

Determining Service Class for WWE Helical Inline Speed Reducers

It is a generally accepted engineering practice to rate helical inline speed reducers with Service Class I, II, and III ratings based on their horsepower service factor range. The table below outlines the appropriate service class rating for each service factor range.

Service Class	I	II	III
Service Factor Range	1.0 to 1.49	1.5 to 1.99	2.0 and up

In the WWE product catalog, helical inline speed reducers have published tables that identify the unit's maximum **Input HP** rating in the fifth column from the left. When applying motors to an inline reducer, one must take care not to apply more horsepower to the gearbox than the maximum Input HP rating listed. For the purpose of teaching how to determine service classes for any given gearbox, we will use a WINL67-20/1-182/4TC helical inline speed reducer.

From the catalog, we see that this particular inline speed reducer has a maximum input horse power rating of 6.87 HP. Knowing that the unit has a 182/4TC NEMA input flange, we know that we can apply a 3 HP 182TC frame motor or a 5HP 184TC motor. Both motors allow us to stay under the 6.87 maximum HP rating, but each one delivers an all-together different service class (or HP buffer).

Using a 3HP motor, we take the 6.87HP maximum **Input HP** rating and divide 3HP into it. $6.87/3 = 2.29$. Our result of 2.29 allows us to use the Service Class table above and assign a service class III rating to a WIN67-20/1-182/4TC gearbox when a 3HP input motor is used.

When applying a 5HP motor, we take the 6.87HP maximum HP rating and divide 5HP into it. $6.87/5 = 1.37$. Our result of 1.37 allows us to use the Service Class table above and assign a service class I rating to a WIN67-20/1-182/4TC gearbox when a 5HP input motor is used.

As you can see from the two examples above, it is the actual input HP applied (the motor and frame that you apply) that is used to determine the service class by dividing it into the maximum **Input HP** allowable for any given speed reducer.

Now we will discuss the output torque the gearbox can deliver using a particular NEMA frame motor.

The actual output torque that you will derive in your specific motor / gearbox application is not the maximum output torque shown in the sixth column of the catalog, but the torque value shown in the **Helical Inline Speed Reducer Mechanical** tables found in the catalog. Using this table, you identify the appropriate row of selection using the gearbox box size and specific ratio selected (in this case 67 and 20:1) and sliding to the right under the appropriate NEMA frame column heading (in this case 182TC for 3HP and 184TC for 5HP) and you select the output torque listed for the given HP and NEMA frame size. In our example, if a 3HP 182TC frame motor is used, the resulting gearbox output torque will be 2270 inch-pounds. If a 5HP 184TC frame motor is used, the resulting gearbox output torque will be 3785 inch-pounds. As the Mechanical Ratings tables are updated on a periodic basis, if you do not see a particular torque rating for the NEMA frame motor you wish to apply, please consult the WWE sales office at 1-800-808-2131 for the most up to date torque ratings available. If a rating is not listed, it is either a combination of installation that we would not recommend or we can find the answer in the engineering tables provided to us by our factory. We appreciate your patience with us as we continue to build out this product offering and update our published literature.

Lastly, in order to make it easier for you to determine service class and the actual output torque provided by the gearbox and motor combination selected, WWE has created a PDF that outlines the service class and output torque ratings in a document titled "WWE-WINL SERIES Rating Data with Service Class (2015-01-28)". Ask for your copy today.

