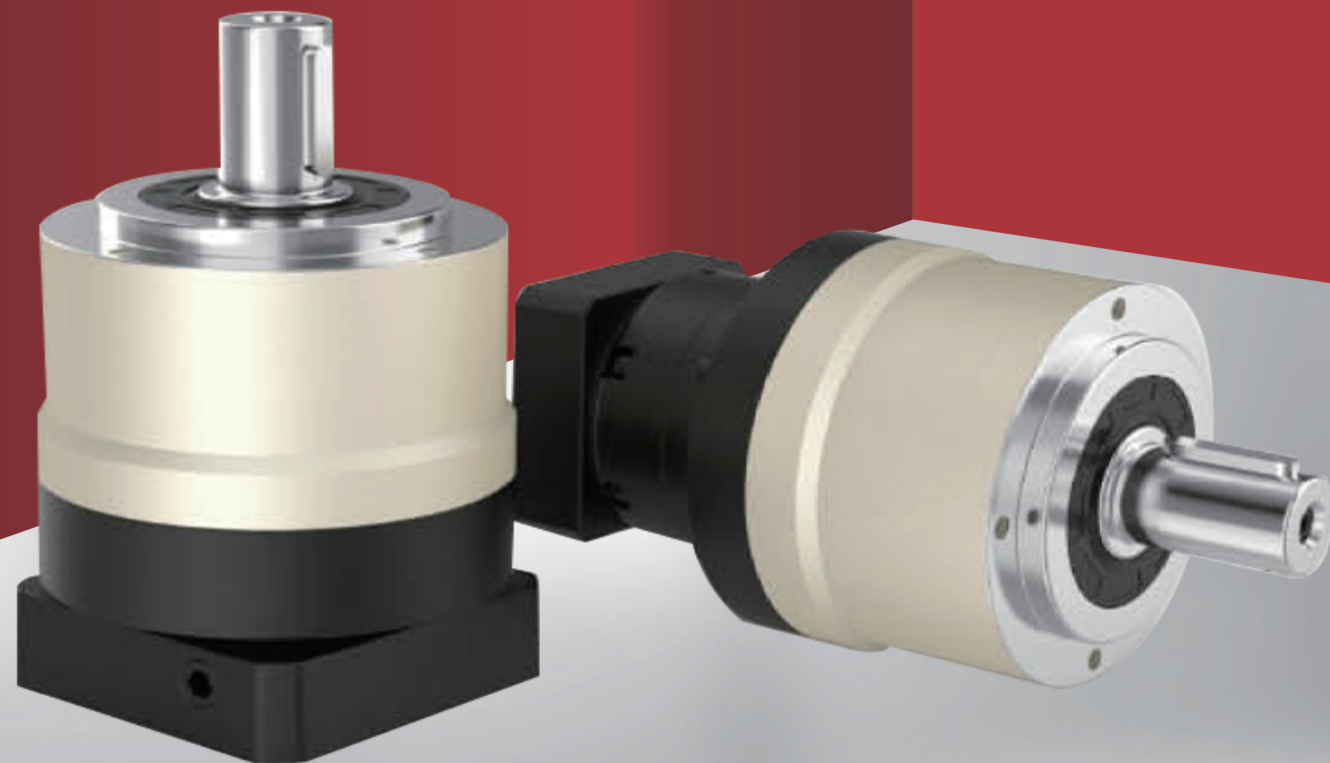


FE

High precision helical planetary reducer



GEAR BOX PERFORMANCE INFORMATION

Specification		Stages	Reduction Ratio	FE070	FE090	FE120	FE155	FE205	FE235
Rated output torque T2N	Nm	1	3	55	130	208	342	588	1,140
			4	50	140	290	542	1,050	1,700
			5	60	160	330	650	1,200	2,000
			7	35	140	300	550	1,100	1,800
			8	35	120	260	500	1,000	1,600
		2	10	23	48	140	370	520	1,220
			15	55	130	208	342	588	1,140
			20	50	140	290	542	1,050	1,700
			25	60	160	330	650	1,200	2,000
			30	60	160	330	650	1,200	2,000
			35	60	160	330	650	1,200	2,000
			40	60	160	330	650	1,200	2,000
			50	60	160	330	650	1,200	2,000
			70	35	140	300	550	1,100	1,800
			80	35	120	260	500	1,000	1,600
			100	23	48	140	370	520	2,200
Maximum output torque T2B	Nm	1,2	3~100	3 times rated output cabinet					
Rated input speed <i>n</i> ₁	rpm	1,2	3~100	5,000	4,000	4,000	3,000	3,000	2,000
Maximum input speed <i>n</i> _{1s}	rpm	1,2	3~100	10,000	8,000	8,000	6,000	6,000	4,000
Backlash	arcmin	1	3~10	≤8	≤8	≤8	≤8	≤8	≤8
		2	12~100	≤12	≤12	≤12	≤12	≤12	≤12
Torsional rigidity	Nm/arcmin	1,2	3~100	7	14	25	50	145	225
Permissible radial force F2rB2	N	1,2	3~100	1,530	3,250	6,700	9,400	14,500	50,000
Permissible radial force F2a1B2	N	1,2	3~100	630	1,300	3,000	4,000	6,200	35,000
Permissible radial force F2a2B2	N	1,2	3~100	765	1,625	3,350	4,700	7,250	25,000
