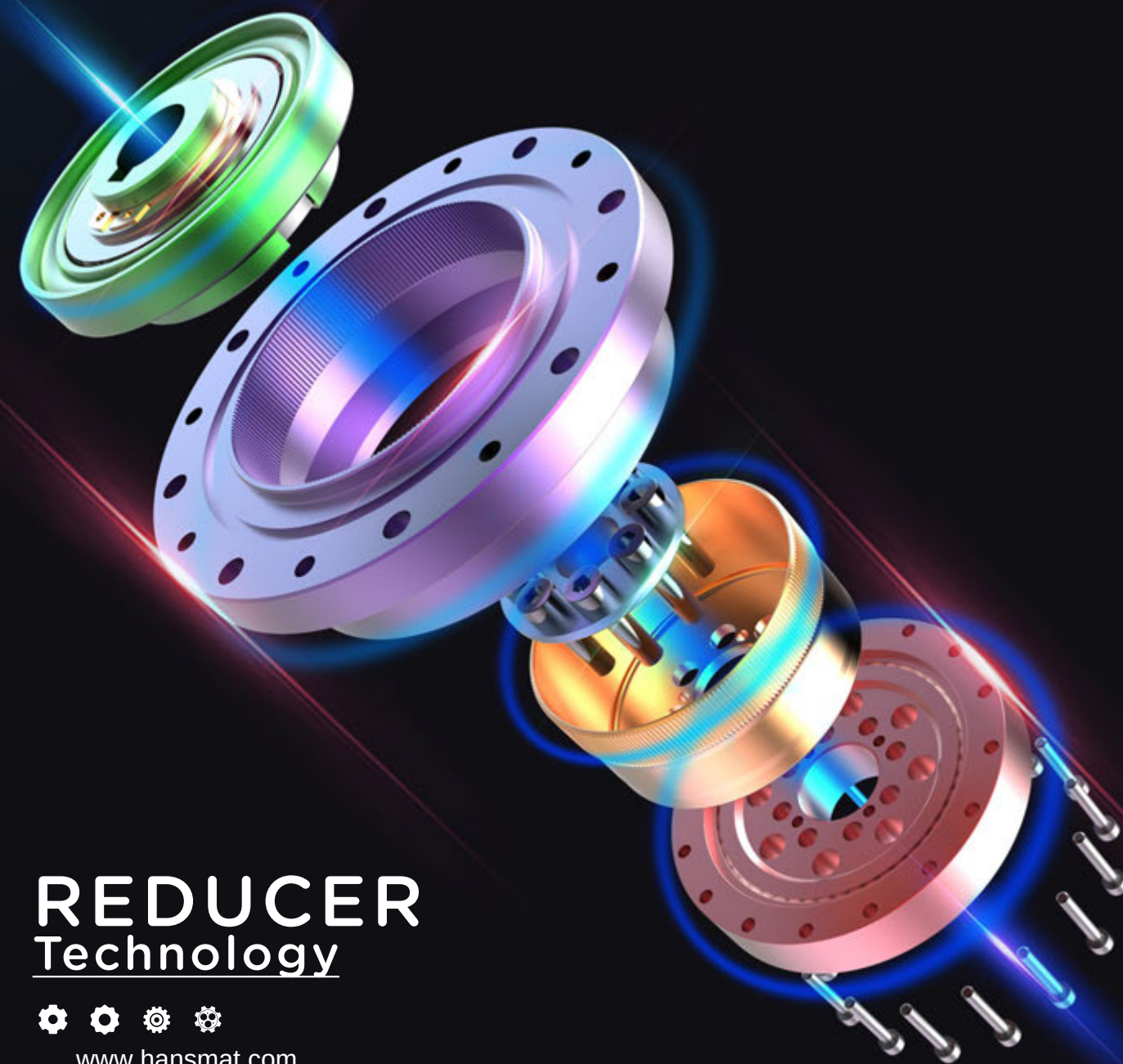
CSF-II
Integrated Series



CSF-MINI
Series



INNOVATIVE
STRUCTURAL DESIGN



REDUCER
Technology



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HARMONIC
THE FUTURE

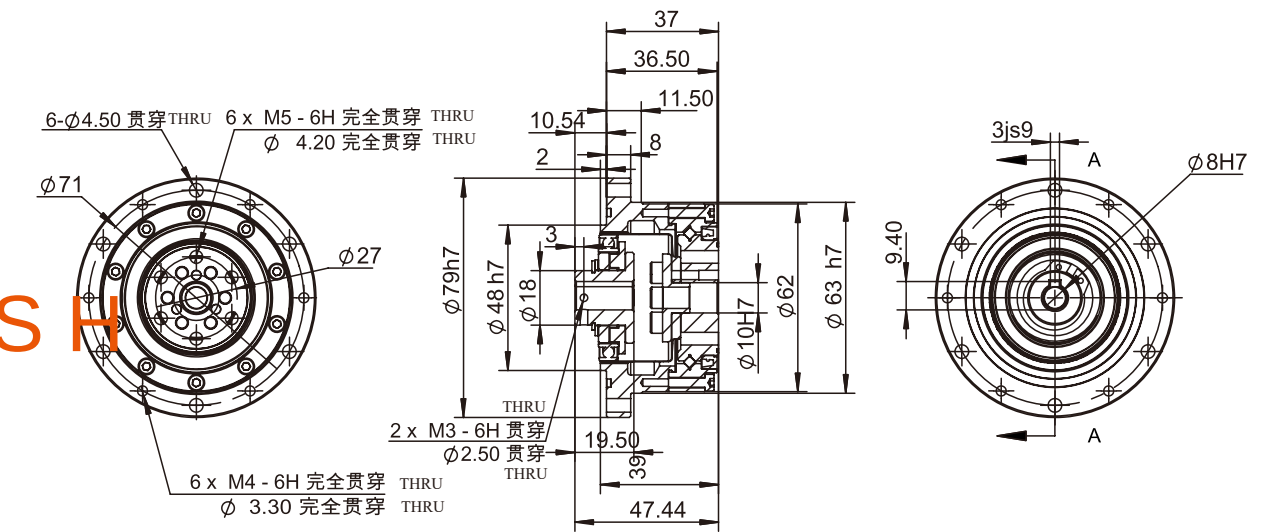