Box Size	Normal Ratio	Actual Ratio	Output RPM @ 1800 RPM Input	Input HP	S.C.	Output Torque (lbs. in.)	O.H.L. (lbs.)	Motor Frame	Stages	Model Number
37	5:1	4.88	359	1.00	III	165	305	56C	2	WINL37-5/1-56C
	5:1	4.88	359	2.00	III	330	305	145TC	2	WINL37-5/1-145TC
	10:1	10.02	175	1.00	III	340	388	56C	2	WINL37-10/1-56C
	10:1	10.02	175	2.00	III	680	388	145TC	2	WINL37-10/1-145TC
	15:1	15.75	111	1.00	III	535	451	56C	2	WINL37-15/1-56C
	15:1	15.75	111	2.00	II	1070	451	145TC	2	WINL37-15/1-145TC
	15:1	14.08	124	2.00	II	1016	436	145TC	3	WINL37-15/1-145TC-3S
	20:1	19.95	88	2.00	I	1355	489	145TC	2	WINL37-20/1-145TC
	20:1	19.95	88	1.00	III	680	489	56C	2	WINL37-20/1-56C
	30:1	31.02	56	1.00	II	1025	565	56C	3	WINL37-30/1-56C
	40:1	40.08	44	1.00	I	1325	615	56C	3	WINL37-40/1-56C
50:1	52.24	33	1.00	I	1725	670	56C	3	WINL37-50/1-56C	
60:1	60.84	29	0.89	I*	1770	705	56C	3	WINL37-60/1-56C	
47	5:1	4.85	361	2.00	III	330	440	145TC	2	WINL47-5/1-145TC
	5:1	4.85	361	3.00	III	495	440	182TC	2	WINL47-5/1-182/4TC
	10:1	11.27	155	3.00	II	1150	590	182TC	2	WINL47-10/1-182/4TC
	15:1	15.18	115	3.00	II	1555	650	182TC	2	WINL47-15/1-182/4TC
	20:1	18.37	95	2.00	III	1250	690	145TC	2	WINL47-20/1-145TC
	20:1	18.37	95	3.00	I	1880	690	182TC	2	WINL47-20/1-182/4TC
	30:1	31.83	55	2.00	I	2105	835	145TC	3	WINL47-30/1-145TC
	30:1	31.83	55	3.00	I*	3250	835	182TC	3	WINL47-30/1-182/4TC
	40:1	41.51	42	1.00	III	1370	910	56C	3	WINL47-40/1-56C
	50:1	52.84	33	1.00	II	1740	985	56C	3	WINL47-50/1-56C
60:1	63.37	28	1.00	I	2095	1050	56C	3	WINL47-60/1-56C	
RX57	3:1	3.19	549	3.00	I	336	133	182TC	1	WINL57-3/1-182TC
RX67	2:1	1.86	941	3.00	III	196	43	182TC	1	WINL67-2/1-182/4TC
	2:1	1.86	941	5.00	II	327	43	184TC	1	WINL67-2/1-182/4TC
	2.5:1	2.35	745	3.00	III	248	94	182TC	1	WINL67-2.5/1-182/4TC
	2.5:1	2.35	745	5.00	II	413	94	184TC	1	WINL67-2.5/1-182/4TC
	3.5:1	3.52	497	3.00	I	371	301	182TC	1	WINL67-3.5/1-182TC
67	5:1	5.23	335	2.00	III	355	710	145TC	2	WINL67-5/1-145TC
	5:1	5.23	335	3.00	III	535	710	182TC	2	WINL67-5/1-182/4TC
	5:1	5.23	335	5.00	III	890	710	184TC	2	WINL67-5/1-182/4TC
	10:1	9.90	177	3.00	III	1010	880	182TC	2	WINL67-10/1-182/4TC
	10:1	9.90	177	5.00	III	1685	880	184TC	2	WINL67-10/1-182/4TC
	15:1	15.41	114	2.00	III	1050	1020	145TC	2	WINL67-15/1-145TC
	15:1	15.41	114	3.00	III	1575	1020	182TC	2	WINL67-15/1-182/4TC
	20:1	22.90	76	3.00	III	2270	1165	182TC	3	WINL67-20/1-182/4TC
	20:1	22.90	76	5.00	I	3785	1165	184TC	3	WINL67-20/1-182/4TC
	30:1	32.02	55	2.00	III	2115	1305	145TC	3	WINL67-30/1-145TC
	40:1	41.22	42	2.00	II	2725	1420	145TC	3	WINL67-40/1-145TC
	50:1	52.21	34	2.00	I	3400	1480	145TC	3	WINL67-50/1-145TC
	60:1	63.07	28	1.00	III	2085	1480	56C	3	WINL67-60/1-56C
	80:1	78.59	22	1.00	II	2590	1480	56C	3	WINL67-80/1-56C
100:1	98.69	18	1.00	II	3260	1480	56C	3	WINL67-100/1-56C	
120:1	125.28	14	1.00	I	4140	1480	56C	3	WINL67-120/1-56C	

Service Class I (S.F.=1.0) Service Class II (S.F.=1.5) Service Class III (S.F.=2.0)