Service life	hr	1,2	3~100	20,000*					
Efficiency η	%	1	3~10	≥97%					
		2	12~100	≥94%					
weight	kg	1	3~10	1.3	3.7	7.8	14.5	29	48
		2	12~100	1.9	4.1	9	17.5	33	60
Use temperature	°C	1,2	3~100	-10°C~+90°C					
lubricating		1,2	3~100	Synthetic grease					
Protection level		1,2	3~100	IP65					
Installation direction		1,2	3~100	Any direction					
Noise level (<i>n</i> ₁ =3000rpm)	dB	1,2	3~100	≤58	≤60	≤63	≤65	≤67	≤70

Reducer moment of inertia

Specification		Stages	Reduction Ratio	FE070	FE090	FE120	FE155	FE205	FE235
Moment of inertia J ₁	kg·cm ²	1	3	0.16	0.61	3.25	9.21	28.98	69.61
			4	0.14	0.48	2.74	7.54	23.67	54.37
			5	0.13	0.47	2.71	7.42	23.29	53.27
			7	0.13	0.45	2.62	7.14	22.48	50.97
			8	0.13	0.44	2.58	7.07	22.59	50.84
			10	0.13	0.44	2.57	2.71	22.51	50.56
		2	15	0.03	0.13	0.47	2.71	7.42	23.29
			20	0.03	0.13	0.47	2.71	7.42	23.29
			25	0.03	0.13	0.47	2.71	7.42	23.29
			30	0.03	0.13	0.47	2.71	7.42	23.29
			35	0.03	0.13	0.47	2.71	7.42	23.29
			40	0.03	0.13	0.47	2.71	7.42	23.29
			50	0.03	0.13	0.44	2.57	7.03	22.51
			70	0.03	0.13	0.44	2.57	7.03	22.51
			80	0.03	0.13	0.44	2.57	7.03	22.51
			100	0.03	0.13	0.44	2.57	7.03	22.51

1. Reduction ratio ($i=N_{in}/N_{out}$)

*Continuous operation reduces service life by half.

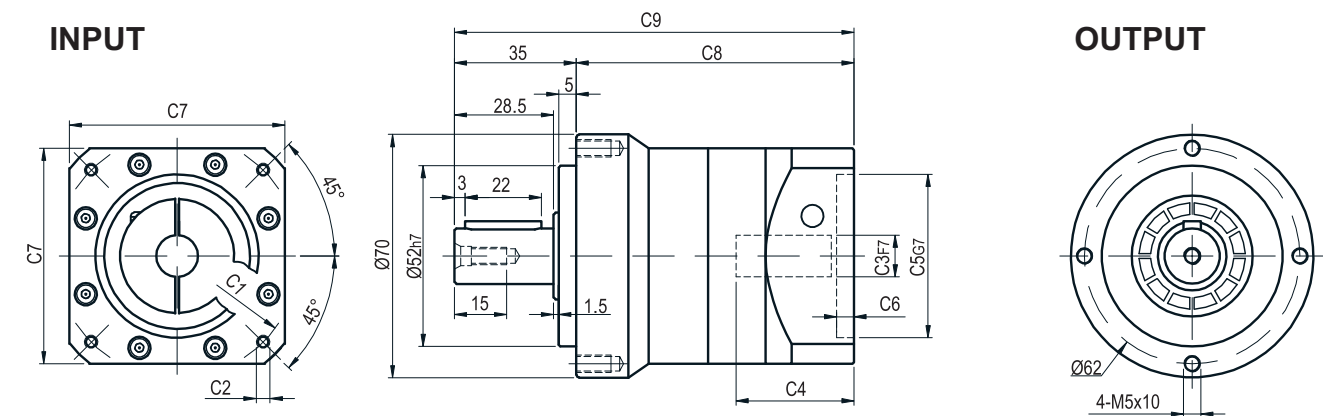
2. When the output speed is **100 rpm**,

it acts on the center position of the output shaft.

