

# Hypoid Motor TA Series

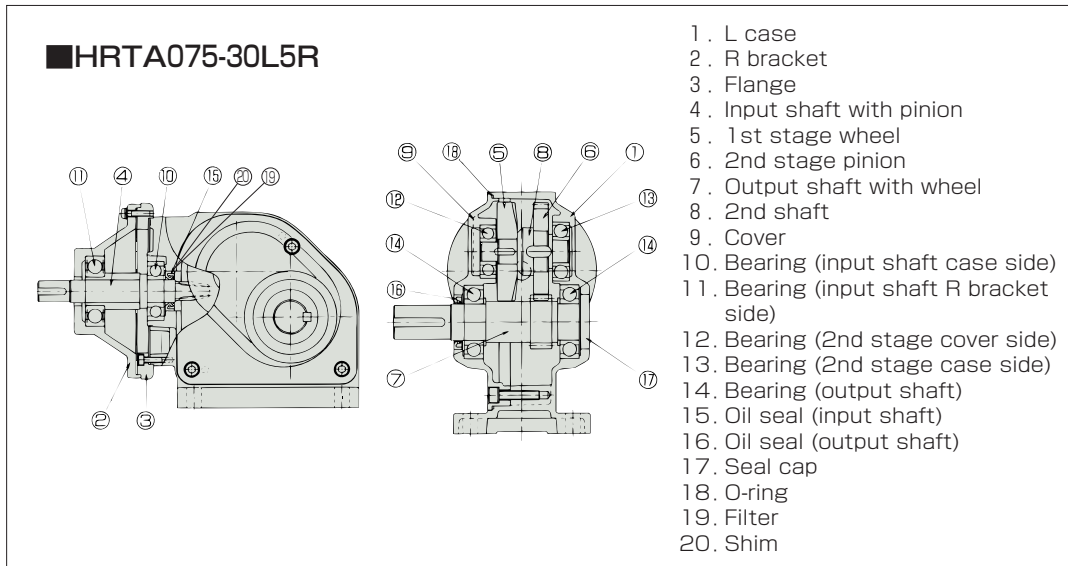
Inline reducer type

HYPOID MOTOR TA

The double shaft type is an independent reducer corresponding to the reducer section of the hypoid motor. Use it in the following cases.

- ① When only a reducer is necessary
- ② When the reducer is driven by a device other than special motors and electric motors
- ③ When the input revolution speed is different from the motor revolution speed.

## Structure

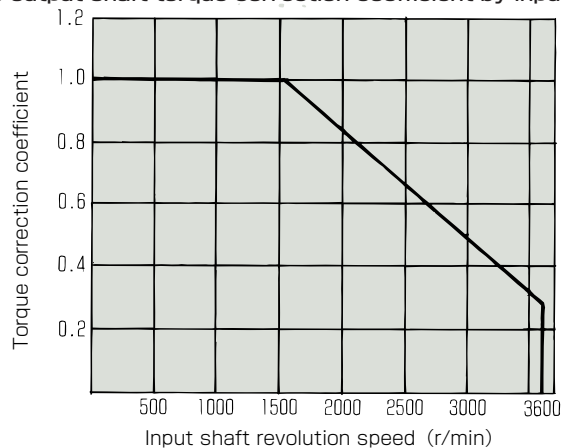


## Relation between input shaft revolution speed and allowable output shaft torque

The allowable output shaft torque shown in the specification chart is for an input shaft revolution speed of 1500 r/min.

When the input shaft revolution speed is other than 1500 r/min, the values shown in the specification chart should be multiplied by the torque correction coefficient shown in the figure below to obtain the allowable output shaft torque.

Allowable output shaft torque correction coefficient by input shaft revolution speed



(Note 1) The correction coefficient shown in the figure above is also applied to the allowable input/output shaft O.H.L.  
 (Note 2) If the device is to be used as a step-up gear, please contact our company.

(Example)

When the HRTA010-19L50L is used at an input shaft revolution speed of 2500 r/min, the allowable output shaft torque and allowable input/output shaft O.H.L. of this model are as shown below.