*Service Class<1

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Box Size	Normal Ratio	Actual Ratio	Output RPM @ 1800 RPM Input	Input HP	S.C.	Output Torque (lbs. in.)	O.H.L. (lbs.)	Motor Frame	Stages	Model Number
RX77	4:1	4.19	418	3.00	III	442	474	182TC	1	WINL77-4/1-182TC
77	5:1	4.78	366	5.00	III	815	785	184TC	2	WINL77-5/1-182/4TC
	5:1	4.78	366	7.50	III	1220	785	213TC	2	WINL77-5/1-213/5TC
	10:1	10.91	160	7.50	III	2795	1035	213TC	2	WINL77-10/1-213/5TC
	20:1	23.31	75	3.00	III	2385	1330	182TC	2	WINL77-20/1-182/4TC
	30:1	31.97	55	3.00	III	3155	1480	182TC	3	WINL77-30/1-182/4TC
	40:1	39.31	45	3.00	II	3855	1555	182TC	3	WINL77-40/1-182/4TC
	50:1	53.24	33	2.00	II	3505	1755	145TC	3	WINL77-50/1-145TC
	60:1	57.73	30	2.00	II	3855	1800	145TC	3	WINL77-60/1-145TC
	80:1	84.62	21	2.00	I	5510	1935	145TC	3	WINL77-80/1-145TC
	100:1	89.80	19	2.00	I	6090	1935	145TC	3	WINL77-100/1-145TC
120:1	124.34	14	1.00	II	4130	1935	56C	3	WINL77-120/1-56C	
RX87	2:1	2.04	858	7.50	III	538	123	213TC	1	WINL87-2/1-213/5TC
	2:1	2.04	858	10.00	III	717	123	215TC	1	WINL87-2/1-213/5TC
	2:1	2.04	858	15.00	II	1075	123	254TC	1	WINL87-2/1-254/6TC
	2:1	2.04	858	20.00	I	1434	123	256TC	1	WINL87-2/1-254/6TC
	2.5:1	2.52	694	7.50	III	664	254	213TC	1	WINL87-2.5/1-213/5TC
	2.5:1	2.52	694	10.00	III	886	254	215TC	1	WINL87-2.5/1-213/5TC
	2.5:1	2.52	694	15.00	I	1328	254	254TC	1	WINL87-2.5/1-254/6TC
	2.5:1	2.52	694	20.00	I	1771	254	256TC	1	WINL87-2.5/1-254/6TC
	3:1	3.19	549	7.50	II	841	497	213TC	1	WINL87-3/1-213/5TC
	3:1	3.19	549	10.00	I	1121	497	215TC	1	WINL87-3/1-213/5TC
	3.5:1	3.54	494	7.50	II	993	573	213TC	1	WINL87-3.5/1-213/5TC
	3.5:1	3.54	494	10.00	I	1244	573	215TC	1	WINL87-3.5/1-213/5TC
	4:1	3.77	464	7.50	II	994	690	213TC	1	WINL87-4/1-213/5TC
	4:1	3.77	464	10.00	I	1325	690	215TC	1	WINL87-4/1-213/5TC
4.5:1	4.43	395	3.00	III	467	942	182TC	1	WINL87-4.5/1-182/4TC	
4.5:1	4.43	395	5.00	I	778	942	184TC	1	WINL87-4.5/1-182/4TC	
87	5:1	4.73	370	7.50	III	1205	1800	213TC	2	WINL87-5/1-213/5TC
	5:1	4.73	370	10.00	III	1610	1800	215TC	2	WINL87-5/1-213/5TC
	5:1	4.73	370	15.00	III	2415	1800	254TC	2	WINL87-5/1-254/6TC
	10:1	10.66	164	7.50	III	2725	2375	213TC	2	WINL87-10/1-213/5TC
	10:1	10.66	164	10.00	III	3635	2375	215TC	2	WINL87-10/1-213/5TC
	15:1	15.29	114	5.00	III	2615	2680	184TC	2	WINL87-15/1-182/4TC
	15:1	15.29	114	7.50	III	3925	2680	213TC	2	WINL87-15/1-213/5TC
	20:1	20.06	87	5.00	III	3325	2925	184TC	3	WINL87-20/1-182/4TC
	20:1	20.06	87	7.50	III	4985	2925	213TC	3	WINL87-20/1-213/5TC
	30:1	31.73	55	5.00	III	5260	3010	184TC	3	WINL87-30/1-182/4TC
	40:1	38.20	46	5.00	III	6290	3010	184TC	3	WINL87-40/1-182/4TC
	50:1	49.16	36	2.00	III	3215	3010	145TC	3	WINL87-50/1-145TC
	50:1	49.16	36	5.00	II	8035	3010	184TC	3	WINL87-50/1-182/4TC
	60:1	61.54	28	2.00	III	4130	3010	145TC	3	WINL87-60/1-145TC
	60:1	61.54	28	3.00	III	6200	3010	182TC	3	WINL87-60/1-182/4TC
	60:1	61.54	28	5.00	I	10330	3010	184TC	3	WINL87-60/1-182/4TC
	80:1	87.27	20	2.00	III	5785	3010	145TC	3	WINL87-80/1-145TC
80:1	87.27	20	3.00	II	8680	3010	182TC	3	WINL87-80/1-182/4TC	
110:1	112.52	16	2.00	II	7230	3010	145TC	3	WINL87-110/1-145TC	
120:1	122.17	14	2.00	II	8265	3010	145TC	3	WINL87-120/1-145TC	

Service Class I (S.F.=1.0) Service Class II (S.F.=1.5) Service Class III (S.F.=2.0)

