

NKE

CATALOG

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Totally Optimized Production Systems

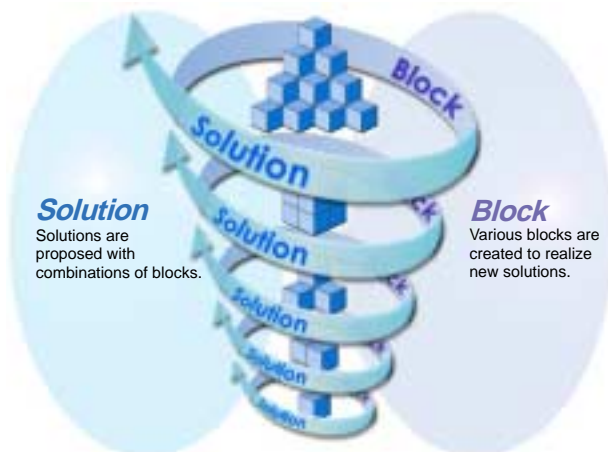
Block Building System (BBS) is one of our solutions for totally optimizing your production systems. BBS realizes thorough improvement and informational advancement for production facilities and makes your production systems more efficient and integrated.

The movements of production equipments are complicated as it may seem, they consist of a combination of simple movements, such as chucking, pushing, transferring and rotating. Combining these simple movements organically, we propose solutions for constructing uncomplicated and optimal production systems with Block Building System (BBS).

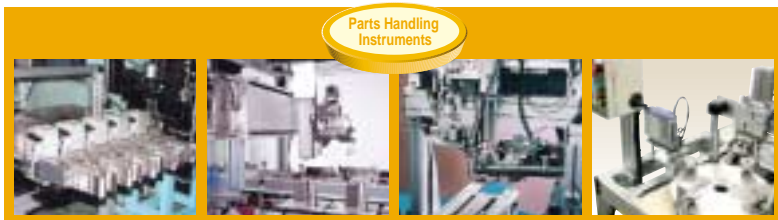
Moreover, we offer more sophisticated solutions by developing new blocks with important functions which are abstracted from realized solutions.

We propose totally optimized production systems with new blocks in order to meet needs which widely vary with the times.

Our solutions create new blocks, and combinations of the blocks create new solutions.



Flexible Assembling Automation Systems



Parts Handling Instruments

We offer various parts handling instruments, such as Air Grippers for chucking parts, Rotary Actuators for rotating the parts, basic devices for removing parts by assembling air cylinders which shift back and forth, heavy objects handling devices and complicated fastening devices.

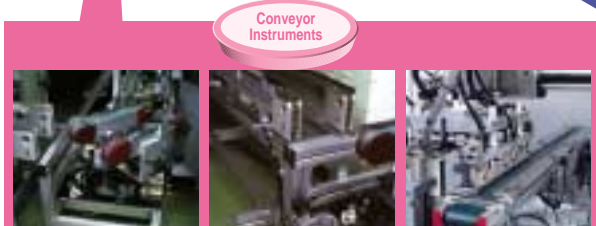
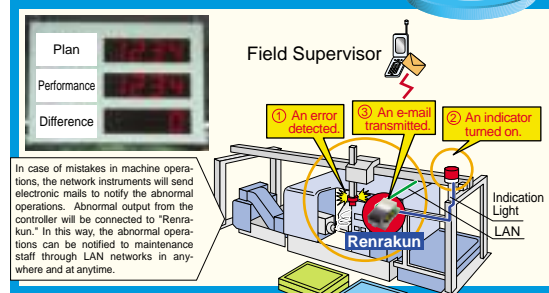


Cell Combination Instruments

Cell combination instruments prevent careless mistakes, improve operation efficiency, and realize smooth operational environment.