According to the figure above, the correction coefficient for an input shaft revolution speed of 2500 r/min is 0.65.

$$\begin{aligned} \text{Allowable output shaft torque} &= 24.7 \times 0.65 = 17.81 \text{ N} \\ &\quad \{2.8 \times 0.65 = 1.82 \text{ kgf} \cdot \text{m}\} \end{aligned}$$

$$\begin{aligned} \text{Allowable input shaft O.H.L.} &= 96.0 \times 0.65 = 62.4 \text{ N} \\ &\quad \{9.8 \times 0.65 = 6.37 \text{ kgf}\} \end{aligned}$$

$$\begin{aligned} \text{Allowable output shaft O.H.L.} &= 1862 \times 0.65 = 1210.3 \text{ N} \\ &\quad \{190 \times 0.65 = 123.5 \text{ kgf}\} \end{aligned}$$

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## Specification Chart

Model number	4P motor capacity equivalence kW	Actual reduction ratio	Number of reduction steps		Allowable output shaft torque at input shaft revolution speed of 1500 r/min		Allowable input/output shaft O.H.L.				Outline dimension			
			L	U·H	N·m	{kgf·m}	Input shaft		Output shaft		Foot mount type	Face mount type	Hollow shaft type	
							N	{kgf}	N	{kgf}				
HRTA 010	5	0.1	1/5	2	2	2.7	{0.28}	96.0	{9.8}	588	{ 60}	Drawing 24 Frame number 19	Drawing 26 Frame number 24	Drawing 27 Frame number 30
	10		1/10			5.6	{0.57}			980	{100}			
	15		1/15			8.3	{0.85}			1078	{110}			
	20		1/20			10.8	{ 1.1}			1176	{120}			
	25		1/25			13.7	{ 1.4}			1274	{130}			
	30		1/30			16.7	{ 1.7}			1421	{145}			
	40		1/40			22.5	{ 2.3}			1617	{165}			
	50		1/50			27.4	{ 2.8}			1862	{190}			
	60		1/60			31.4	{ 3.2}			2009	{205}			
	80		1/80			42.1	{ 4.3}			2254	{230}			
	100		1/100			52.9	{ 5.4}			2548	{260}			
	120		1/120			63.7	{ 6.5}			2793	{285}			
	160		1/160			84.3	{ 8.6}			3332	{340}			
	200		1/200			106	{10.8}			3332	{340}			
HRTA 020	5	0.2	1/5	2	2	5.6	{0.57}	147	{15}	588	{ 60}	Drawing 28 Frame number 19	Drawing 30 Frame number 28	Drawing 31 Frame number 30
	10		1/10			10.8	{ 1.1}			980	{100}			
	15		1/15			16.7	{ 1.7}			1078	{110}			
	20		1/20			22.5	{ 2.3}			1176	{120}			
	25		1/25			27.4	{ 2.8}			1274	{130}			
	30		1/30			33.3	{ 3.4}			1421	{145}			
	40		1/40			44.1	{ 4.5}			1617	{165}			
	50		1/50			55.9	{ 5.7}			1862	{190}			
	60		1/60			66.6	{ 6.8}			2009	{205}			
	80		1/80			84.3	{ 8.6}			2254	{230}			
	100		1/100			106	{10.8}			2548	{260}			
	120		1/120			126	{12.9}			2793	{285}			
	160		1/160			169	{17.2}			3332	{340}			
	200		1/200			* 169	* {17.2}			3332	{340}			
HRTA 040	5	0.4	1/5	2	2	10.8	{ 1.1}	235	{24}	931	{ 95}	Drawing 32 Frame number 24	Drawing 34 Frame number 28	Drawing 36 Frame number 30
	10		1/10			22.5	{ 2.3}			1568	{160}			
	15		1/15			33.3	{ 3.4}			1715	{175}			
	20		1/20			44.1	{ 4.5}			1862	{190}			
	25		1/25			55.9	{ 5.7}			2009	{205}			
	30		1/30			66.6	{ 6.8}			2205	{225}			
	40		1/40			⊙ 89.2	⊙ { 9.1}			2450	{250}			
	50		1/50			⊙ 112	⊙ {11.4}			2793	{285}			
	60		1/60			126	{12.9}			3038	{310}			
	80		1/80			169	{17.2}			3479	{355}			
	100		1/100			212	{21.6}			3920	{400}			
	120		1/120			254	{25.9}			4410	{450}			
	160		1/160			338	{34.5}			4410	{450}			
	200		1/200			* 374	* {38.2}			4410	{450}			

(Note 1) The actual reduction ratio is shown as the reduction ratio. (They are all integer ratios.)