*Service Class<1

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Box Size	Normal Ratio	Actual Ratio	Output RPM @ 1800 RPM Input	Input HP	S.C.	Output Torque (lbs. in.)	O.H.L. (lbs.)	Motor Frame	Stages	Model Number
RX97	2:1	2.12	825	25.00	III	1863	152	284TC	1	WINL97-2/1-284/6TC
	2:1	2.12	825	30.00	II	2235	152	286TC	1	WINL97-2/1-284/6TC
	2.5:1	2.68	653	25.00	II	2355	288	284TC	1	WINL97-2.5/1-284/6TC
	2.5:1	2.68	653	30.00	I	2826	288	286TC	1	WINL97-2.5/1-284/6TC
	3:1	3.07	570	15.00	III	1618	506	254TC	1	WINL97-3/1-254/6TC
	3:1	3.07	570	20.00	II	2158	506	256TC	1	WINL97-3/1-254/6TC
	3.5:1	3.48	503	15.00	III	1835	609	254TC	1	WINL97-3.5/1-254/6TC
	3.5:1	3.48	503	20.00	II	2446	609	256TC	1	WINL97-3.5/1-254/6TC
	3.5:1	3.48	503	25.00	I	3058	609	284TC	1	WINL97-3.5/1-284/6TC
	3.5:1	3.48	503	30.00	I	3669	609	286TC	1	WINL97-3.5/1-284/6TC
	4:1	3.81	459	25.00	I	3347	946	284TC	1	WINL97-4/1-284/6TC
	4:1	3.81	459	30.00	I	4017	946	286TC	1	WINL97-4/1-284/6TC
4.5:1	4.42	396	7.50	III	1165	1322	213TC	1	WINL97-4.5/1-213/5TC	
4.5:1	4.42	396	10.00	II	1553	1322	215TC	1	WINL97-4.5/1-213/5TC	
97	5:1	5.42	323	15.00	III	2770	1980	254TC	2	WINL97-5/1-254/6TC
	5:1	5.42	323	20.00	III	3690	1980	256TC	2	WINL97-5/1-254/6TC
	5:1	5.42	323	25.00	III	4615	1980	284TC	2	WINL97-5/1-284/6TC
	5:1	5.42	323	30.00	III	5540	1980	286TC	2	WINL97-5/1-284/6TC
	10:1	10.00	175	25.00	III	8520	2430	284TC	2	WINL97-10/1-284/6TC
	10:1	10.00	175	30.00	II	10225	2430	286TC	2	WINL97-10/1-284/6TC
	15:1	16.96	103	7.50	III	4340	2900	213TC	2	WINL97-15/1-213/5TC
	15:1	16.96	103	10.00	III	5790	2900	215TC	2	WINL97-15/1-213/5TC
	15:1	16.96	103	15.00	III	8685	2900	254TC	2	WINL97-15/1-254/6TC
	15:1	16.96	103	20.00	III	11580	2900	256TC	2	WINL97-15/1-254/6TC
	15:1	16.96	103	25.00	II	14480	2900	284TC	2	WINL97-15/1-284/6TC
	15:1	16.96	103	30.00	I	17375	2900	286TC	2	WINL97-15/1-284/6TC
	20:1	21.23	82	15.00	III	10910	3125	254TC	2	WINL97-20/1-254/6TC
	20:1	21.23	82	20.00	II	14450	3125	256TC	2	WINL97-20/1-254/6TC
	30:1	28.98	60	7.50	III	7230	3465	213TC	3	WINL97-30/1-213/5TC
	30:1	28.98	60	10.00	III	9645	3465	215TC	3	WINL97-30/1-213/5TC
	30:1	28.98	60	15.00	II	14465	3465	254TC	3	WINL97-30/1-254/6TC
	40:1	44.57	39	7.50	III	11125	4000	213TC	3	WINL97-40/1-213/5TC
	40:1	44.57	39	10.00	II	14835	4000	215TC	3	WINL97-40/1-213/5TC
	50:1	51.10	34	7.50	III	12765	4080	213TC	3	WINL97-50/1-213/5TC
	50:1	51.10	34	10.00	II	17020	4080	215TC	3	WINL97-50/1-213/5TC
	60:1	59.52	29	7.50	II	14965	4080	213TC	3	WINL97-60/1-213/5TC
	60:1	59.52	29	10.00	I	19950	4080	215TC	3	WINL97-60/1-213/5TC
	80:1	82.59	21	5.00	II	13775	4080	184TC	3	WINL97-80/1-182/4TC
80:1	82.59	21	7.50	I	20665	4080	213TC	3	WINL97-80/1-213/5TC	
100:1	97.76	18	5.00	II	16070	4080	184TC	3	WINL97-100/1-182/4TC	
120:1	127.61	14	3.00	III	12400	4080	182TC	3	WINL97-120/1-182/4TC	
120:1	127.61	14	5.00	I	20665	4080	184TC	3	WINL97-120/1-182/4TC	

Service Class I (S.F.=1.0) Service Class II (S.F.=1.5) Service Class III (S.F.=2.0)