6 S L Q G O H \$ G M X V W D E O H 7 \ S H

I Product Features

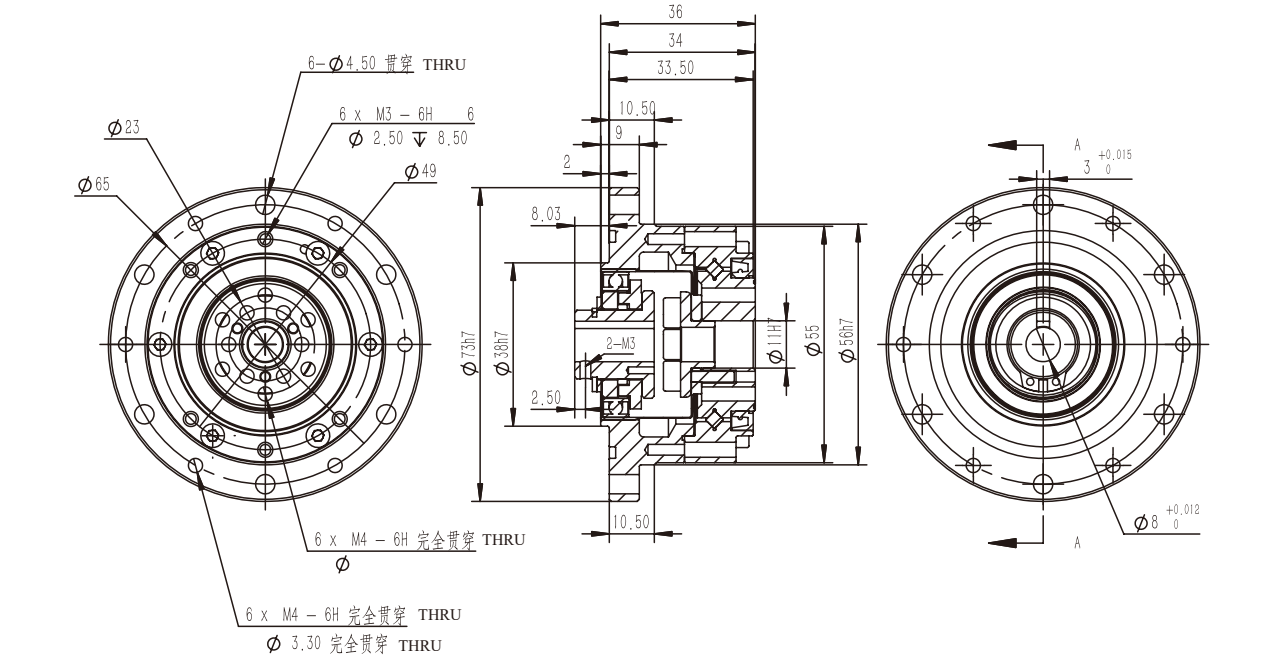
Compact Design	High Torque Capacity	High Rigidity	Excellent Positioning Accuracy	Automatic Adjust Spindle
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CSF-17-I Series Harmonic Drives