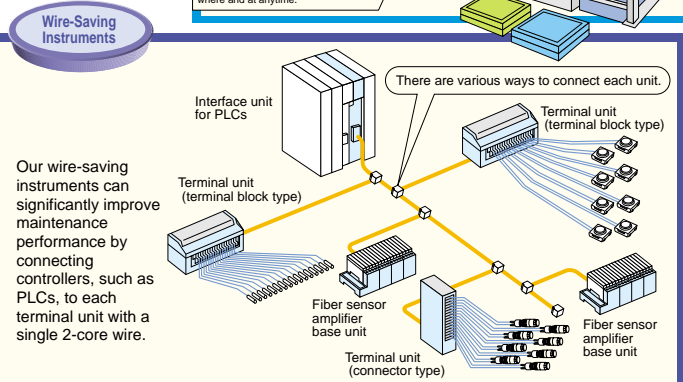


Network Instruments



Conveyor Instruments

NKE provides precision conveyors which can be assembled in equipments. The conveyor frame can be easily equipped with various instruments, such as sensors, stoppers, escapements and guides, to construct highly sophisticated conveyor lines.





Durable & Competent

Air Gripper



Various Air Grippers are available for any kind of parts and environments.

P4

Slide Cylinder



Various Slide Cylinders are available for any range of strokes. They are equipped with the most reliable drive system which maintains the timing of strokes.

P9

Rotary Actuator



Various Rotary Actuators are available integrated with hydraulic cushions or external damper system.

P10



Precise & Compact

Conveyor



We provide customer-oriented selections of conveyors. Customers can specify the length of conveyors in millimeters for various applications: Small precise conveyors can be installed in equipments; and large conveyors can be applied to connect devices.

P11

Stopper & Escapement Unit



P22



Simple & Flexible

The simple and convenient design of our wire-saving instruments, Uni-Wire System, enables various applications. This system can be used for any controllers, has high noise resistance, and performs long distance transmission up to two kilometers. We provide various terminal unit types, such as terminal block, connector, less points and analog, for constructing flexible and reliable I/O networks.

P23



Our network instruments will support thorough improvement and introduction of information technology for production facilities in order to improve efficiency of production systems. Our network instruments will also support production processes by immediately notifying any problems, reporting the progress of work flow, instructing the next step, monitoring problems, controlling, patrolling and managing production. NKE will totally optimize production systems by providing wide range of products from wire-saving instruments to network instruments.



Cell combination is a developmental concept to solve potential problems related to human factors in production, improve man-machine interface, and realize cooperative (automatic) operations of human workers and machines. Our cell combination instruments will provide simple, cost effective, and convenient solutions for thorough improvement of production facilities.

Parts Handling Instruments

Air Grippers

Option

CHP233 - B - 30 - SH2

Model numbers		
CHP231	Cylinder ID	10
CHP232	Cylinder ID	12
CHP233	Cylinder ID	16
CHP234	Cylinder ID	20
CHP235	Cylinder ID	25
CHP236	Cylinder ID	30

Directions of fingers	
A	Horizontal
B	Vertical

Stroke (mm)	
10,20	CHP231
20,40	CHP232
30,60	CHP233
40,80	CHP234
50,100	CHP235
60,120	CHP236

Proximity switches	No mark	No switch
	SH1	NSH-24V 1 switch (open or close)
	SH2	NSH-24V 2 switches (open and close)
	SV1	NSV-24V 1 switch (open or close)
	SV2	NSV-24V 2 switches (open and close)

Wire-Saving Instruments - UNILINE

UNILINE

Structure of model numbers for placing your order (Excluding the UN series)

MAS - H 16 V 12 ... IC Module

STV- H 16T -Z58 — Common terminal units
N3P- H 4 BM — N3 Series

Basic type	[Basic type classification]
Common specification	H = with H Function (No mark) = without H Function / multipurpose
Model classification	[Model classification under the basic type classification]
Specification classification	1) Based on points / distances (see the table shown below) 2) Based on classification customized by users (mark as -Z**)

- (1) Basic type
- (2) H Function (H= with H Function, No mark= without H Function)
- (3) Points (08= 8 points, 16= 16 points)
- (4) Shape (H= horizontal shape, V= vertical shape)
- (5) Case (No mark= with a case, N= without a case)
- (6) Specification Number
(No number= basic, Numbered= non-basic)
However, basic products (vertical shape with a case and designed with basic specification) are not numbered with 4, 5, or 6.

