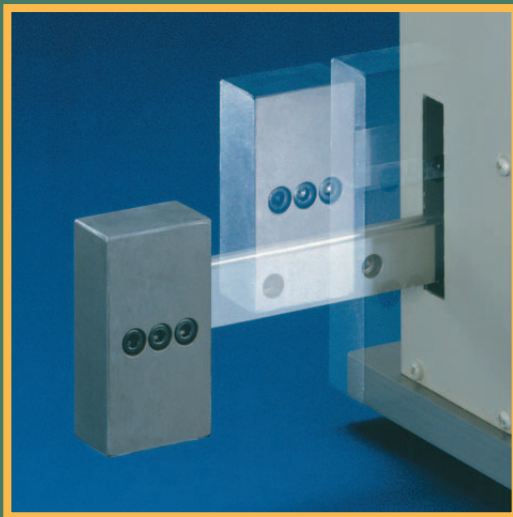
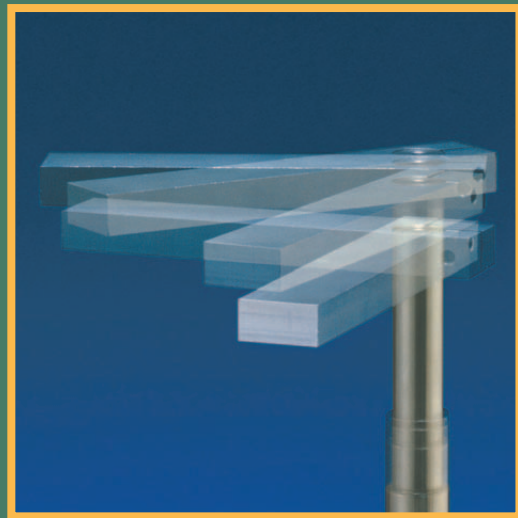


SANDEX

OSCILLATING HANDLER / PARTS HANDLER



Reliable Cam System Solutions

OSCILLATING HANDLER/INDEXING HANDLER

The oscillating parts handler, offers a two-dimensional movement of rotation and lift. SANKYO's oscillating handler features a solid cam mechanism unsurpassed in terms of Precision, Speed, Durability, and Function.

FN Series

The new FN (Miniature) series cam-actuated pick & place unit was developed as a small size oscillating handler unit for rotary/liner motions. It is especially suitable for space saving type production systems. It is also enhanced with a maximum oscillating angle 180° and maximum 200 rpm for both oscillating and indexing handler.

Housing size	3.8FN	4.5FN	6FN	10FN	10FB
Lifting stroke (mm)	max. 16	max. 20	max. 25	max. 30	max. 35
Oscillating angle (deg)	0~180	0~180	0~180	0~90	0~180
Number of stops	2,3,4,6,8	2,3,4,6,8	2,3,4,6,8	2,3,4,6,8,10,12	2,3,4,6,8
Input shaft speed (rpm)	max. 200	max. 200	max. 200	max. 120	max. 120

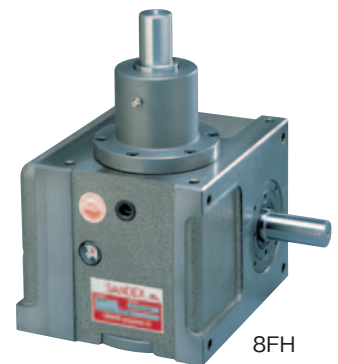


3.8FN

FH Series

The FH series cam-actuated pick & place unit was developed as a high-speed indexing handler unit for rotary/liner motions. It is especially suitable for the production system requiring fast cycle times. It is possible for the FH series to rotate up to 600rpm, which is the highest speed ever for a pick & place unit. High accuracy and reliability are also excellent characteristics of the FH series.

Housing size	6FH	8FH
Lifting stroke (mm)	max. 10	max. 10
Number of stops	8,12,16	8,12,16
Input shaft speed (rpm)	max. 600	max. 600



8FH

PARTS HANDLER

The parts handler is a pick and place unit that offers a two-dimensional linear movement. SANKYO's Parts Handler consists of two sets of roller gear cam mechanisms that can be timed independently to produce separate movements over the same two-dimensional planes. It can also be synchronized with external equipment for advanced handling operations, such as synchronized operation to the moving speed of a conveyor or carrying work to a rotating table.