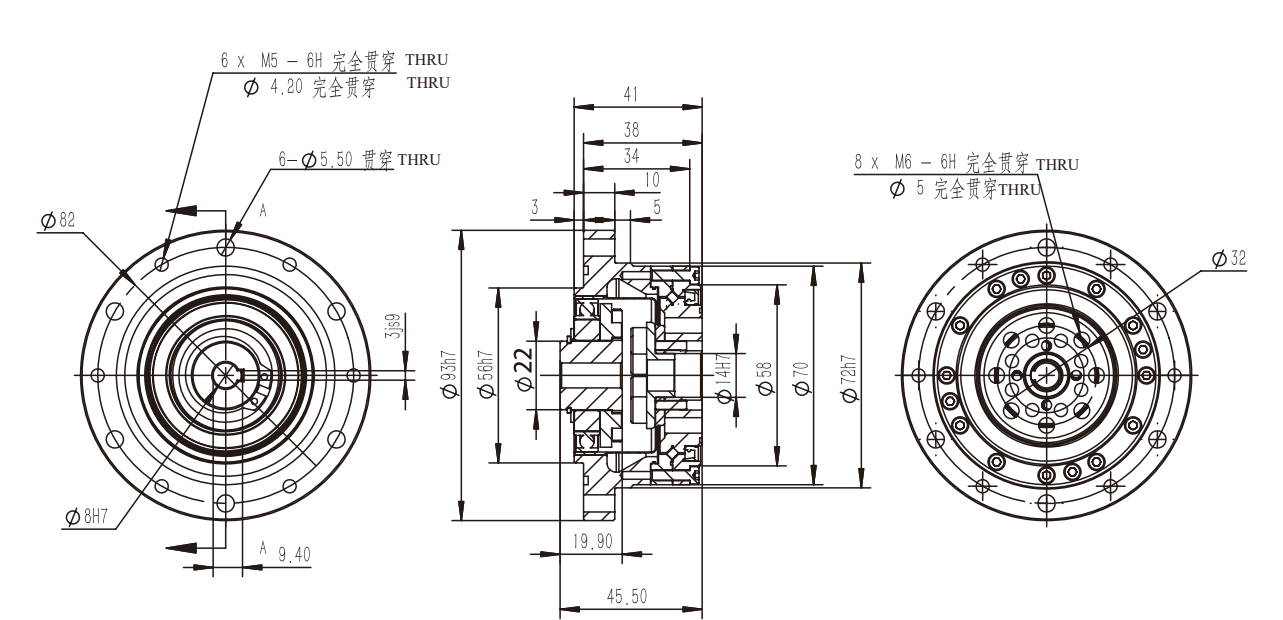
Items	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed	Allowable Average Input Speed	Backlash	Design Life
Model		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
17	30	8.8	16	12	30	7000	3500	≤20	10000
	50	16	34	26	70			≤20	10000
	80	22	43	27	87			≤10	15000
	100	24	54	39	108			≤10	10000