Specifications

Specifications		Symbols for classifying specification based on points / distances							
		Basic spec.	S-spec.	Z12-spec.	C-spec.	M-spec.	Z58-spec.		
Input/Output points		128	128	128	256	256	256		
Transmission distance (m)		200	500	1000	200	500	1000		
Transmission speed (kbps)		29.4	14.7	7.35	29.4	14.7	7.35		
Common terminal units (excluding the units shown below)		-	-S	-12	-C	-M	-Z58		
N3 Series	RESET *	C	M	F	C	M	F		
	HOLD *	-	N	E	D	N	E		
Modules	8-point type	MAS,MAP, MOS,MOP	-	-	-	-	-		
		MIX	-	2	12	-	13	14	
	16-point type	MAS	-	2	12	11	13	14	
		MAP	RESET	-	2	12	38	51	52
			HOLD	-	2	12	11	13	14
MIX,MOS,MOP	-	-	-	-	-	-			

(Note) In case of abnormal transmissions, output signals are different and distinguish RESET (forcibly changes output to be OFF) and HOLD (maintains the previous condition).



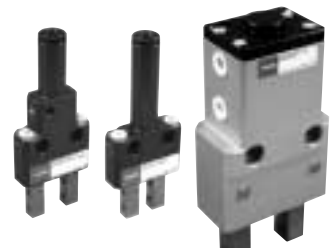



Description for Unicast Type

	200m	500m	1km
32 points	-Z170	-Z174	-Z178
64 points	-Z171	-Z175	-Z179
96 points	-Z172	-Z176	-Z180
128 points	-Z173	-Z177	-Z181

Special types have to be added to the end of Send Unit (SD-H2A) in case of unicast communications without a controller, such as PLCs. Please check the list of references as shown above.

Air Grippers

Parallel type

Type	Appearances	Model No.	Operative manner	Gripping force N { kgf }	Stroke (mm)	Weight (g)	Features
Small type	Compact and completely stainless steel gripper. 	CHP640	Normally open Normally closed	9.2 { 0.9 }	3	28	Ultra-miniature parallel grippers with long stroke. Suitable for handling small parts. Enables surface mounting with the five planes.
		CHP641	Normally open Normally closed	9.8 { 1.0 }	5	53	
		CHP642	Normally open Normally closed	19 { 1.9 }	7	98	
		CHP661	Double acting	9.8 { 0.9 }	4	26	Small and light grippers with long stroke. Rigid and longer lasting. Proximity switches are attachable.
		CHP652		41 { 4.2 }	6	80	
		CHP653		85 { 8.7 }	8	130	
		CHP654	Double acting	137 { 14 }	10	245	
		CHP656		179 { 18.2 }	20	480	
		CHP657		337 { 34.3 }	30	1025	
	Thin type	Thin parallel grippers for easy installation 	CH71	Double acting	14 { 1.4 }	4	50
Normally open				50			
Normally closed				50			
CH72			Double acting	21 { 2.1 }	5	95	
			Normally open Normally closed			90	
CH73			Double acting	44 { 4.5 }	8	245	
			Normally open Normally closed			240	
CH74C				173 { 18 }	10	380	
CH75C	Double acting	298 { 30 }	12	725			
Square type	Small gripper with long stroke. 	CH91		5.8 { 0.6 }	10	45	Small and light grippers with long stroke. Low height and long attachments are attachable.
		CH92	Double acting	27 { 2.7 }	15	120	
		CH93		48 { 4.9 }	20	280	
	Small gripper with long stroke. 	CHP391		10 { 1.0 }	26	90	Small and low height grippers with long stroke. The rigidity enables maintenance of precision for a long period of time.
		CHP392	Double acting	33 { 3.4 }	40	210	
		CHP393		75 { 7.7 }	60	535	
		CH10L		26.4 { 2.7 }	6	140	Compact gripper with long stroke. Two types (A and B) are available with different directions of gripper fingers.
		CH10		32.4 { 3.3 }	20	300	
		CH10X	Double acting	56 { 5.7 }	30	550	
		CH10Y		105 { 10.7 }	40	1100	
CH10Z			240 { 24.5 }	60	2950		