GY Series

SANKYO's GY Series is a thinner type of linear motion pick & place unit. It has a long stroke and high positioning accuracy. In addition, the housing can hold a motor and timing cam, making this model ideal for automated lines and light duty work.

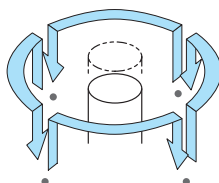
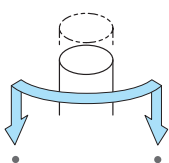
Housing size	4GY	5GY	6GY	8GY	8GYII
Lifting stroke (mm)	max. 30	max. 40	max. 50	max. 65	max. 100
Forward stroke (mm)	max. 70	max. 100	max. 150	max. 200	max. 300
Input shaft speed (rpm)	max. 120	max. 100	max. 80	max. 80	max. 60



5GY with Motor

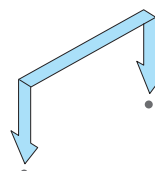
Basic Movement

● OSCILLATING HANDLER/INDEXING HANDLER



Rotary/Linear motion

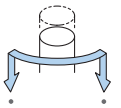
● PARTS HANDLER



Linear/Linear motion



FN series



Dimensions

[Unit : mm]

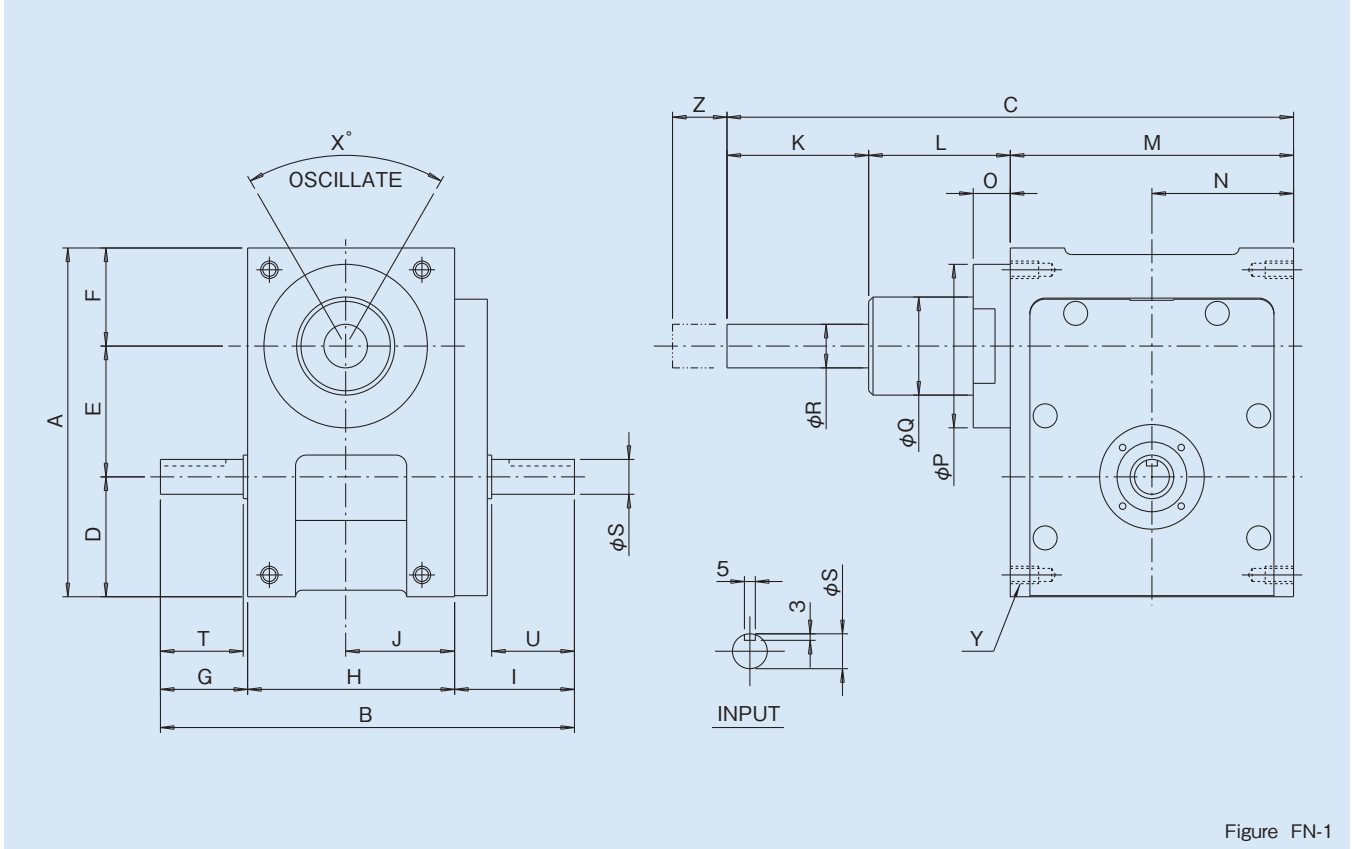


Figure FN-1

Table of FN Series Dimension

Table FN-1

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	X	Y	Z
3.8FN	105	144	190	37	38	30	32	70	42	40	55	45	90	45	12	52	30	12	12	30	30	max 180	M6	max 16
4.5FN	125	170	220	45	45	35	35	90	45	50	60	55	105	55	15	60	38	16	14	33	33	max 180	M6	max 20
6FN	160	190	260	55	60	45	40	95	55	50	65	65	130	65	17	75	45	20	16	38	38	max 180	M8	max 25