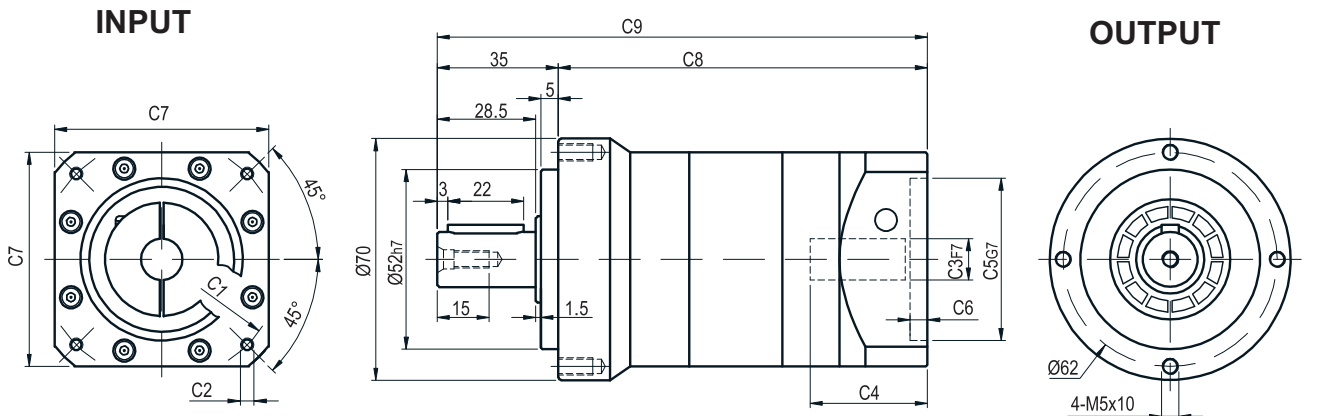
High-precision Helical Planetary Gear Reducer