(Note) The values of gripping force in the above table indicates pressure at the top edge of the fingers when gripping with pressure of 0.5MPa {5.1kgf/cm²}.

Air Grippers

Parallel type

Type	Appearances	Model No.	Operative manner	Gripping force N {kgf }	Stroke (mm)	Weight (g)	Features	
Square type	<p>Compact gripper with strong power and long stroke for dusty environment!</p> 	CHP231	Double acting	27 { 2.8 }	10	185	<p>Compact parallel grippers with a strong gripping force and long stroke. Designed with rods with dust seals on the sliding area to prevent dust. Designed with grooves to enable contact-less tiny proximity switches to be directly installed. Available in six types with two modes of stroke for various works.</p>	
		CHP232			20	200		
		CHP233		103 { 10.5 }	20	310		
					40	360		
		CHP234		138 { 14 }	30	500		
					60	600		
	CHP235	242 { 25 }	40	1165				
	CHP236	390 { 40 }	80	1435				
			50	2015				
	<p>Highly stiff and precise gripper with a linear guide!</p> 	CHP302	Double acting	99 { 10 }	30	660		<p>Available with two modes of stroke to handle large strokes. Equipped with a linear guide to maintain the precision for a long period of time. Simply designed in low height to reduce overhang when composing modules.</p>
		CHP303			60	820		
		CHP304		161 { 16 }	40	1020		
					80	1330		
		CHP306		291 { 30 }	50	1750		
					100	2450		
	60	4140						
	<p>Applicable for both dusty and clean environments!</p> 	CHP383-AL	Double acting	125 { 12.8 }	13	190		<p>High environmental resistance. Available with two kinds of materials depending on the use. Applicable in various places which have been previously considered to be difficult for application, such as places around machines for welding, polishing and processing, clean rooms, deionized water and food processing instruments.</p>
		CHP383-PET			26	260		
CHP386-AL		125 { 12.8 }		13	130			
Wide type	<p>Useful for handling wide work pieces.</p> 	CH13S	Double acting	53 { 5.4 }	30	900	<p>Suitable for chucking wide parts.</p>	
		CH14S			40	2100		
Horizontal type		CH11	Double acting	14 { 1.4 }	20	350	<p>Enables fingers to move in parallel on one side of the body and is suitable for applications at the top edge of robot arms or usage of multiple grippers in parallel.</p>	
		CH12L			20	425		
		CH12			70 { 7.1 }	30		750
		CH12X			109 { 11 }	36		1530
Vertical type	<p>No jiggle with long attachments.</p> 	CH51	Double acting	97 { 9.9 }	19	850	<p>Designed for a linking system with high rigidity. Enables long attachments to be fixed.</p>	
Large type	<p>Large gripper with selections of long stroke or high gripping force.</p> 	CHP684	Double acting	268 { 27.3 }	30	1000	<p>Large parallel grippers which enable prioritization of either stroke or gripping force. Designed to prevent metal chips from entering into the sliding area. Enables handling of parts in dangerous areas around machines used for loading, unloading, welding and deburring processes.</p>	
		CHP685			40	1850		
		CHP686			917 { 93.5 }	60		3950
		CHP687			1121 { 114.3 }	70		6800
		CHP688			1488 { 151.7 }	80		9500
		CHP684S			535 { 54.6 }	15		1000
		CHP685S			863 { 88 }	20		1850
		CHP686S			1833 { 187 }	30		3700
		CHP687S			2242 { 228.6 }	35		6800
		CHP688S			2975 { 303.5 }	40		9000

(Note) The values of gripping force in the above table indicates pressure at the top edge of the fingers when gripping with pressure of 0.5MPa (5.1kgf/cm²).

