

DATORKER® Robot Reducer

Harmonic Gearing System



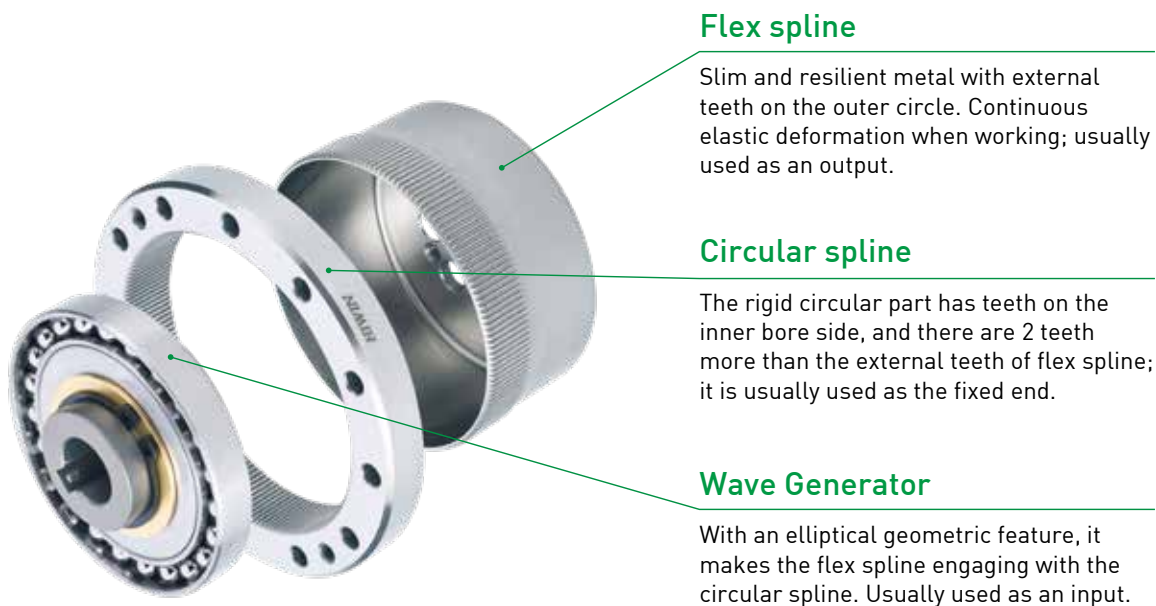
DATORKER® Robot Reducer

DATORKER (DT) – Robot Reducer has the characteristics of high precision, high efficiency, high torsional rigidity and low starting torque. It is widely used in robots, automation equipment, semiconductor equipment, machine tools and other industries.

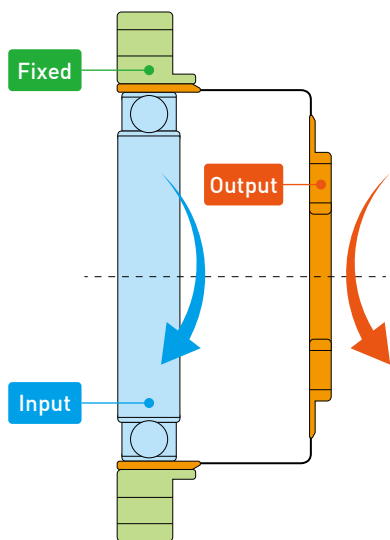
HIWIN has developed various specifications and reduction ratios to provide customers with wide range of choice. HIWIN is able to provide customized services to meet customers' various design and requirement.

Features

- Compact and light weight – Easy for user to assemble and work with.
- High accuracy – Provides stable repeatability and positioning.
- Customization – Can be customized as per requirements.
- High torque – Widely use in automation and inspection equipment.
- Wide reduction ratio – Various choices available under same model.