*Service Class<1



Box Size	Normal Ratio	Actual Ratio	Output RPM @ 1800 RPM Input	Input HP	S.C.	Output Torque (lbs. in.)	O.H.L. (lbs.)	Motor Frame	Stages	Model Number
RX107	3:1	3.12	561	25.00	III	2741	605	284TC	1	WINL107-5/1-284/6TC
	3:1	3.12	561	30.00	II	3289	605	286TC	1	WINL107-5/1-284/6TC
	4:1	4.13	424	15.00	III	2177	1205	254TC	1	WINL107-5/1-254/6TC
	4:1	4.13	424	20.00	II	2903	1205	256TC	1	WINL107-5/1-254/6TC
107	5:1	4.50	389	7.50	III	1150	2110	213TC	2	WINL107-5/1-213/5TC
	5:1	4.50	389	10.00	III	1533	2110	215TC	2	WINL107-5/1-213/5TC
	5:1	4.50	389	15.00	III	2300	2110	254TC	2	WINL107-5/1-254/6TC
	5:1	4.50	389	20.00	III	3066	2110	256TC	2	WINL107-5/1-254/6TC
	5:1	4.50	389	25.00	III	3833	2110	284TC	2	WINL107-5/1-284/6TC
	5:1	4.50	389	30.00	III	4599	2110	286TC	2	WINL107-5/1-284/6TC
	5:1	4.50	389	40.00	II	6132	2110	324TC	2	WINL107-5/1-324/6TC
	5:1	4.50	389	50.00	I	7665	2110	326TC	2	WINL107-5/1-324/6TC
	10:1	10.44	168	40.00	I	14240	2581	324TC	2	WINL107-10/1-324/6TC
	10:1	10.44	168	50.00	I	17800	2581	326TC	2	WINL107-10/1-324/6TC
	15:1	14.38	122	7.50	III	3676	3076	213TC	3	WINL107-15/1-213/5TC
	15:1	14.38	122	10.00	III	4901	3076	215TC	3	WINL107-15/1-213/5TC
	15:1	14.38	122	15.00	III	7532	3076	254TC	3	WINL107-15/1-254/6TC
	15:1	14.38	12	20.00	II	9802	3076	256TC	3	WINL107-15/1-254/6TC
	20:1	21.79	86	25.00	II	16726	3054	284TC	3	WINL107-20/1-284/6TC
	20:1	21.79	86	30.00	I	20072	3054	286TC	3	WINL107-20/1-284/6TC
	20:1	21.79	86	40.00	I	26762	3054	324TC	3	WINL107-20/1-324/6TC
	30:1	29.23	60	25.00	I	24164	3502	284TC	3	WINL107-30/1-284/6TC
	30:1	29.23	60	30.00	I	28997	3502	286TC	3	WINL107-30/1-284/6TC
	40:1	39.52	44	15.00	II	19600	3951	254TC	3	WINL107-40/1-254/6TC
	40:1	39.52	44	20.00	I	26134	3951	256TC	3	WINL107-40/1-254/6TC
	50:1	53.00	33	7.50	III	13145	4422	213TC	3	WINL107-50/1-213/5TC
	50:1	53.00	33	10.00	III	17526	4422	215TC	3	WINL107-50/1-213/5TC
	50:1	53.00	33	15.00	I	26289	4422	254TC	3	WINL107-50/1-254/6TC
	50:1	53.00	33	20.00	I	35053	4422	256TC	3	WINL107-50/1-254/6TC
	60:1	62.90	28	7.50	III	15599	4794	213TC	3	WINL107-60/1-213/5TC
	60:1	62.90	28	10.00	II	20799	4794	215TC	3	WINL107-60/1-213/5TC
	60:1	62.90	28	15.00	I	31198	4794	254TC	3	WINL107-60/1-254/6TC
80:1	79.95	22	7.50	II	19827	5309	213TC	3	WINL107-80/1-213/5TC	
80:1	79.95	22	10.00	I	26436	5309	215TC	3	WINL107-80/1-213/5TC	
120:1	115.50	15	7.50	I	26909	5938	213TC	3	WINL107-120/1-213/5TC	
120:1	115.50	15	10.00	I	38192	5938	215TC	3	WINL107-120/1-213/5TC	

Service Class I (S.F.=1.0) Service Class II (S.F.=1.5) Service Class III (S.F.=2.0)