CSF-14-I Series Harmonic Drives



Items	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed	Allowable Average Input Speed	Backlash	Design Life
Model		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
14	30	4.0	9	6.8	17	8000	3500	≤20	10000
	50	5.4	18	6.9	35			≤20	10000
	80	7.8	23	11	47			≤10	15000
	100	7.8	28	11	54			≤10	15000
	100	7.8	28	11	54			≤10	15000

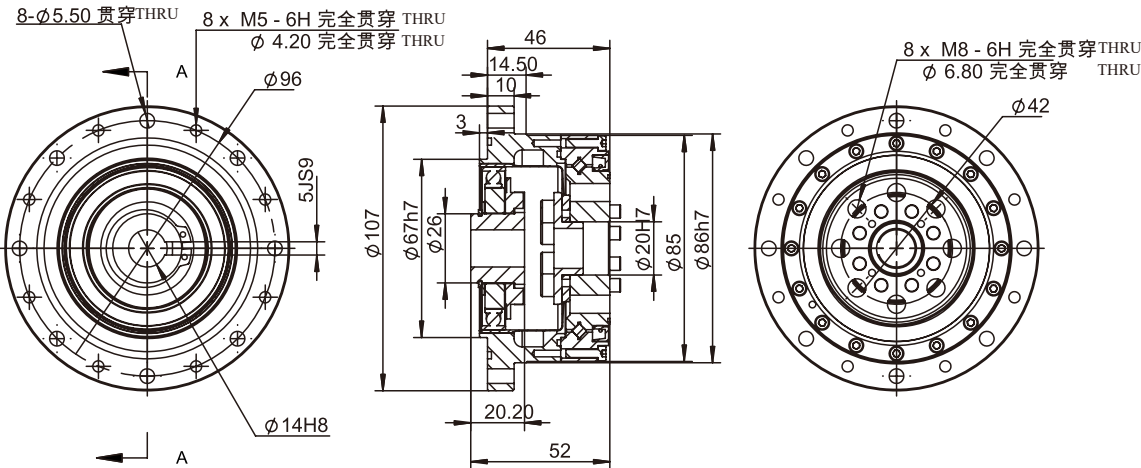
CSF-20-I Series Harmonic Drives



Items	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed	Allowable Average Input Speed	Backlash	Design Life
Model		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
20	30	15	27	20	50	6000	3500	≤20	10000
	50	25	56	34	98			≤20	10000
	80	34	74	47	127			≤10	15000
	100	40	82	49	147			≤10	15000
	120	40	87	49	147			≤10	15000
	120	40	87	49	147			≤10	15000