10FN	245	200	280 (275)	90	100	55	45	110	45	50	50 (45)	50	180	90	10	72	45	20	17	40	40	max 90	M8	max 25 (30)
10FB	245	200	312	90	100	55	45	110	45	50	50	55	180	90	10	85	50	25	20	40	40	max 180	M8	max 35

[Unit : mm]

Table of FN Series Specifications

Table FN-2

		3.8FN	4.5FN	6FN	10FN	10FB
Output allowable carrying load	N	Please contact Sankyo.				
Output allowable axial load	N	14.7	24.5	39.2	245	245
Output allowable radial load	N	332	332	340	98	150
Output torsional rigidity	N·m /rad	539	3310	5388	5096	9865
Input allowable axial load	N	490	490	490	980	980
Input allowable radial load	N	434	585	771	1078	1078
Input maximum repetitious allowable torque	N·m	104	224	334	68.6	68.6
Input torsional rigidity	N·m /rad	1862	2929	4414	6664	9500
Oscillating accuracy	sec	Please contact Sankyo.				
Repetitive accuracy	sec	60	60	60	60	60
Lifting accuracy	mm	±0.05	±0.05	±0.05	±0.05	±0.05
Product weight	kg	4.5	9	15	27	27

*Specifications and dimensions are subject to change without notice.
Always double check before ordering.

1N·m≒0.102kgf·m

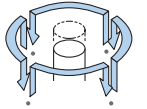


4.5FN

[Precaution]
Case of 10FB, W side flange will protrude beyond mounting surface.



FH series



Dimensions

[Unit : mm]