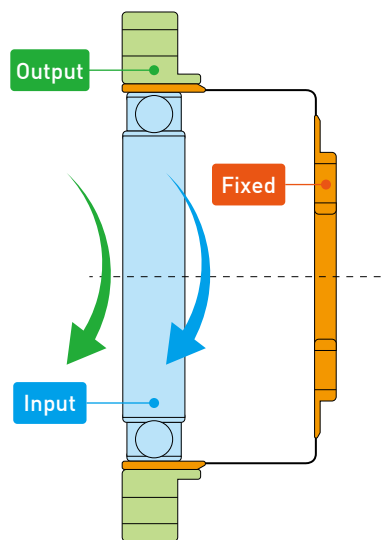


Reduction ratio and rotation direction



Input and Output with reverse direction rotation

$$\text{Reduction ratio} = \frac{-1}{R}$$

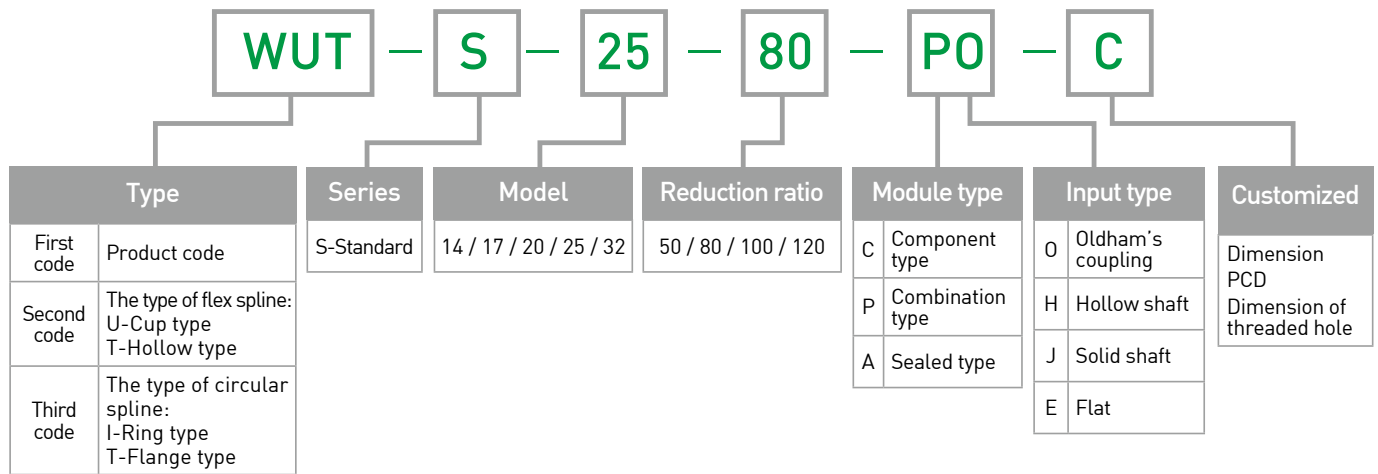


Input and Output with the same direction rotation

$$\text{Reduction ratio} = \frac{1}{R+1}$$

(R = No. of external teeth ÷ difference between no. of external and internal teeth)

HIWIN DATORKER Nomenclature



Specification Table

Model	Items	Reduction Ratio	Rated torque at input 2000r/min		Peak torque at start/stop		Instantaneous permissible max. torque	
			Nm	kgfm	Nm	kgfm	Nm	kgfm
14		50	5.4	0.55	18	1.8	35	3.6
		80	7.8	0.8	23	2.4	47	4.8
		100	7.8	0.8	28	2.9	54	5.5
17		50	16	1.6	34	3.5	70	7.1
		80	22	2.2	43	4.4	87	8.9
		100	24	2.4	54	5.5	108	11
		120	24	2.4	54	5.5	86	8.8
20		50	25	2.5	56	5.7	98	10
		80	34	3.5	74	7.5	127	13
		100	40	4.1	82	8.4	147	15
		120	40	4.1	87	8.9	147	15
25		50	39	4	98	10	186	19
		80	63	6.4	137	14	255	26
		100	67	6.8	157	16	284	29
		120	67	6.8	167	17	304	31
32		50	76	7.8	216	22	382	39
		80	118	12	304	31	568	58
		100	137	14	333	34	647	66
		120	137	14	353	36	686	70

Type / Function



WUT Type

- Combination type (P)
- Input shaft self-aligning.
- Withstand axial and radial load.