CSF-25-I

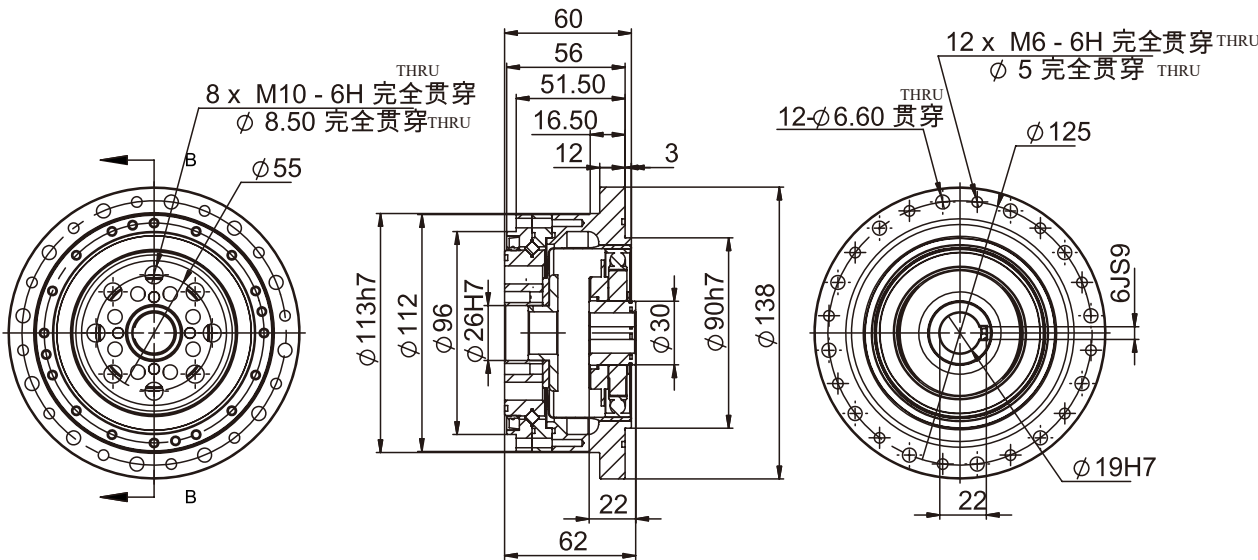
Series Harmonic Drives



Items Model	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed r/min	Allowable Average Input Speed r/min	Backlash	Design Life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
25	30	27	50	38	95	5500	3500	≤ 20	10000
	50	39	98	55	186			≤ 20	10000
	80	63	137	87	255			≤ 10	15000
	100	67	157	108	304			≤ 10	15000
	120	67	167	108	289			≤ 10	15000
	160	67	176	108	314			≤ 10	15000

CSF-32-I

Series Harmonic Drives



Items Model	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed r/min	Allowable Average Input Speed r/min	Backlash	Design Life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
32	50	76	216	75	200	4500	3500	≤ 20	10000
	80	118	304	167	568			≤ 10	15000
	100	137	333	216	647			≤ 10	15000
	120	137	353	216	686			≤ 10	15000