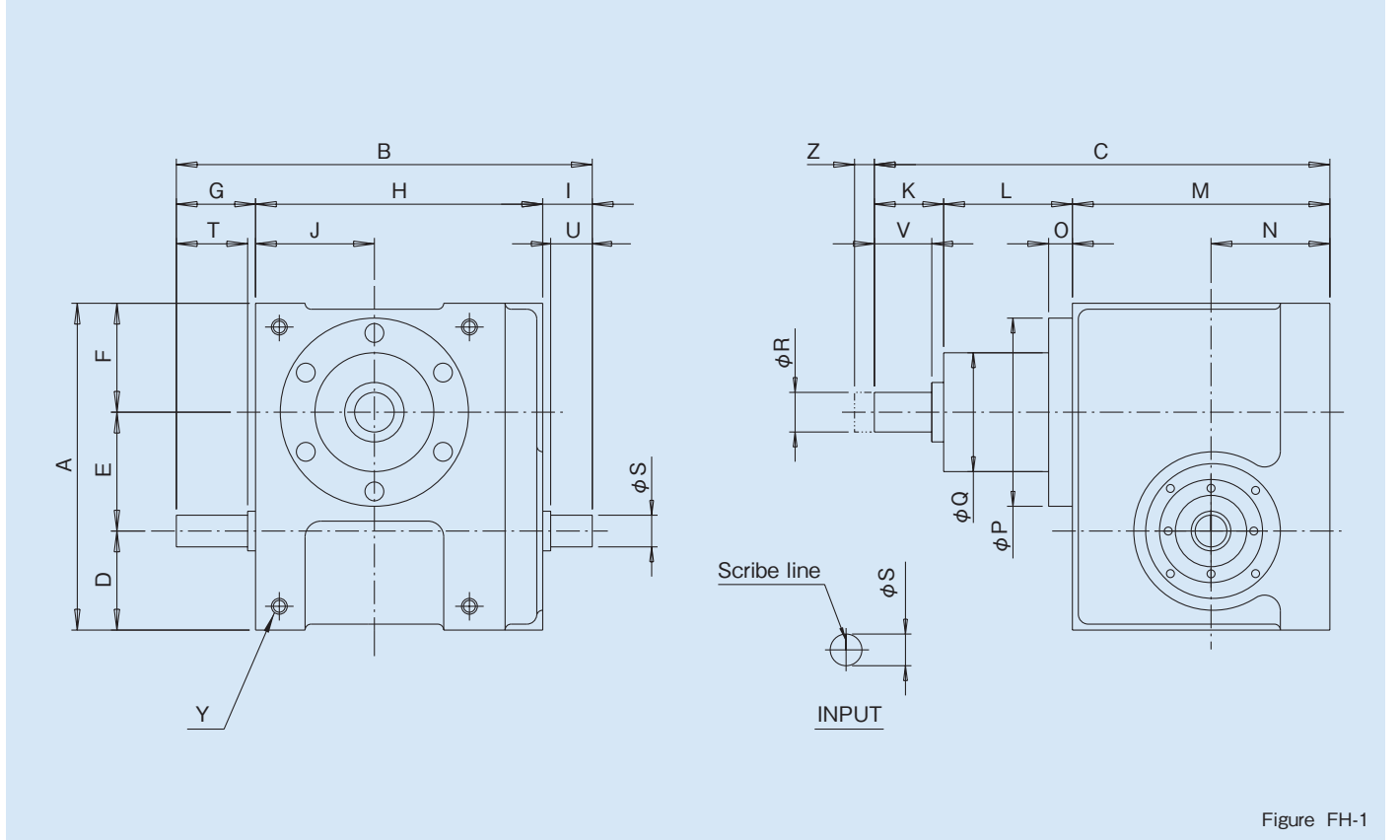


Figure FH-1

Table of FN Series Dimension

Table FH-1

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	Y	Z
6FH	165	210	230	50	60	55	40	145	25	60	35	65	130	60	12	95	60	20	16	38	23	32	M8	max 10
8FH	210	285	290	60	80	70	60	185	40	75	50	80	160	75	15	115	75	30	25	57	37	45	M10	max 10

[Unit : mm]

Table of FN Series Specifications

Table FH-2

		6FH	8FH
Output allowable carrying load	N	Please contact Sankyo.	
Output allowable axial load	N	73.5	147
Output allowable radial load	N	135	195
Output torsional rigidity	$\frac{N \cdot m}{rad}$	3.94×10^4	2.28×10^4
Input allowable axial load	N	980	2050
Input allowable radial load	N	930	1860
Input maximum repetitious allowable torque	$N \cdot m$	59	220
Input torsional rigidity	$\frac{N \cdot m}{rad}$	3700	1.64×10^4
Oscillating accuracy	sec	± 45	± 30
Repetitive accuracy	sec	45	30
Lifting accuracy	mm	± 0.05	± 0.05
Product weight	kg	26	35

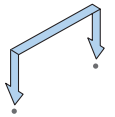


8FH

*Specifications and dimensions are subject to change without notice.
Always double check before ordering.