WUI Type

- Component type (C)
- Input shaft self-aligning.
- Self-assembly of parts required.



WTI Type

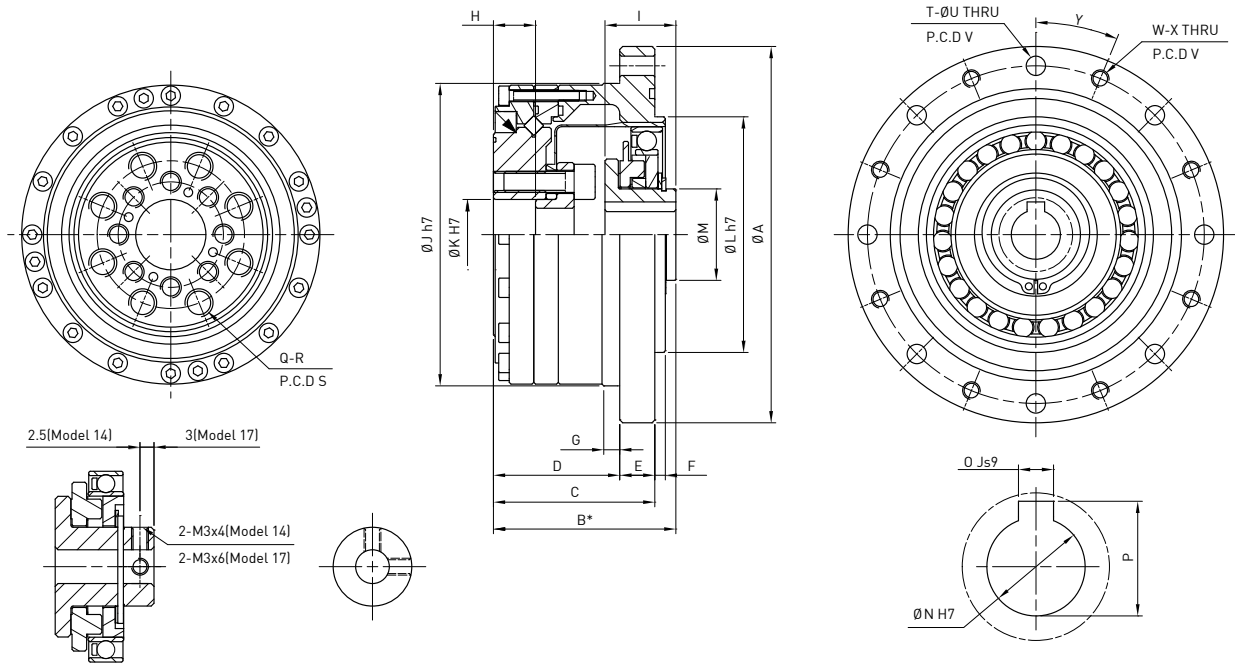
- Combination type (P)
- Input hollow shaft design.
- Withstand axial and radial load.