(Note 2) For "T" output shaft arrangements where torque is applied to both shafts, the sum of both torques should be equal to or less than the value shown in the table above.

Furthermore, the O.H.L. on one shaft should be equal to or less than 1/2 of the value shown in the table above.

(Note 3) The values marked with "⊙" in the table above are for 2-step reduction. For the U type with 3-step reduction, the values shown below are applied.

0.4	1/40	2	3	84.3	{ 8.6}
	1/50			106	{10.8}

(Note 4) The phases of the key ways of the output and input shafts are not necessarily aligned precisely. For "T" output shaft arrangements, the phases of the key ways of the output shafts are not necessarily aligned precisely.

(Note 5) The models marked with \* are ones for which the torque is limited.

# Hypoid Motor TA Series

Inline reducer type

HYPOID MOTOR TA

## Specification Chart

Model number		4P motor capacity equivalence kW	Actual reduction ratio	Number of reduction steps		Allowable output shaft torque at input shaft revolution speed of 1500 r/min		Allowable input/output shaft O.H.L.				Outline dimension				
				L	U·H	N·m	{kgf·m}	Input shaft		Output shaft		Foot mount type	Face mount type	Hollow shaft type		
								N	{kgf}	N	{kgf}					
HRTA 075	5	0.75	1/5	2	2	20.6	{ 2.1}	353	{36}	1519	{155}	Drawing	Drawing	Drawing		
	10		1/10			42.1	{ 4.3}			2205	{225}					
	15		1/15			62.7	{ 6.4}			2401	{245}					
	20		1/20			83.3	{ 8.5}			2646	{270}					
	25		1/25			104	{10.6}			2891	{295}					
	30		1/30			125	{12.8}			3136	{320}					
	40		1/40	⊙ 167	⊙ {17.0}	3626	{370}			38	40	42				
	50		1/50	⊙ 209	⊙ {21.3}	4116	{420}									
	60		1/60	3	3	238	{24.3}			4508	{460}	Frame number	30	38	35	
	80		1/80			317	{32.3}			5390	{550}					
	100		1/100			396	{40.4}			6272	{640}	Drawing	Drawing	Drawing		
	120		1/120			475	{48.5}			6272	{640}					
	160		1/160			621	{63.4}			6272	{640}	Frame number	39	41	43	
	200		1/200			* 621	* {63.4}			6272	{640}					
HRTA 150	5	1.5	1/5			2	2	41.2	{ 4.2}	568	{58}	2058	{210}	Drawing	Drawing	Drawing
	10		1/10					83.3	{ 8.5}			2842	{290}			
	15		1/15	124	{12.7}			3234	{330}							
	20		1/20	166	{16.9}			3626	{370}							
	25		1/25	208	{21.2}			4018	{410}							
	30		1/30	249	{25.4}			4508	{460}							
	40		1/40	3	3	317	{32.3}	5292	{540}			Frame number	44	45	46	
	50		1/50			396	{40.4}	6076	{620}							
												42	42	45		

(Note 1) The actual reduction ratio is shown as the reduction ratio. (They are all integer ratios.)

(Note 2) For "T" output shaft arrangements where torque is applied to both shafts, the sum of both torques should be equal to or less than the value shown in the table above.

Furthermore, the O.H.L. on one shaft should be equal to or less than 1/2 of the value shown in the table above.

(Note 3) The values marked with "⊙" in the table above are for 2-step reduction. For the U type with 3-step reduction, the values shown below are applied.

0.75	1/40	2	3	159	{16.2}
	1/50			198	{20.2}

(Note 4) The phases of the key ways of the output and input shafts are not necessarily aligned precisely. For "T" output shaft arrangements, the phases of the key ways of the right and left output shafts are not necessarily aligned precisely.

(Note 5) The models marked with \* are ones for which the torque is limited.

Specification Chart

0.75  
1.5