1N·m≒0.102kgf·m

GY series



Dimensions

[Unit : mm]

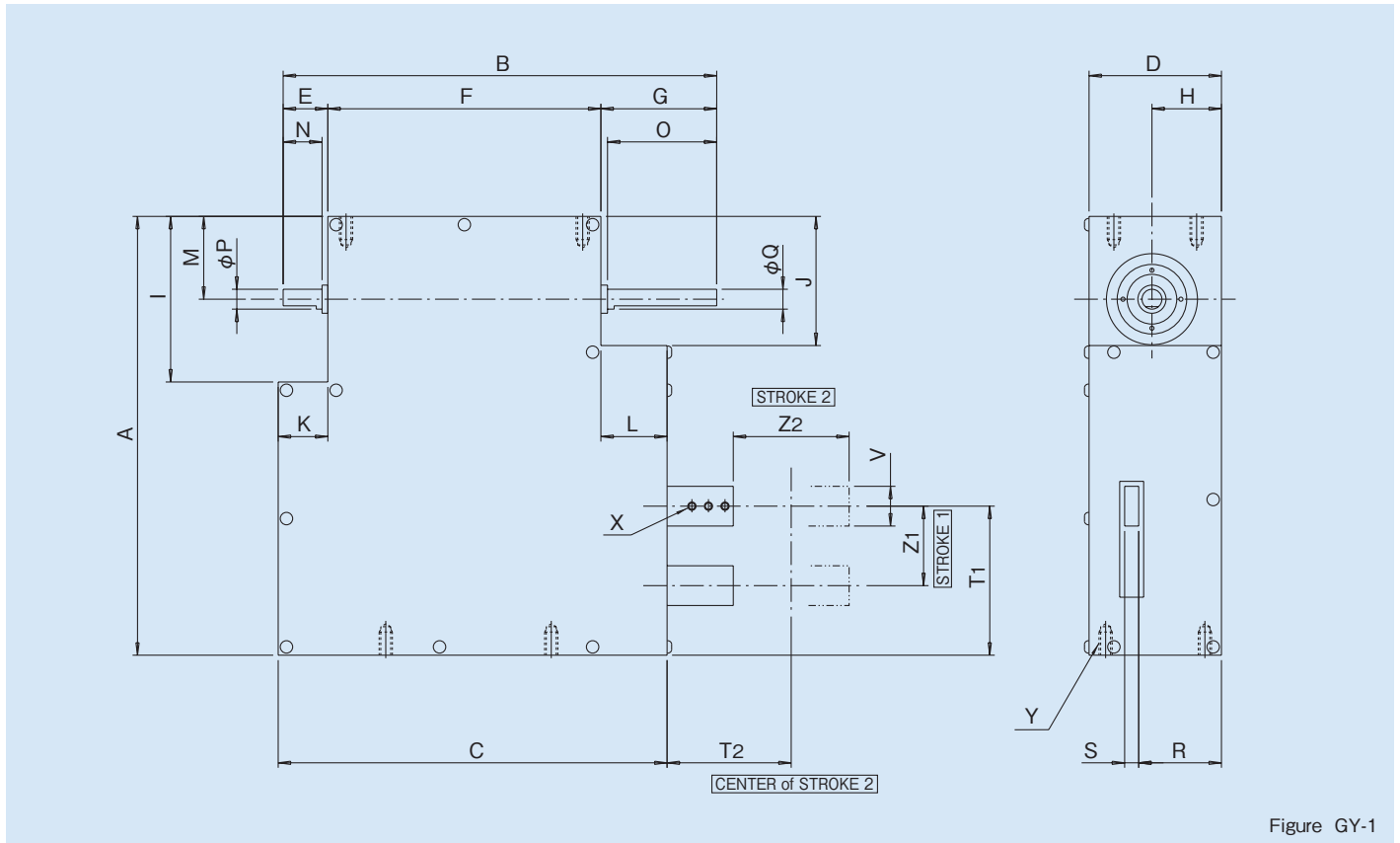


Figure GY-1

Table of GY Series Dimension

Table GY-1

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T1	T2	V	X	Y	Z1	Z2
4GY	200	218	200	70	23	135	60	37	80	66	25	40	40	22	59	12	12	45	7.5	70	60	18	2-M4	M6	max 30	max 70
5GY	265	262	235	80	27	165	70	42	100	78	30	40	50	25	68	12	12	50	8.5	90	90	24	3-M5	M8	max 40	max 100
6GY	320	307	305	90	42	195	70	47	150	90	45	65	55	40	68	17	12	55	9.5	110	125	42	4-M5	M8	max 50	max 150
8GY	425	371	380	120	45	256	70	62	165	120	54	70	75	45	68	25	12	55	9.5	150	145	42	4-M5	M10	max 65	max 200
8GYII	560	410	500	140	60	280	70	65	190	110	110	110	70	58	68	25	20	58	35	200	200	68	—	M12	max 100	max 300