Air Grippers

Parallel type

Type	Appearances	Model No.	Operative manner	Gripping force N { kgf }	Stroke (mm)	Weight (g)	Features				
		CHT502	Double acting	44 { 4.5 }	4	40	3-finger parallel grippers with low height and long stroke. Equipped with two air ports on the side and top of the body. Equipped with a scavenge port which works as an air intake to blow off dust from fingers, and also works as an air suction to inhale dust from grippers. Applicable in clean rooms. Detect at up to four areas, such as opening, closing, and chucking of fingers.				
		CHT503		71 { 7.2 }	5	62					
		CHT504		99 { 9.7 }	6	100					
		CHT505		126 { 13 }	8	142					
		CHT506		182 { 19 }	10	242					
		CHT507		382 { 39 }	12	365					
		CHT509		885 { 90 }	20	1030					
		CHT510		1575 { 161 }	25	1920					
		3-finger type			CH81	Double acting		82 { 8.3 }	6	210	Small and light 3-finger grippers with strong gripping force. Equipped with a long finger guide for smooth movement even with long attachments.
					CH82			181 { 18 }	8	410	
CH83	348 { 35 }		10		720						
	Large gripper with selection of long stroke or high gripping force. 	CHT525	Double acting	525 { 53.6 }	30	2100	Large 3-finger parallel grippers which enable prioritization of either stroke or gripping force. Designed to prevent metal chips from entering into the sliding area. Enables handling of parts in dangerous areas around machines used for loading, unloading, welding and deburring processes.				
		CHT527		1056 { 107.7 }	40	3150					
		CHT528		1365 { 139.2 }	60	6500					
		CHT529		2214 { 225.8 }	70	12000					
		CHT525S		1050 { 107.1 }	15	1850					
		CHT527S		2112 { 215.4 }	20	2950					
		CHT528S		2730 { 278.5 }	30	6000					
		CHT529S		4428 { 451.6 }	35	11500					
	Gripper with 3-parallel fingers for fixing attachments longer than 100 mm. 	CH121	Double acting	450 { 46 }	20	2500	Low height and large 3-finger grippers with strong gripping force and long stroke. Designed with a hollowed center to enable air blowers, work detectors or pushers to be attached.				
		CH122		762 { 78 }	30	4600					
		CH123		1528 { 156 }	40	7900					
4-finger type	The best gripper for handling cylinders. 	CHW231	Double acting	52 { 5.3 }	10	370	4-finger grippers with strong gripping force and long stroke. Equipped with rods with dust seals at the sliding areas to prevent dust. Enable easy positioning or transferring of round or square parts.				
		CHW232		90 { 9.2 }	20	620					
		CHW233		194 { 20 }	30	1100					
		CHW234		263 { 27 }	40	2500					
		CHW235		414 { 42 }	50	5160					
		CHW236		696 { 71 }	60	7800					

(Note) The values of gripping force in the above table indicates pressure at the top edge of the fingers when gripping with pressure of 0.5MPa { 5.1kgf/cm² }.

Air Grippers

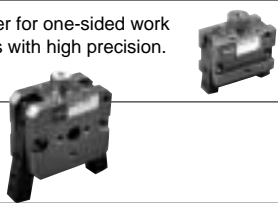
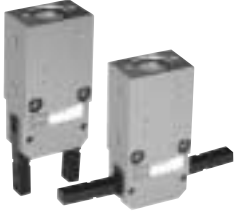