OUTLINE DIMENSION SHEET

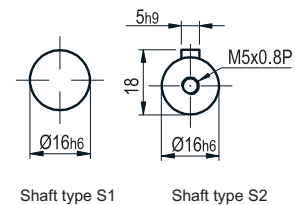
FE-070-L1



FE-070-L2



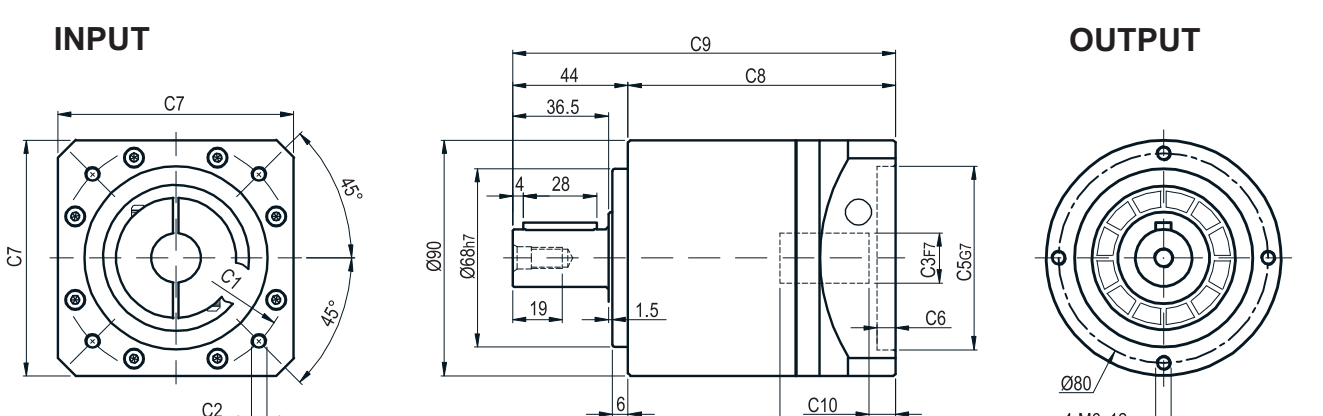
OUTPUT DIAMETER



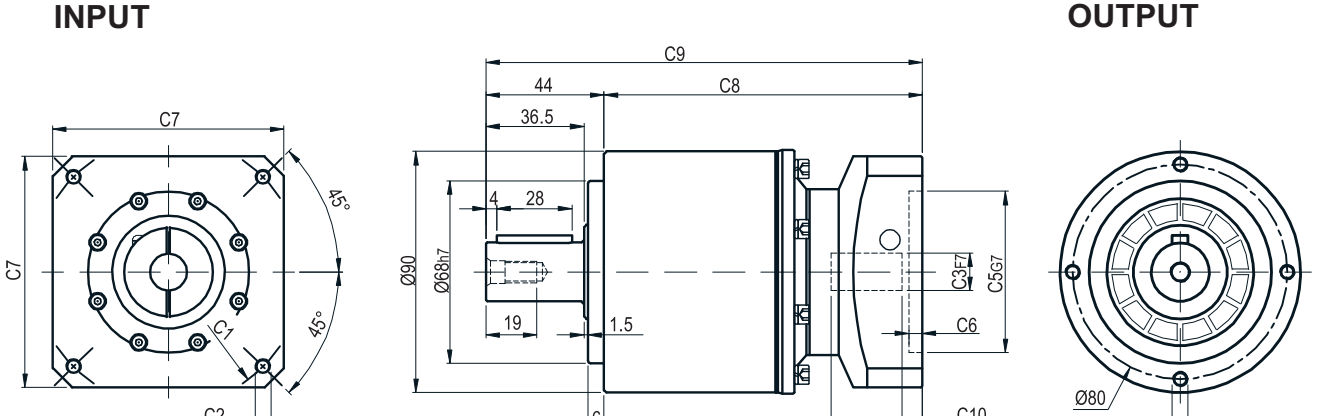
Size	C1	C2	C3	C4	C5	C6	C7	C8	C9
FE-070-L1	Ø70	4-M4x10,4-M5x12	Ø11,Ø14	34	Ø50	5	65	80	115
	Ø90	4-M5x12,4-M6x14	Ø19	44	Ø70	5	80	90	125
FE-070-L2	Ø70	4-M4x10,4-M5x12	Ø11,Ø14	34	Ø50	5	65	107	142

*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

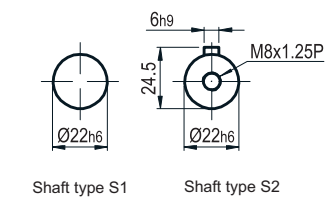
FE-090-L1



FE-090-L2



OUTPUT DIAMETER



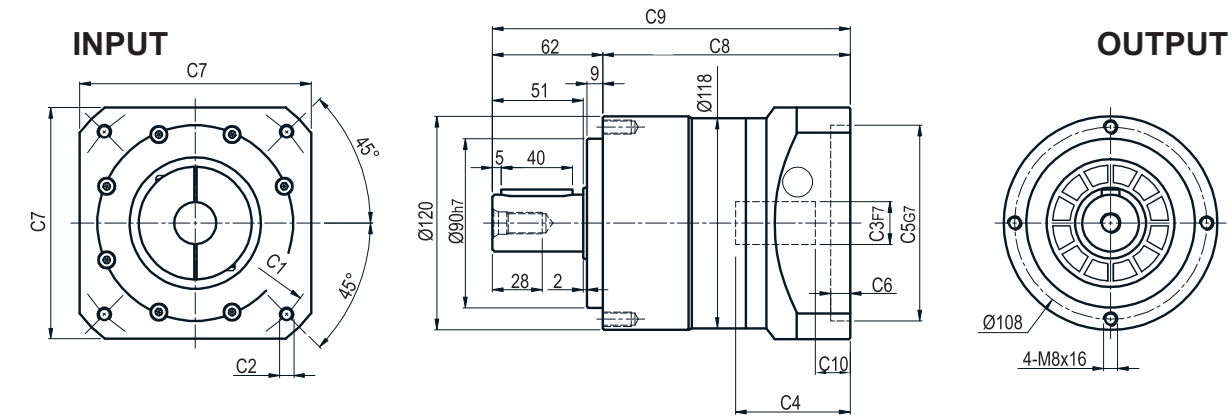
Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FE-090-L1	Ø90	4-M5x12,4-M6x14	Ø19	44	Ø70	7	90	102	146	8
	Ø100	4-M6x14	Ø16	44	Ø80	6.5	90	102	146	7
	Ø115	4-M8x20	Ø19,Ø22	50	Ø95	7	100	108	152	13
	Ø115	4-M8x25	Ø19,Ø22	60	Ø95	8	100	118	162	23
	Ø145	4-M8x25	Ø19,Ø22,Ø24	60	Ø110	8	130	118	162	23
FE-090-L2	Ø70	4-M4x10,4-M5x12	Ø11,Ø14	34	Ø50	5	65	118.5	162.5	5.5
	Ø90	4-M5x12,4-M6x14	Ø19	44	Ø70	5	80	128.5	172.5	16.5
	Ø100	4-M6x14	Ø16	38.5	Ø80	5	86	123	167	10