[Unit : mm]

Table of GY Series Specifications

Table GY-2

		4GY	5GY	6GY	8GY	8GYII
Output allowable load, stroke I, II	N	Please contact Sankyo.				
Output static allowable load in the direction of V and W surface	N	93.1	117.6	225.4	433	312
Output bending rigidity in the direction of V and W surface	mm/N	2.04×10^{-2}	1.84×10^{-2}	1.53×10^{-2}	1.0×10^{-2}	1.5×10^{-2}
Input allowable axial load	N	416.5	656.6	911.4	2000	2800
Input maximum repetitious bending force	N	323.4	539	1078	2000	2700
Input maximum repetitious allowable torque	N·m	29.4	29.4	88.2	98	173
Input torsional rigidity	$\frac{N \cdot m}{rad}$	3234	4410	6370	10000	20000
Repetitive accuracy	mm	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02
Product weight	kg	5.2	15	25	64	95



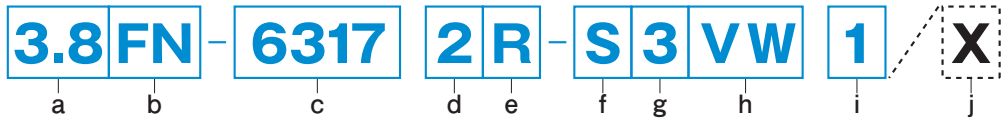
5GY with motor

*Specifications and dimensions are subject to change without notice.
Always double check before ordering.

1N·m \approx 0.102kgf·m

MODEL CODE

Model code example



a Size	b Model	c Timing number	d Cam curve	e Hand of cam
3.8 38mm	FN FN series	6317 6317	2 MS curve	R Right hand cam
Shaft-to-shaft distance	FN FN series FH FH series GY GY series	Timing of input and output will be identified by our number.	1 MT (Modified Trpezoid) 2 MS (Modified Sine) 3 MCV (Modified Constant Velocity 50) 6 SMT-3 7 SMS-3 8 SMCV-3 9 Custom-made motion curve	A right hand cam or left hand cam for oscillating handler/indexing handler/parts handler is determined by the direction in which the output shaft moves first when the input shaft is rotated from the base position (at 0°) as specified on the time chart. R Right hand cam L Left hand cam

f Output	g Input shaft projection	h Mounting holes	i Mounting position	j Special instructions
S Standard	3 Both T and U surface	VW	1	X
S Standard L With Torque Limiter	1 Only T surface side 2 Only U surface side 3 Both T and U surface sides R With reducer M With Geared motor ※ <input type="checkbox"/> include the number of 1, 2, or 3. The code of number 3 is the same whether the option is mounted on input shaft of T surface side, or U surface side.	■ Specify the surface on tapped holes should be drilled. ■ Certain models have limitation on the surfaces that can be drilled with mounting holes. (Please contact Sankyo.)	1 W surface is at GL GL = ground level	Include the symbol X in case of special instruction <input type="checkbox"/> Standard (No symbols) <input checked="" type="checkbox"/> Special Instruction Note) Always attach a separate specification sheet for custom design specifications.

OPTION



Oscillating handler 4.5FN with torque limiter on output shaft and geared motor on input shaft.


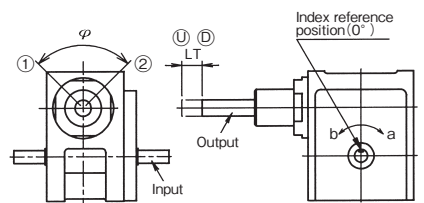

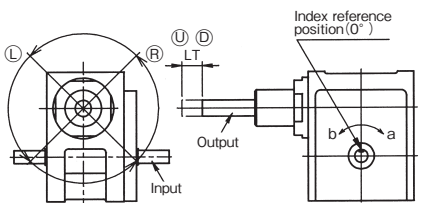

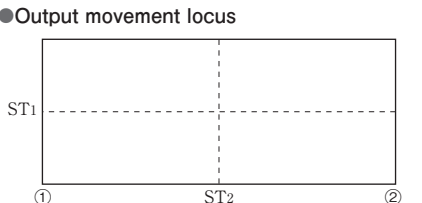
	FN	FH	GY
Geared motor	<input type="radio"/>	—	<input type="radio"/>
Reducer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Torque limiter	<input type="radio"/>	—	—
Timing cam and photo switch	<input type="radio"/>	—	<input type="radio"/>
Clutch/Brake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Attn : _____