*Service Class<1



Box Size	Normal Ratio	Actual Ratio	Output RPM @ 1800 RPM Input	Input HP	S.C.	Output Torque (lbs. in.)	O.H.L. (lbs.)	Motor Frame	Stages	Model Number
137	5:1	4.87	360	15.00	III	2488	2716	254TC	2	WINL137-5/1-254/6TC
	5:1	4.87	360	20.00	III	3317	2716	256TC	2	WINL137-5/1-254/6TC
	5:1	4.87	360	25.00	III	4147	2716	284TC	2	WINL137-5/1-284/6TC
	5:1	4.87	360	30.00	III	4976	2716	286TC	2	WINL137-5/1-284/6TC
	5:1	4.87	360	40.00	III	6634	2716	324TC	2	WINL137-5/1-324/6TC
	5:1	4.87	360	50.00	II	8293	2716	326TC	2	WINL137-5/1-324/6TC
	10:1	10.12	173	60.00	II	20699	3266	364TC	2	WINL137-10/1-364/5TC
	10:1	10.12	173	75.00	I	25874	3266	365TC	2	WINL137-10/1-364/5TC
	15:1	14.60	120	25.00	III	12066	3210	284TC	2	WINL137-15/1-284/6TC
	15:1	14.60	120	30.00	III	14480	3210	286TC	2	WINL137-15/1-284/6TC
	15:1	14.60	120	40.00	III	19306	3210	324TC	2	WINL137-15/1-324/6TC
	15:1	14.60	120	50.00	II	24133	3210	326TC	2	WINL137-15/1-324/6TC
	15:1	14.60	120	60.00	II	28959	3210	364TC	2	WINL137-15/1-364/5TC
	15:1	14.60	120	75.00	I	36199	3210	365TC	2	WINL137-15/1-364/5TC
	20:1	20.68	85	60.00	I	41026	3491	364TC	3	WINL137-20/1-364/5TC
	20:1	20.68	85	75.00	I	51282	3491	365TC	3	WINL137-20/1-364/5TC
	30:1	32.81	53	40.00	I	43401	4467	324TC	3	WINL137-30/1-324/6TC
	30:1	32.81	53	50.00	I	54251	4467	326TC	3	WINL137-30/1-324/6TC
	40:1	43.25	40	25.00	II	35756	5017	284TC	3	WINL137-40/1-284/6TC
	40:1	43.25	40	30.00	I	42908	5017	286TC	3	WINL137-40/1-284/6TC
	40:1	43.25	40	40.00	I	57210	5017	324TC	3	WINL137-40/1-324/6TC
	50:1	50.13	35	15.00	III	24734	5545	254TC	3	WINL137-50/1-254/6TC
	50:1	50.13	35	20.00	II	33156	5545	256TC	3	WINL137-50/1-254/6TC
	50:1	50.13	35	25.00	I	41445	5545	284TC	3	WINL137-50/1-284/6TC
50:1	50.13	35	30.00	I	49734	5545	286TC	3	WINL137-50/1-284/6TC	
60:1	59.14	30	15.00	II	29178	6331	254TC	3	WINL137-60/1-254/6TC	
60:1	59.14	30	20.00	I	39113	6331	256TC	3	WINL137-60/1-254/6TC	
80:1	79.05	22	15.00	I	39002	6802	254TC	3	WINL137-80/1-254/6TC	
80:1	79.05	22	20.00	I	52281	6802	256TC	3	WINL137-80/1-254/6TC	
120:1	117.25	15	15.00	I	57847	7835	254TC	3	WINL137-120/1-254/6TC	

Service Class I (S.F.=1.0) Service Class II (S.F.=1.5) Service Class III (S.F.=2.0)

*Service Class<1

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Box Size	Normal Ratio	Actual Ratio	Output RPM @ 1800 RPM Input	Input HP	S.C.	Output Torque (lbs. in.)	O.H.L. (lbs.)	Motor Frame	Stages	Model Number
147	4:1	4.16	421	100.00	III	14171	5280	405TC	2	WINL147-4/1-405TC
	5:1	5.00	350	25.00	III	4621	5700	284TC	2	WINL147-5/1-284/6TC
	5:1	5.00	350	30.00	III	5113	5700	286TC	2	WINL147-5/1-284/6TC
	5:1	5.00	350	40.00	III	6818	5700	324TC	2	WINL147-5/1-324/6TC
	5:1	5.00	350	50.00	III	8522	5700	326TC	2	WINL147-5/1-324/6TC
	5:1	5.00	350	75.00	III	12784	5700	365TC	2	WINL147-5/1-365TC
	10:1	10.24	171	100.00	III	34900	7200	405TC	2	WINL147-10/1-405TC
	15:1	15.62	112	25.00	III	13309	8300	284TC	2	WINL147-15/1-284/6TC
	15:1	15.62	112	30.00	III	15971	8300	286TC	2	WINL147-15/1-284/6TC
	15:1	15.62	112	40.00	III	21295	8300	324TC	2	WINL147-15/1-324/6TC
	15:1	15.62	112	50.00	III	26619	8300	326TC	2	WINL147-15/1-326/6TC
	15:1	15.62	112	100.00	II	53238	8300	405TC	2	WINL147-10/1-405TC
	20:1	19.99	88	60.00	II	39662	9020	364TC	3	WINL147-20/1-364/5TC
	20:1	19.99	88	75.00	II	49578	9020	365TC	3	WINL147-20/1-364/5TC
	30:1	30.23	58	40.00	III	48251	10340	324TC	3	WINL147-30/1-324/6TC
	30:1	30.23	58	50.00	II	60314	10340	326TC	3	WINL147-30/1-324/6TC
	30:1	30.23	58	60.00	I	72377	10340	364TC	3	WINL147-30/1-364/5TC
	30:1	30.23	58	75.00	I	74692	10340	365TC	3	WINL147-30/1-364/5TC
	40:1	41.70	42	25.00	III	34469	11550	284TC	3	WINL147-40/1-284/6TC
	40:1	41.70	42	30.00	III	41362	11550	286TC	3	WINL147-40/1-284/6TC
	40:1	41.70	42	40.00	II	55150	11550	324TC	3	WINL147-40/1-324/6TC
	40:1	41.70	42	50.00	I	68937	11550	326TC	3	WINL147-40/1-324/6TC
	50:1	50.49	35	20.00	III	33392	12320	256TC	3	WINL147-50/1-254/6TC
	50:1	50.49	35	25.00	III	41740	12320	284TC	3	WINL147-50/1-284/6TC
	50:1	50.49	35	30.00	II	50088	12320	286TC	3	WINL147-50/1-284/6TC
	60:1	60.38	29	20.00	III	39935	13090	256TC	3	WINL147-60/1-254/6TC
60:1	60.38	29	40.00	I	79869	13090	324TC	3	WINL147-60/1-324/6TC	
80:1	83.30	21	20.00	II	55087	13640	256TC	3	WINL147-80/1-254/6TC	
80:1	83.30	21	25.00	I	68859	13640	284TC	3	WINL147-80/1-284/6TC	
80:1	83.30	21	30.00	I	82631	13640	286TC	3	WINL147-80/1-284/6TC	
120:1	117.29	15	20.00	I	77567	13640	256TC	3	WINL147-120/1-254/6TC	