*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

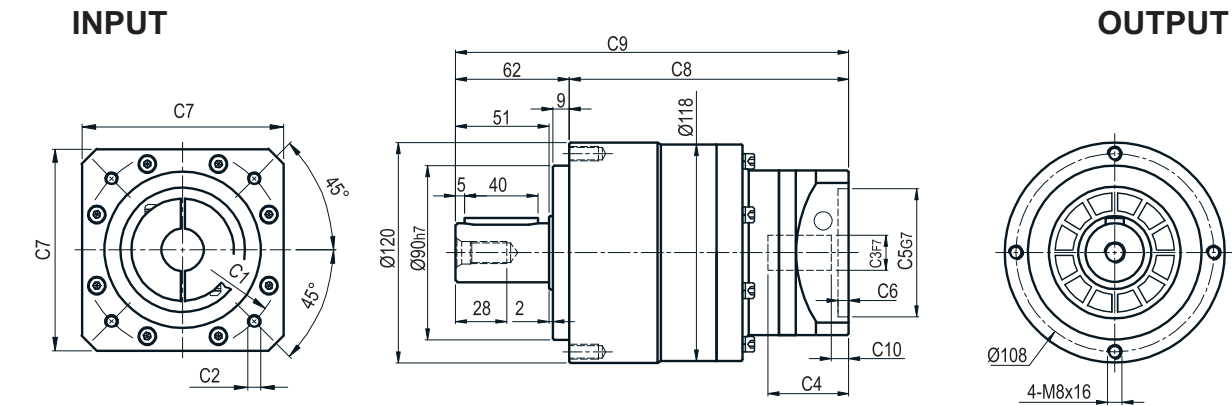
High-precision Helical Planetary Gear Reducer