WTI Type

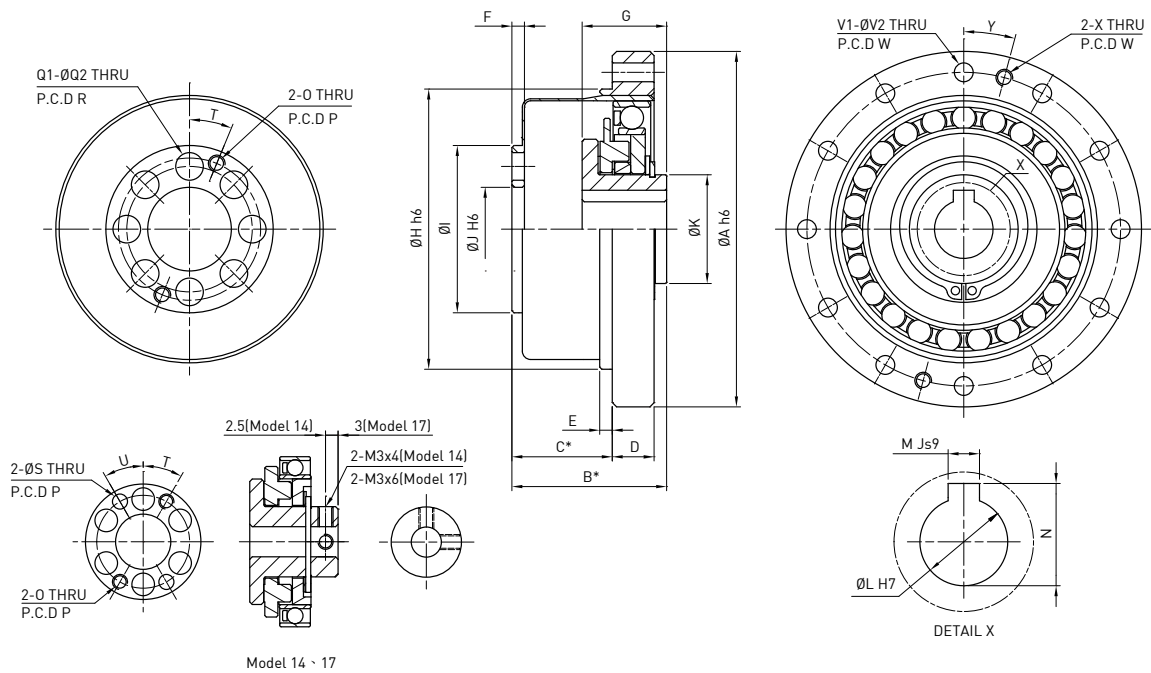
- Sealed type (A)
- Input hollow shaft design.
- Withstand axial and radial load.
- Completely sealed design.
- User friendly design.

WUT-PO



Model Mark	14	17	20	25	32
ØA	73	79	93	107	138
B*	41 ⁰ _{-0.9}	45 ⁰ _{-0.9}	45.5 ⁰ ₋₁	52 ⁰ ₋₁	62 ⁰ _{-1.1}
C	34	37	38	46	57
D	27	29	28	36	45
E	7	8	10	10	12
F	2	2	3	3	3
G	3.5	4	5	5	5
H	9.4	9.5	9	12	15
I	17.6 ⁰ _{-0.1}	19.5 ⁰ _{-0.1}	20.1 ⁰ _{-0.1}	20.2 ⁰ _{-0.1}	22 ⁰ _{-0.1}
ØJ h7	56	63	72	86	113
ØK H7	11	10	14	20	26
ØL h7	38	48	56	67	90
ØM	14	18	21	26	26
ØN H7	6	8	12	14	14
O Js9	-	-	4	5	5
P	-	-	13.8 ^{+0.1} ₀	16.3 ^{+0.1} ₀	16.3 ^{+0.1} ₀
Q	6	6	8	8	8
R	M4xDP8	M5xDP10	M6xDP9	M8xDP12	M10xDP15
S (P.C.D)	23	27	32	42	55
T	6	6	6	8	12
ØU	4.5	4.5	5.5	5.5	6.6
V (P.C.D)	65	71	82	96	125
W	6	6	6	8	12
X	M4	M4	M5	M5	M6
Y (degree)	30°	30°	30°	22.5°	15°