Service Class I (S.F.=1.0) Service Class II (S.F.=1.5) Service Class III (S.F.=2.0)

*Service Class<1

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**WORLDWIDE ELECTRIC CORPORATION
INLINE HELICAL SPEED REDUCERS - MECHANICAL RATINGS**

Box Size	Normal Ratio	Actual Ratio	Output Speed RPM	Input Power HP	Output Torque lbs. in.	OHL lbs.	Stages	NEMA Flange																														
								56C		143/145TC		182TC		184TC		213TC		215TC		254TC		256TC		284TC		286TC		324TC		326TC		364TC		365TC		405TC		
								HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	
37	60:1	60.84	29	0.89	1770	705	3	0.89	1770																													
	50:1	52.24	33	1.04	1770	670	3	1.0	1725																													
	40:1	40.08	44	1.35	1770	615	3	1.0	1325																													
	30:1	31.02	56	1.75	1770	565	3	1.0	1025	2.0	2130																											
	20:1	19.95	88	2.49	1670	489	2	1.0	680	2.0	1355																											
	15:1	15.75	111	2.99	1580	451	2	1.0	535	2.0	1070																											
	10:1	10.02	175	4.04	1360	388	2	1.0	340	2.0	680																											
47	5:1	4.88	359	5.91	970	305	2	1.0	165	2.0	330																											
	60:1	63.37	28	1.37	2830	1050	3	1.0	2095																													
	50:1	52.84	33	1.64	2830	985	3	1.0	1740																													
	40:1	41.51	42	2.09	2830	910	3	1.0	1370																													
	30:1	31.83	55	2.73	2830	835	3			2.0	2105	3.0	3250																									
	20:1	18.37	95	4.29	2650	690	2			2.0	1250	3.0	1880																									
	15:1	15.18	115	4.87	2490	650	2					3.0	1555																									
RX57	10:1	11.27	155	5.95	2255	590	2			3.0	1150																											
	5:1	4.85	361	9.59	1565	440	2			2.0	330	3.0	495	5.0	825																							
	3:1	3.19	549	4.04	447	133	1					3.0	336																									
	67	120:1	125.28	14	1.23	5045	1480	3	1.0	4140																												
		100:1	98.69	18	1.57	5045	1480	3	1.0	3260																												
		80:1	78.59	22	1.97	5045	1480	3	1.0	2590																												
		60:1	63.07	28	2.45	5045	1480	3	1.0	2085																												
50:1		52.21	34	2.96	5045	1480	3			2.0	3400																											
40:1		41.22	42	3.75	5045	1420	3			2.0	2725																											
30:1		32.02	55	4.83	5045	1305	3			2.0	2115																											
20:1		22.90	76	6.87	4720	1165	3					3.0	2270	5.0	3785																							
15:1		15.41	114	9.23	4785	1020	2			2.0	1050	3.0	1575																									
RX67	10:1	9.90	177	12.39	4130	880	2			3.0	1010	5.0	1685																									
	5:1	5.23	335	15.38	2710	710	2			2.0	355	3.0	535	5.0	890																							
	3.5:1	3.52	497	4.11	502	301	1					3.0	371																									
77	2.5:1	2.35	745	7.56	616	94	1					3.0	248	5.0	413																							
	2:1	1.86	941	9.43	617	43	1					3.0	196	5.0	327																							
	120:1	124.34	14	1.64	6640	1935	3	1.0	4130																													
	100:1	89.80	19	2.26	6640	1935	3			2.0	6090																											
	80:1	84.62	21	2.40	6640	1935	3			2.0	5510																											
	60:1	57.73	30	3.52	6640	1800	3			2.0	3855																											
	50:1	53.24	33	3.82	6640	1755	3			2.0	3505																											
	40:1	39.31	45	5.49	6640	1555	3					3.0	3855																									
	30:1	31.97	55	6.36	6640	1480	3					3.0	3155																									
	20:1	23.31	75	7.84	6150	1330	2					3.0	2385	5.0	3975																							
RX77	15:1	14.83	118	12.35	6165	1145	2					3.0	1515	5.0	2525																							
	10:1	10.91	160	16.89	6205	1035	2									7.5	2795	10	3725																			
	5:1	4.78	366	25.13	4040	785	2					3.0	485	5.0	815	7.5	1220	10	1630																			
	4:1	4.19	418	6.16	895	474	1					3.0	442																									