OUTLINE DIMENSION SHEET

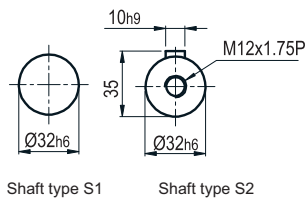
FE-120-L1



FE-120-L2



OUTPUT DIAMETER

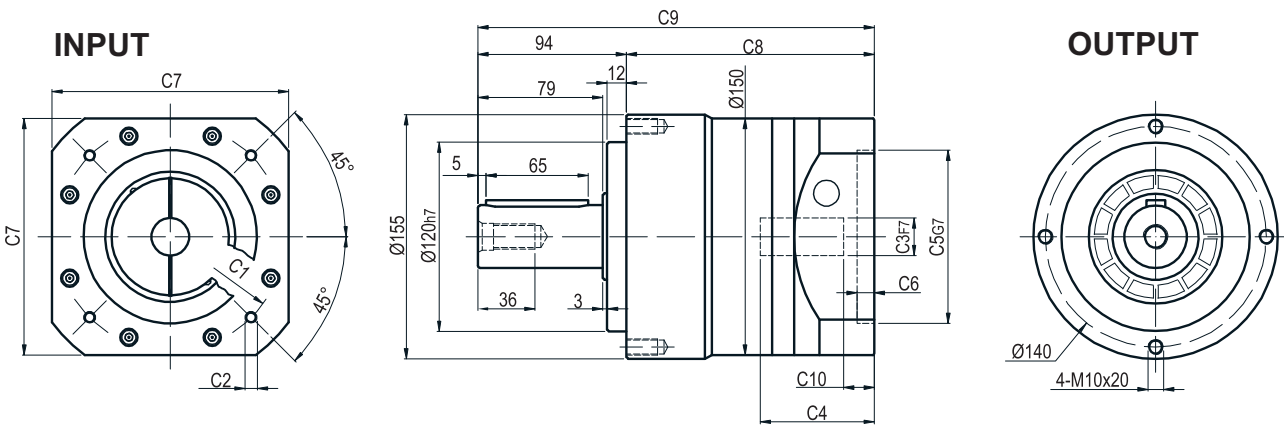


Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FE-120-L1	Ø145	4-M8x25	Ø19,Ø22,Ø24	64.5	Ø110	11	130	139	201	19.5
	Ø200	4-M12x30	Ø35	81.5	Ø114.3	6	180	156	218	37.5
FE-120-L2	Ø90	4-M5x12,4-M6x14	Ø19	44	Ø70	7	90	152.5	214.5	8
	Ø100	4-M6x14	Ø16	44	Ø80	7	90	152.5	214.5	7
	Ø115	4-M8x25	Ø19,Ø22	50	Ø95	7	100	158.5	220.5	13
	Ø115	4-M8x25	Ø19,Ø22	60	Ø95	8	100	168.5	230.5	23
	Ø145	4-M8x25	Ø19,Ø22,Ø24	60	Ø110	8	130	168.5	230.5	23

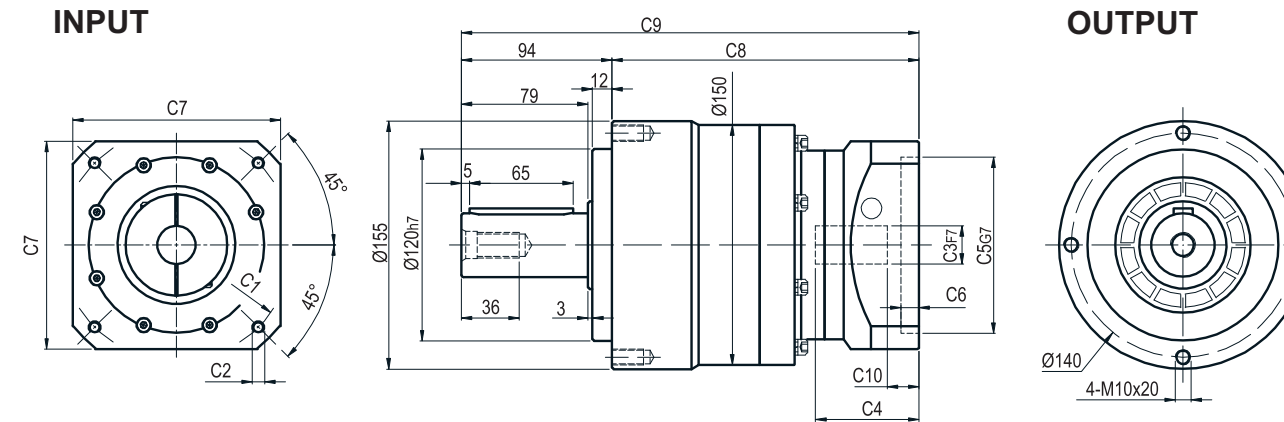
*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

OUTLINE DIMENSION SHEET

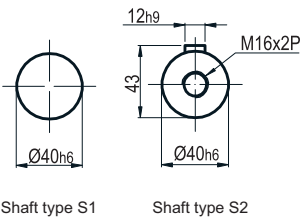
FE-155-L1



FE-155-L2



OUTPUT DIAMETER



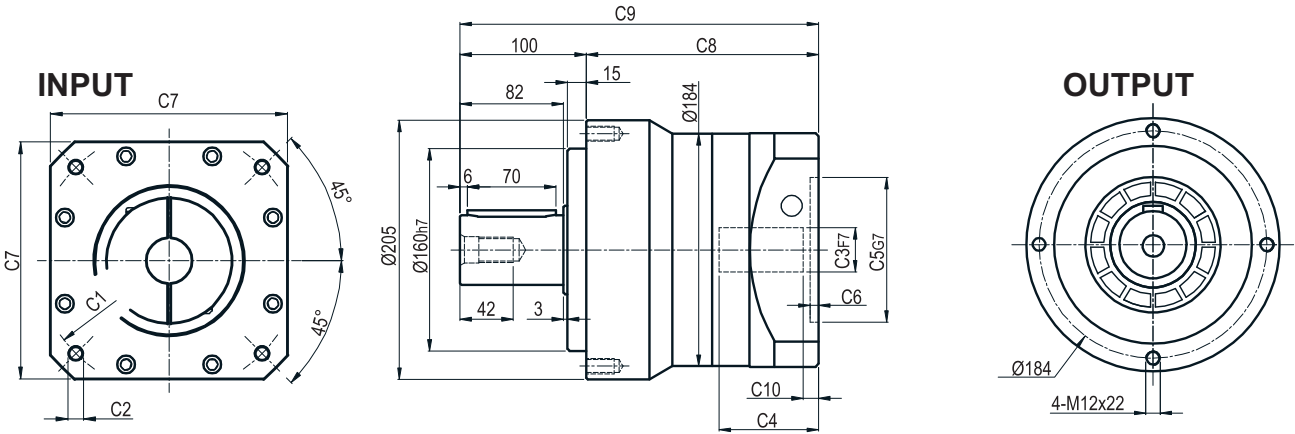
Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FE-155-L1	Ø145	4-M8x25	Ø22,Ø24	72.5	Ø110	11	150	157.5	251.5	19.5
	Ø200	4-M12x30	Ø35	82	Ø114.3	8	180	167	261	29
FE-155-L2	Ø145	4-M8x25	Ø19,Ø22,Ø24	64.5	Ø110	11	130	192	286	19.5
	Ø200	4-M12x30	Ø35	81.5	Ø114.3	6	180	209	303	37.5