Lever type

Type	Appearances	Model No.	Operative manner	Gripping force N { kgf }	Stroke (mm)	Weight (g)	Features
Small type		CHL601	Double acting	17.5 { 1.7 }	20 ~ - 10	54	Slender and light grippers with strong force. Small and light gripper composed with few parts.
		CH20	Normally open	3.8 { 0.4 }	20 ~ - 10	50	Small and light gripper composed with few parts. Slender and light grippers with strong force. The simple design enables long term use.
		CH25		10.5 { 1.1 }	14 ~ - 7	34	
		CH21		19 { 1.9 }	20 ~ - 10	100	
Thin type		CH02	Normally open Normally closed	25 { 2.6 }	15 ~ - 2	140	Long-seller grippers. More than 30 years since the first release.
Round type		CH01	Double acting	38 { 3.9 }	19 ~ - 2	200	Long-seller standard grippers. More than 30 years since the first release. 3 movements are available with the same dimension.
			Normally open	25 { 2.6 }			
			Normally closed	35 { 3.6 }			
		CH03M	Double acting	109 { 11 }	20 ~ - 5	430	Standard grippers which enable easy mounting. 3 movements are available with the same dimension.
			Normally open	74 { 7.5 }			
			Normally closed	117 { 12 }			
	CH03	Double acting	209 { 21 }	25 ~ - 5	750	Standard round grippers which enable easy mounting. 3 movements are available with the same dimension.	
		Normally open	218 { 22 }				
		Normally closed	254 { 26 }				
Toggle-link type	<p>Toggle-link gripper with high gripping force.</p>	CH06	Normally open	858 { 88 }	2.5 ~ - 2.5	1100	Equipped with toggle-link mechanism for strong gripping force.
			Normally closed	449 { 46 }			
		CH07	Double acting	199 { 20 }	13 ~ - 5	2300	Designed to increase the fingers ' opening angle.
CH08	Double acting	523 { 53 }	18 ~ - 4	4150	Designed to increase the fingers ' opening angle for strong gripping force.		

(Note) The values of gripping force in the above table indicates pressure at the top edge of the fingers when gripping with pressure of 0.5MPa {5.1kgf/cm²}.