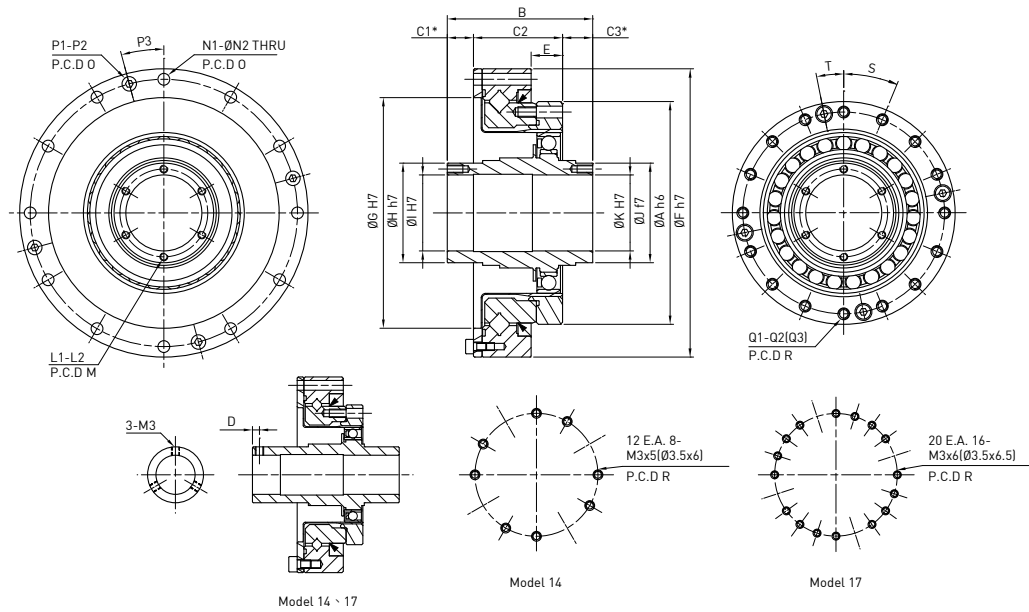
* B is the tolerance and the matching position of axial direction.



Mark \ Model	14	17	20	25	32
ØA h6	50	60	70	85	110
B*	28.5 ⁰ _{-0.8}	32.5 ⁰ _{-0.9}	33.5 ⁰ _{-1.0}	37 ⁰ _{-1.0}	44 ⁰ _{-1.1}
C*	17.5 ^{+0.4} ₀	20 ^{+0.5} ₀	21.5 ^{+0.6} ₀	24 ^{+0.6} ₀	28 ^{+0.6} ₀
D	6	6.5	7.5	10	14
E	2	2.5	3	3	3
F	2.4	3	3	3	3.2
G	17.6 ⁰ _{-0.1}	19.5 ⁰ _{-0.1}	20.1 ⁰ _{-0.1}	20.2 ⁰ _{-0.1}	22 ⁰ _{-0.1}
ØH h6	38	48	54	67	90
ØI	23	27.2	32	40	52
ØJ H6	11	10	16	20	26
ØK	14	18	21	26	26
ØL H7	6	8	9	11	14
M Js9	-	-	3	4	5
N	-	-	10.4 ^{+0.1} ₀	12.8 ^{+0.1} ₀	16.3 ^{+0.1} ₀
O	M3	M3	M3	M4	M5
P (P.C.D)	18.5	21.5	27	34	45
Q1	6	6	8	8	8
ØQ2	4.5	5.5	5.5	6.6	9
R (P.C.D)	17	19	24	30	40
S	3 ^{+0.015} ₀	3 ^{+0.015} ₀	-	-	-
T (degree)	30°	30°	22.5°	22.5°	22.5°
U (degree)	30°	30°	-	-	-
V1	6	12	12	12	12
ØV2	3.5	3.5	3.5	4.5	5.5
W (P.C.D)	44	54	62	75	100
X	M3	M3	M3	M4	M5
Y (degree)	30°	15°	15°	15°	15°

* B and C is the tolerance and the matching position of axial direction.