Integrated Type

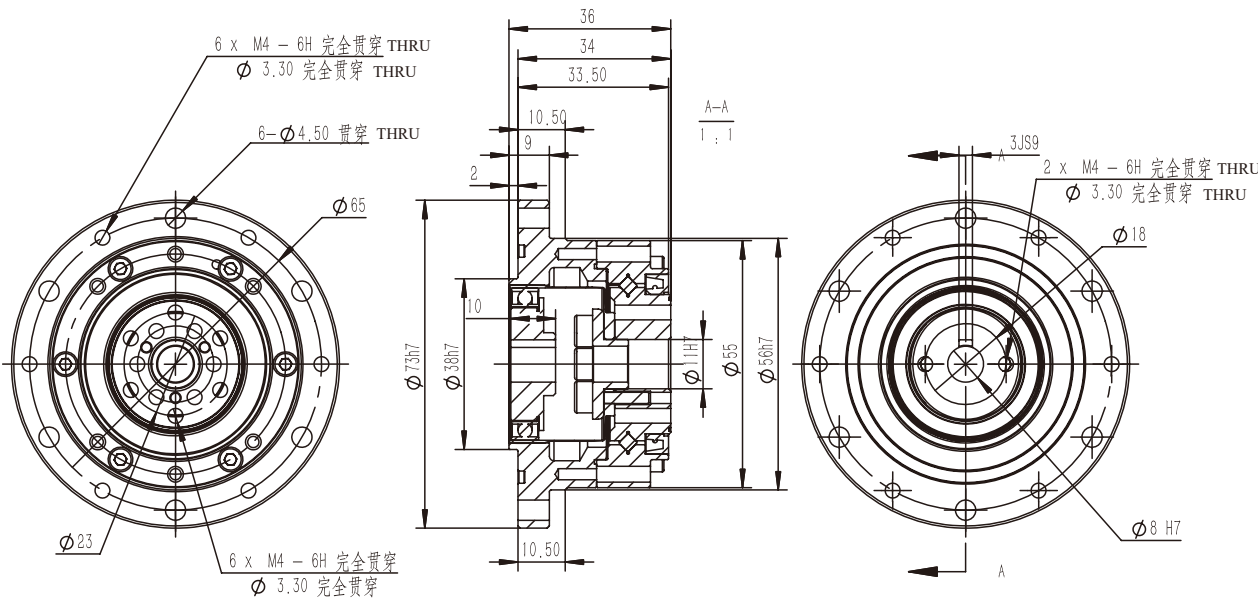


I Product Features

Compact Design	High Torque Capacity	High Rigidity	Excellent Positioning Accuracy	Flat Integrated
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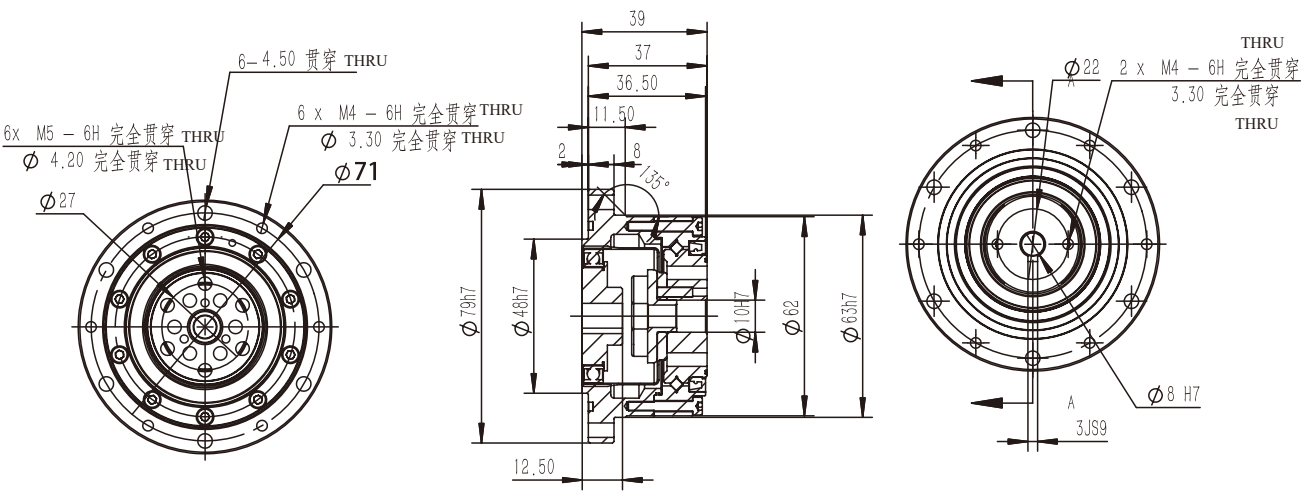
CSF-14-II