SANDEX PICK&PLACE UNIT Model Selection data

Company			
Department			
Name			
Phone		Fax	
E-mail			

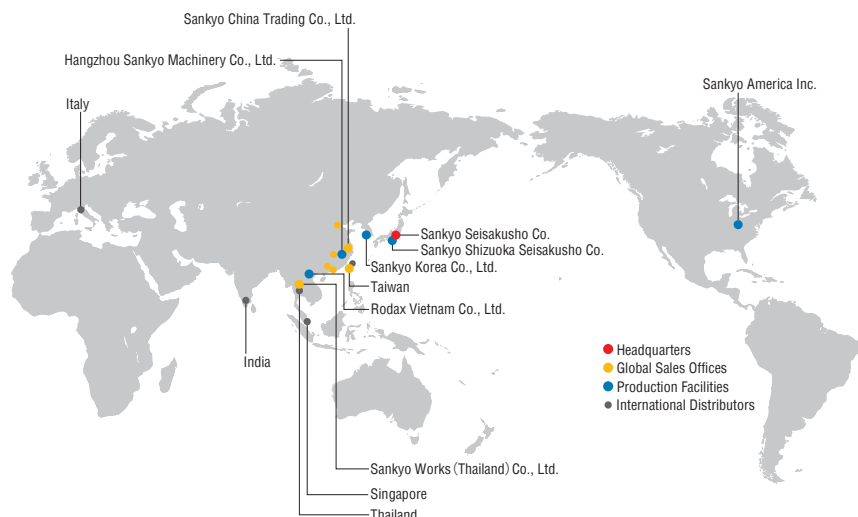
Sankyo will select a model based on your loads and requirements.
Fill this page in and fax it to us.

<input type="checkbox"/> Oscillating handler   <ul style="list-style-type: none"> ● Oscillating angle...φ <input type="text"/> deg ● Lifting stroke...LT <input type="text"/> mm ● One cycle time... <input type="text"/> sec (Input shaft speed... <input type="text"/> rpm) ● Stop time at position ①... <input type="text"/> sec Stop time at position ②... <input type="text"/> sec ● Available amount of overlapping Lift... <input type="text"/> mm Oscillate... <input type="text"/> deg 	<input type="checkbox"/> Indexing handler   <ul style="list-style-type: none"> ● Number of stops...S <input type="text"/> ● Lifting stroke...LT <input type="text"/> mm ● One cycle time... <input type="text"/> sec (Input shaft speed... <input type="text"/> rpm) ● Stop time at each station... <input type="text"/> sec ● Available amount of overlapping Lift... <input type="text"/> mm Oscillate... <input type="text"/> deg 	<input type="checkbox"/> Parts handler   <ul style="list-style-type: none"> ● Output movement locus ST1 <input type="text"/> mm ST2 <input type="text"/> mm ● Up and down stroke ST1 <input type="text"/> mm ● In and out stroke ST2 <input type="text"/> mm ● One cycle time... <input type="text"/> sec (Input shaft speed... <input type="text"/> rpm) ● Stop time at position ①... <input type="text"/> sec Stop time at position ②... <input type="text"/> sec ● Available amount of overlapping ST1... <input type="text"/> mm ST2... <input type="text"/> mm
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

[Required torque]...Output configuration (Arm configuration·jig·work weight etc.)

[Option]	<input type="checkbox"/> Geared Motor	<input type="checkbox"/> Reducer	<input type="checkbox"/> Clutch·Brake
	<input type="checkbox"/> Torque Limiter	<input type="checkbox"/> Timing Cam - Photo Switch	<input type="checkbox"/> etc. ()

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