WTI-PH



Model 14 ~ 17

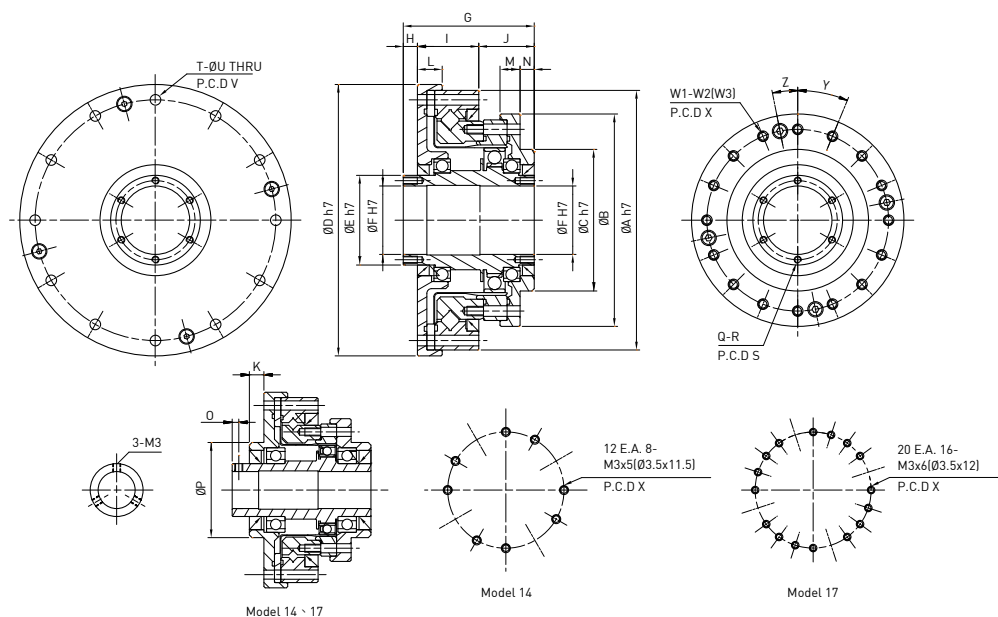
Model 14

Model 17

Mark \ Model	14	17	20	25	32
ØA h6	50	60	70	85	110
B	52.5 ⁰ _{-0.1}	56.5 ⁰ _{-0.1}	51.5 ⁰ _{-0.1}	55.5 ⁰ _{-0.1}	65.5 ⁰ _{-0.1}
C1*	16 ^{+0.8} ₀	16 ^{+0.9} ₀	9.5 ^{+1.0} ₀	10 ^{+1.1} ₀	12 ^{+1.1} ₀
C2	23.5	26.5	29	34	42
C3*	13	14	13	11.5	11.5
D	2.5	2.5	-	-	-
E	7	7.5	8.5	12	15
ØF h7	70	80	90	110	142
ØG H7	48	60	70	88	114
ØH h7	20	25	30	38	45
ØI H7	14	19	21	29	36
ØJ f7	20	25	30	38	45
ØK H7	14	19	21	29	36
L1	3	3	2x6	2x6	2x6
L2	M3	M3	M3xDP6	M3xDP6	M3xDP6
M (P.C.D)	-	-	25.5	33.5	40.5
N1	8	12	12	12	12
ØN2	3.5	3.5	3.5	4.5	5.5
O (P.C.D)	64	74	84	102	132
P1	2	4	4	4	4
P2	M3	M3	M3	M3	M4
P3 (degree)	22.5°	15°	15°	15°	15°
Q1	12 E.A. 8	20 E.A. 16	16	16	16
Q2	M3xDP5	M3xDP6	M3xDP6	M4xDP7	M5xDP8
Q3	Ø3.5xDP6	Ø3.5xDP6.5	Ø3.5xDP7.5	Ø4.5xDP10	Ø5.5xDP14
ØR	44	54	62	77	100
S (degree)	30°	18°	22.5°	22.5°	22.5°
T (degree)	30°	18°	11.25°	11.25°	11.25°

* C1, C3 is the tolerance and the matching position of axial direction.

WTI-AH



Mark \ Model	14	17	20	25	32
ØA h7	70	80	90	110	142
ØB	54	64	75	90	115
ØC h7	36	45	50	60	85
ØD h7	74	84	95	115	147
ØE h7	20	25	30	38	45
ØF H7	14	19	21	29	36
G	52.5	56.5	51.5	55.5	65.5
H	12	12	5	6	7
I	20.5	23	25	26	32
J	20	21.5	21.5	23.5	26.5
K	5.5	5.5	-	-	-
L	9	10	10.5	10.5	12
M	8	8.5	9	8.5	9.5
N	7.5	8.5	7	6	5
O	2.5	2.5	-	-	-
P	36	45	-	-	-
Q	3	3	2x6	2x6	2x6
R	M3	M3	M3xDP6	M3xDP6	M3xDP6
S (P.C.D)	-	-	25.5	33.5	40.5
T	8	12	12	12	12
ØU	3.5	3.5	3.5	4.5	5.5
V (P.C.D)	64	74	84	102	132
W1	12 E.A. 8	20 E.A. 16	16	16	16
W2	M3xDP5	M3xDP6	M3xDP6	M4xDP7	M5xDP8
W3	Ø3.5xDP11.5	Ø3.5xDP12	Ø3.5xDP13.5	Ø4.5xDP15.5	Ø5.5xDP20.5
X (P.C.D)	44	54	62	77	100
Y (degree)	30°	18°	22.5°	22.5°	22.5°
Z (degree)	30°	18°	11.25°	11.25°	11.25°