*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

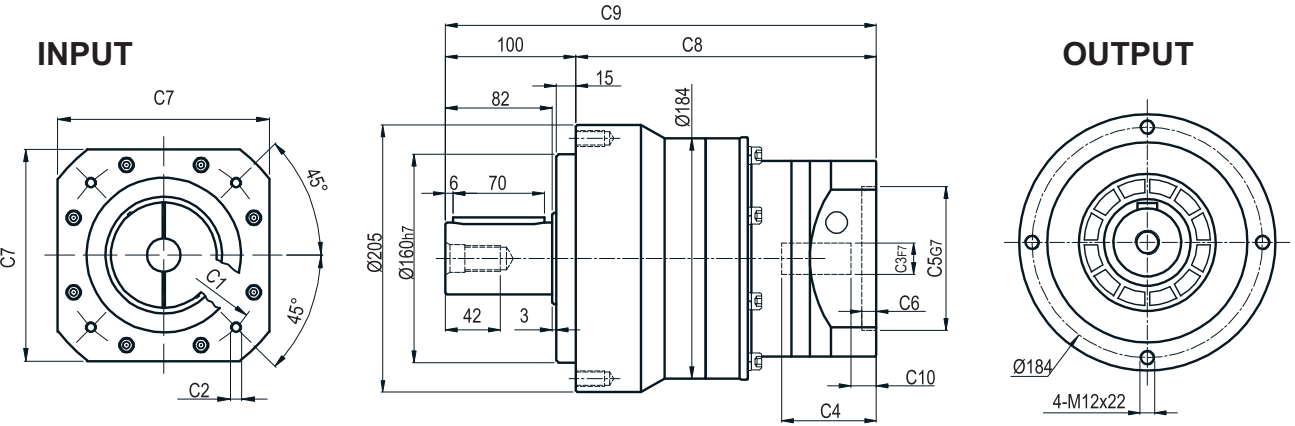
High-precision Helical Planetary Gear Reducer