Series Harmonic Drives



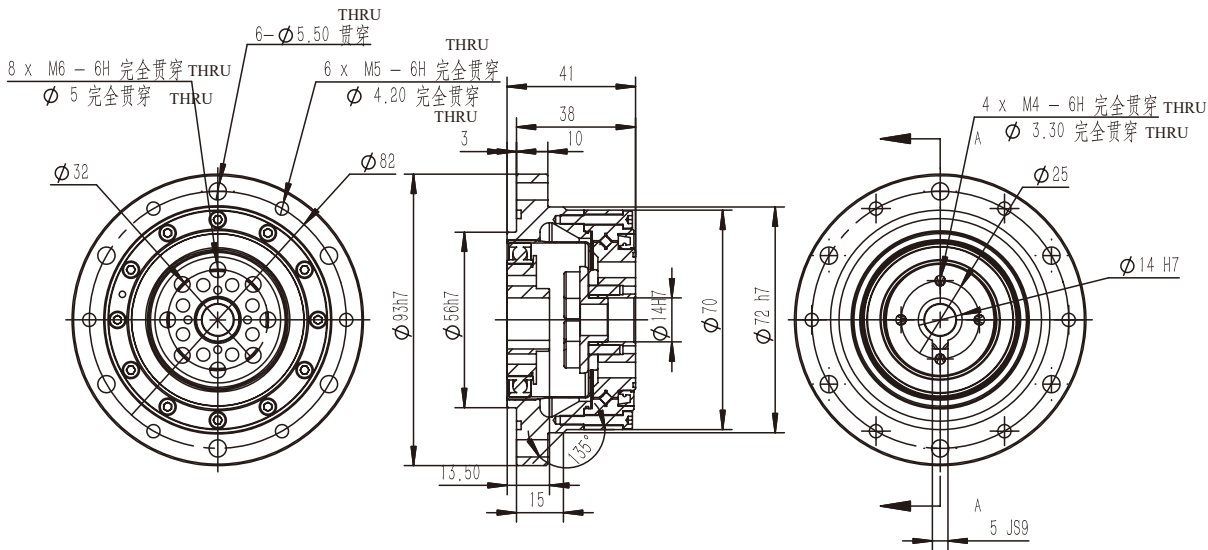
Items	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed	Allowable Average Input Speed	Backlash	Design Life
Model		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
14	30	4.0	9	6.8	17	8000	3500	≤20	10000
	50	5.4	18	6.9	35			≤20	10000
	80	7.8	23	11	47			≤10	15000
	100	7.8	28	11	54			≤10	15000

9KXOKY .GXSUTOI *XO\KY



Items Model	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed r/min	Allowable Average Input Speed r/min	Backlash	Design Life
		Nm	Nm	Nm	Nm			Arc sec	hour
17	30	8.8	16	12	30	7000	3500	ñ = "	10000
	50	16	34	26	70			ñ = "	10000
	80	22	43	27	87			ñ " "	15000
	100	24	54	39	108			ñ " "	10000

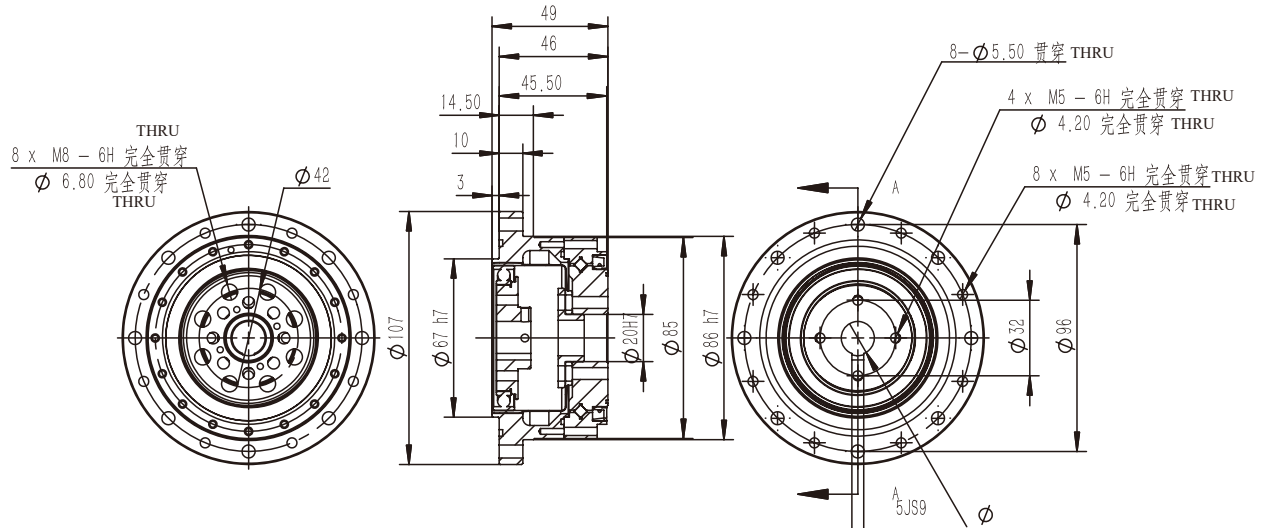
9KXOKY .GXSUTOI *XO\KY



Items Model	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed r/min	Allowable Average Input Speed r/min	Backlash	Design Life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
20	30	15	27	20	50	6000	3500	$\tilde{n} = "$	10000
	50	25	56	34	98			$\tilde{n} = "$	10000
	80	34	74	47	127			$\tilde{n} "$	15000
	100	40	82	49	147			≤ 10	15000
	120	40	87	49	147			≤ 10	15000