DATORKER Inquiry Form

Customer Name				Date	
Telephone		Email		Filled by	
Reduction Ratio	<input type="checkbox"/> 1~1/49	<input type="checkbox"/> 1/50~1/99	<input type="checkbox"/> 1/100~1/200	<input type="checkbox"/> 1/201~1/320	
Average Load Torque	<input type="checkbox"/> <50Nm	<input type="checkbox"/> 50~150Nm	<input type="checkbox"/> 150~250Nm	<input type="checkbox"/> >250Nm	
Average Input speed	<input type="checkbox"/> <1000rpm	<input type="checkbox"/> 1000~2000rpm	<input type="checkbox"/> 2000~4500rpm	<input type="checkbox"/> >4500rpm	
Have you used similar products ?	<input type="checkbox"/> No <input type="checkbox"/> Yes, Current brand _____ : Spec _____				
Estimated Annual Quantity					
Application	<input type="checkbox"/> Robots	<input type="checkbox"/> Semiconductor equipment	<input type="checkbox"/> Machine tools		
	<input type="checkbox"/> Automation equipment	<input type="checkbox"/> Inspection equipment	<input type="checkbox"/> Others		
Installation	<input type="checkbox"/> Horizontal	<input type="checkbox"/> Vertical	<input type="checkbox"/> Free(Horizontal + Vertical)		
Other requirements (multiple)	<input type="checkbox"/> Hollow space for wiring	<input type="checkbox"/> Dust proof seals	<input type="checkbox"/> Axial/Radial Load bearing		
	<input type="checkbox"/> Customized dimensions	<input type="checkbox"/> Other (_____)			
Special Enviroments	Ambient temperature : _____				
	Working temperature : _____		Others : _____		

Subsidiaries / Research Center

HIWIN GmbH
OFFENBURG, GERMANY
www.hiwin.de
www.hiwin.eu
info@hiwin.de

HIWIN Schweiz GmbH
JONA, SWITZERLAND
www.hiwin.ch
info@hiwin.ch

HIWIN KOREA
SUWON · MASAN, KOREA
www.hiwin.kr
info@hiwin.kr

HIWIN®

HIWIN TECHNOLOGIES CORP.

No. 7, Jingke Road,
Taichung Precision Machinery Park,
Taichung 40852, Taiwan
Tel: +886-4-23594510
Fax: +886-4-23594420
www.hiwin.tw
business@hiwin.tw

HIWIN JAPAN
KOBE · TOKYO · NAGOYA · NAGANO ·
TOHOKU · SHIZUOKA · HOKURIKU ·
HIROSHIMA · FUKUOKA · KUMAMOTO,
JAPAN
www.hiwin.co.jp
info@hiwin.co.jp

HIWIN s.r.o.
BRNO, CZECH REPUBLIC
www.hiwin.cz
info@hiwin.cz

HIWIN CHINA
SUZHOU, CHINA
www.hiwin.cn
info@hiwin.cn

HIWIN USA
CHICAGO, U.S.A.
www.hiwin.com
info@hiwin.com

HIWIN SINGAPORE
SINGAPORE
www.hiwin.sg
info@hiwin.sg

Mega-Fabs Motion
Systems, Ltd.
HAIFA, ISRAEL
www.mega-fabs.com
info@mega-fabs.com

HIWIN Srl
BRUGHERIO, ITALY
www.hiwin.it
info@hiwin.it

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