**WORLDWIDE ELECTRIC CORPORATION
INLINE HELICAL SPEED REDUCERS - MECHANICAL RATINGS**

Box Size	Normal Ratio	Actual Ratio	Output Speed RPM	Input Power HP	Output Torque lbs. in.	OHL lbs.	Stages	NEMA Flange																													
								56C		143/145TC		182TC		184TC		213TC		215TC		254TC		256TC		284TC		286TC		324TC		326TC		364TC		365TC		405TC	
								HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T	HP	T
87	120:1	122.17	14	3.55	14170	3010	3			2.0	8265																										
	100:1	112.52	16	3.86	14170	3010	3			2.0	7230																										
	80:1	87.27	20	4.97	14170	3010	3			2.0	5785	3.0	8680																								
	60:1	61.54	28	7.05	14170	3010	3			2.0	4130	3.0	6200	5.0	10330																						
	50:1	49.16	36	8.83	14170	3010	3			2.0	3215	3.0	4820	5.0	8035																						
	40:1	38.20	46	11.36	14170	3010	3					3.0	3770	5.0	6290																						
	30:1	31.73	55	11.15	11550	3010	3					3.0	3155	5.0	5260																						
	20:1	20.06	87	15.13	9915	2925	3					3.0	1995	5.0	3325	7.5	4985																				
	15:1	15.29	114	21.45	11040	2680	2							5.0	2615	7.5	3925	10	5230																		
	10:1	10.66	164	27.28	9790	2375	2									7.5	2725	10	3635																		
5:1	4.73	370	38.49	6120	1800	2									7.5	1205	10	1610	15	2415	20	3225															
RX87	4.5:1	4.43	395	6.91	1062	942	1					3.0	467	5.0	778																						
	4:1	3.77	464	11.51	1505	690	1								7.5	994	10	1325																			
	3.5:1	3.54	494	12.83	1575	573	1								7.5	993	10	1244																			
	3:1	3.19	549	14.4	1593	497	1								7.5	841	10	1121																			
	2.5:1	2.52	694	20.25	1770	254	1								7.5	664	10	886	15	1328	20	1771															
	2:1	2.04	858	26.27	1859	123	1								7.5	538	10	717	15	1075	20	1434															
97	120:1	127.61	14	6.27	27030	4080	3					3.0	12400	5.0	20665																						
	100:1	97.76	18	8.18	27030	4080	3					3.0	9645	5.0	16070																						
	80:1	82.59	21	9.69	27030	4080	3					3.0	8265	5.0	13775	7.5	20665																				
	60:1	59.52	29	13.44	27030	4080	3								7.5	14965	10	19950																			
	50:1	51.10	34	15.66	27030	4080	3								7.5	12765	10	17020																			
	40:1	44.57	39	17.05	25670	4000	3								7.5	11125	10	14835																			
	30:1	28.98	60	23.23	22750	3465	3								7.5	7230	10	9645	15	14465																	
	20:1	21.23	82	31.46	23265	3125	2												15	10910	20	14450															
	15:1	16.96	103	39.04	23055	2900	2									7.5	4340	10	5790	15	8685	20	11580	25	14480	30	17375										
10:1	10.00	175	55.84	19450	2430	2														25	8520	30	10225														
5:1	5.42	323	68.89	13010	1980	2												15	2770	20	3690	25	4615	30	5540												
RX97	4.5:1	4.42	396	18.4	2821	1322	1								7.5	1165	10	1553																			
	4:1	3.81	459	30.79	4069	946	1														25	3347	30	4017													
	3.5:1	3.48	503	33.72	4070	609	1												15	1835	20	2446	25	3058	30	3669											
	3:1	3.07	570	38.23	4071	506	1												15	1618	20	2158															
	2.5:1	2.68	653	43.80	4071	288	1														25	2355	30	2826													
	2:1	2.12	825	51.93	3819	152	1														25	1863	30	2235													
107	120:1	115.50	15	10.5	40102	5938	3								7.5	26909	10	38192																			
	80:1	79.95	22	12.5	31059	5309	3								7.5	19827	10	26436																			
	60:1	62.90	28	16	31277	4794	3								7.5	15599	10	20799	15	31198																	
	50:1	53.00	33	20	35053	4422	3								7.5	13145	10	17526	15	26289	20	35053															
	40:1	39.52	44	25.5	32667	3951	3												15	19600	20	26134															
	30:1	29.23	60	31	29000	3502	3														25	24164	30	28997													
	20:1	21.79	86	42	28447	3054	3														25	16726	30	20072	40	26762											
	15:1	14.38	122	34	15991	3076	2									7.5	3676	10	4901	15	7352	20	9802														
	10:1	10.44	168	57	21523	2581	2																			40	14240	50	17800								
5:1	4.50	389	66	9710	2110	2									7.5	1150	10	1533	15	2300	20	3066	25	3833	30	4599	40	6132	50	7665							
RX107	4:1	4.13	424	32.13	4602	1205	1												15	2177	20	2903															
	3:1	3.12	561	52.34	5664	605	1														25	2741	30	3289													