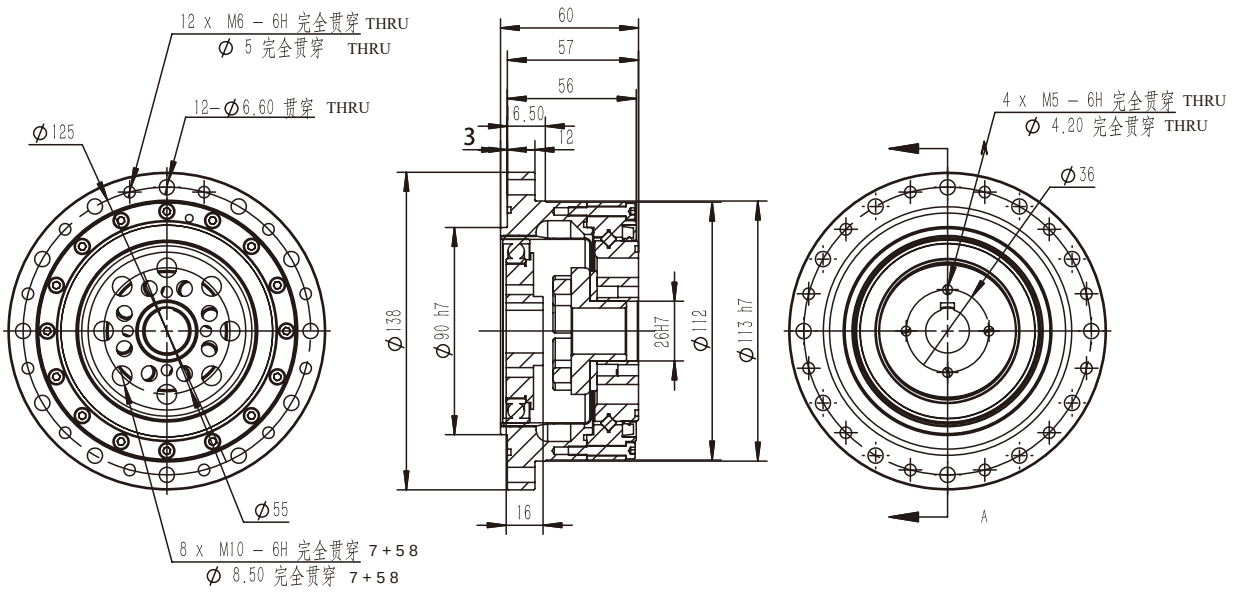
CSF-25-II

9KXOKY .GXSUTOI *XO\KY



Items Model	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed r/min	Allowable Average Input Speed r/min	Backlash	Design Life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
25	30	27	50	38	95	5500	3500	≤ 20	10000
	50	39	98	55	186			≤ 20	10000
	80	63	137	87	255			$\tilde{n} 0$	15000
	100	67	157	108	304			$\tilde{n} 0$	15000
	120	67	167	108	289			$\tilde{n} 0$	15000
	160	67	176	108	314			$\tilde{n} 0$	15000

9KXOKY .GXSUTOI *XO\KY



Items Model	Ratio	Rated Torque in Input 2000r/min	Allowable Max Torque When Start Stop	Max Value of Average Loading Torque	Instantaneous Allowable Max Torque	Allowable Highest Input Speed	Allowable Average Input Speed	Backlash	Design Life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	hour
32	50	76	216	75	200	4500	3500	≤20	10000
	80	118	304	167	568			≠0	15000
	100	137	333	216	647			≠0	15000
	120	137	353	216	686			≠0	15000