OUTLINE DIMENSION SHEET

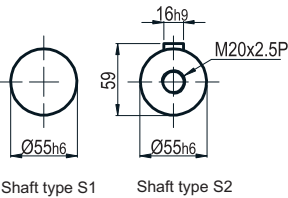
FE-205-L1



FE-205-L2



OUTPUT DIAMETER

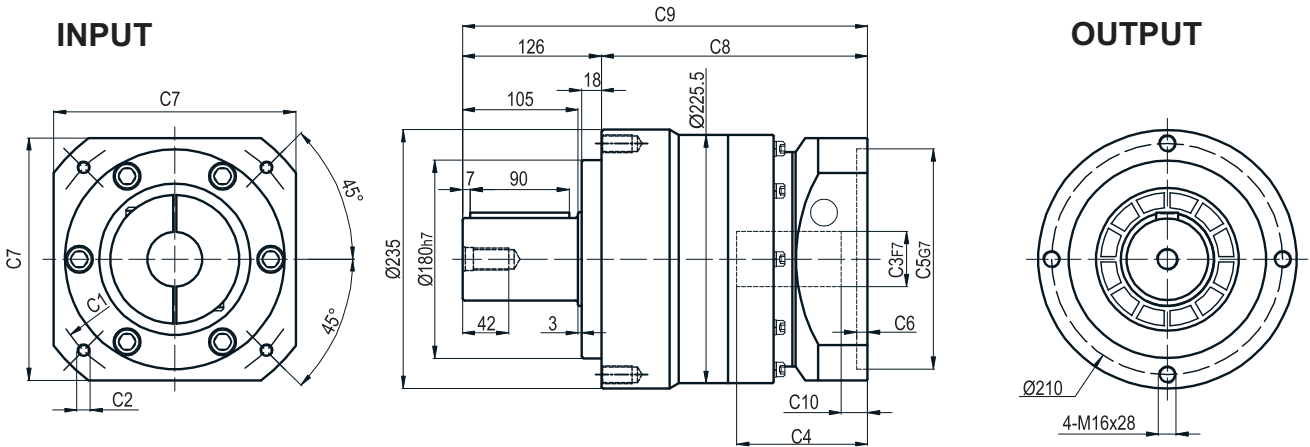


Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FE-205-L1	Ø200	4-M12x30	Ø35	85	Ø114.3	7	180	184	284	7.5
	Ø200	4-M12x30	Ø42	116	Ø114.3	7	180	215	315	40
	Ø215	4-M12x30	Ø42	90	Ø180	8	200	189	289	14
	Ø235	4-M12x30	Ø42	120	Ø200	10	220	219	319	44
FE-205-L2	Ø145	4-M8x25	Ø22, Ø24	72.5	Ø110	11	150	229.5	330.5	19.5
	Ø200	4-M12x30	Ø35	82	Ø114.3	8	180	239	340	29

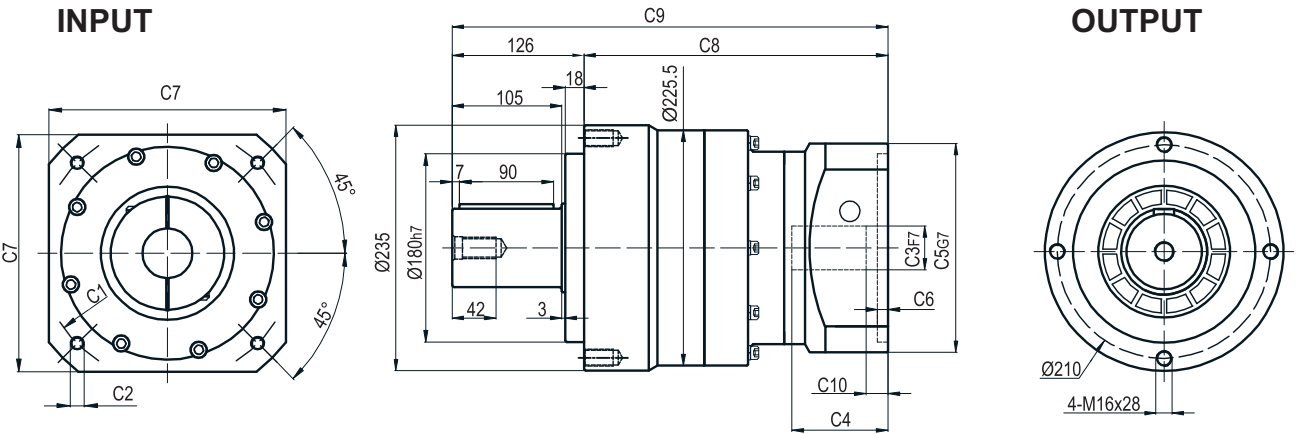
*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

OUTLINE DIMENSION SHEET

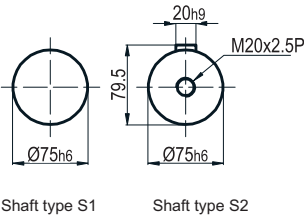
FE-235-L1



FE-235-L2



OUTPUT DIAMETER



Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FE-235-L1	Ø200	4-M12x30	Ø35, Ø42	116	Ø114.3	15	200	239	365	19.5
	Ø215	4-M12x30	Ø42	109	Ø180	8	200	232	358	12.5
	Ø235	4-M12x30	Ø42, Ø55	119	Ø200	10	220	242	368	22.5
FE-235-L2	Ø200	4-M12x30	Ø35	85	Ø114.3	7	180	276	402	7.5
	Ø200	4-M12x30	Ø42	116	Ø114.3	7	180	307	433	40
	Ø215	4-M12x30	Ø42	90	Ø180	8	200	281	407	14
FE-235-L2	Ø235	4-M12x30	Ø42	120	Ø200	10	220	311	437	44

*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.