Air Grippers

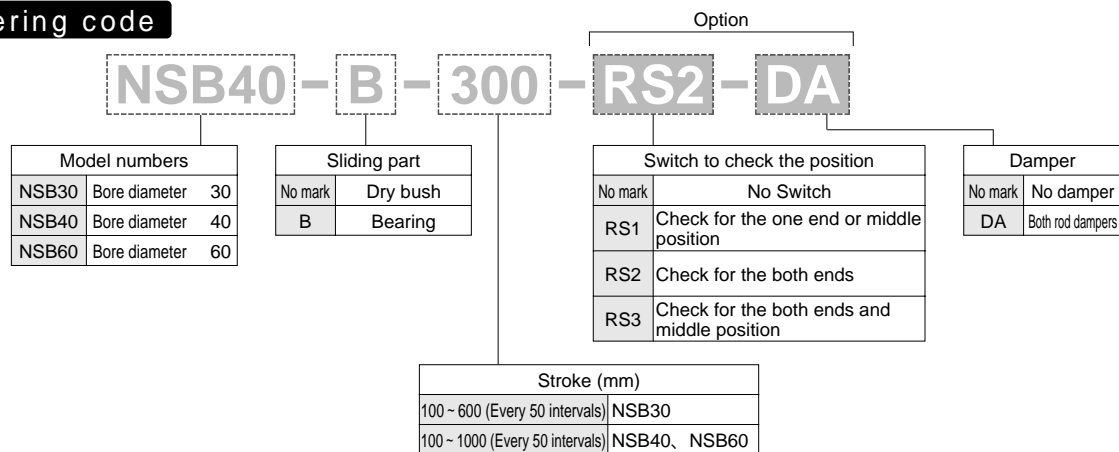
Special type

Type	Appearances	Model No.	Operative manner	Gripping force N { kgf }	Angle degree	Weight (g)	Features
Independent movement finger type	<p>Gripper for one-sided work pieces with high precision.</p> 	CH60	Normally open	12 { 1.3 }	12 ~ - 6	130	Both fingers are independently movable. Applicable to chuck parts which are based on one side.
		CH61		15 { 1.6 }	20 ~ - 7	350	
180-degree opening finger type	<p>Gripper for reducing one actuator.</p> 	CHR633	Double acting	17 { 1.7 }	184 ~ - 4	140	Enables 180-degree opening of the fingers. Equipped with linking mechanism for strong gripping force. The work can be transferred without retracting the gripper. Available with dust covers for CHR634 and 636.
		CHR634		42 { 4.3 }		310	
		CHR636		96 { 9.8 }		620	
		CHR637		147 { 15 }		1100	
			CH30	Double acting	75 { 7.7 }	180 ~ - 4	1000
Type	Appearances	Model No.	Movement method	Gripping force N { kgf }	Stroke (mm)	Weight (g)	Features
Collet type	<p>Highly precise gripper with collets.</p> 	CHC504	Double acting	67 { 6.8 }	1.2	320	Suitable for handling long parts like shafts. Enable complete chucking with strong gripping force and non-rotary mechanism. The collets have a large stroke and enable easy usage. Designed with a hollowed center for long parts to pass through.
		CHC506		112 { 11.5 }	2	590	
		CHC507		170 { 17.3 }	3	980	
		CHC509		349 { 35.6 }	4	2320	
		CHC510		424 { 43.2 }	6	6920	
Ball finger type	<p>Strong gripper for preventing scratches.</p> 	CHB524	Double acting (Normally closed)	91 { 9.3.7 }	5	400	Suitable for handling bottles. Equipped with plastic balls to hold bottles and prevent scratches. Steady grip of bottles by ensuring the fixation with center push function. Light and thin gripper which is the best when installed in multi-handling devices for bottles.
			Single acting (Normally open)	74 { 7.6.2 }	5	400	
		CHB526	Double acting (Normally closed)	198 { 20.2.1 }	6.5	600	
			Single acting (Normally open)	196 { 20.0.0 }	6.5	600	

(Note) The values of gripping force in the above table indicates pressure at the top edge of the fingers when gripping with pressure of 0.5MPa {5.1kgf/cm²}.

Slide Cylinders

Ordering code



Middle stroke (100mm ~ 1000mm)

Type	Appearances	Model No.	Bore diameter mm	Pressure strength N { kgf }	Stroke mm	Max. load weight (N)	Features
Standard type		NSB30	30	88 { 8.9 }	100 ~ 600	45 (400 Stroke)	The sliding speed of this cylinder is twice as fast as the cylinder speed. This enables high speed operation at a maximum of 1,000 mm / sec. The cylinder stroke is half of the slide stroke, which doubles the cylinder life.
		NSB40	40	179 { 18 }	100 ~ 1000	150 (800 Stroke)	
		NSB60	60	542 { 55 }	100 ~ 1000	300	
Slide-less type		NSB30-N	30	88 { 8.9 }	100 ~ 600		This cylinder is based on the NSB type but does not have the sliding part. This cylinder can be used in a combination with various types of sliding shafts and bearings.
		NSB40-N	40	179 { 18 }	100 ~ 1000		
		NSB60-N	60	542 { 55 }	100 ~ 1000		
Flat type		SY30	30	61 { 6.2 }	200 ~ 600	45 (400 Stroke)	The sliding speed is the same as that of the NSB type. The distance between the sliding shafts is increased, while the height of the sliding blocks is decreased. This cylinder is durable against the overhanging loads. Protection of the entire cylinder with a cover enables long term usage.
		SY40	40	122 { 12.5 }	200 ~ 1000	150 (800 Stroke)	
		SY60	60	400 { 41 }	200 ~ 1000	300	
Covered type		NSX40	40	179 { 18 }	100 ~ 1000	150 (800 Stroke)	The sliding and driving parts of the NSB type are protected with a cover. The length and taps ' positions are the same as those of the NSB type.
		NSX60	60	542 { 55 }	100 ~ 1000	300	

(Note) Pressure strength refers to the theoretical driving force at a working pressure of 0.5 MPa {5.1 kgf/cm²}.

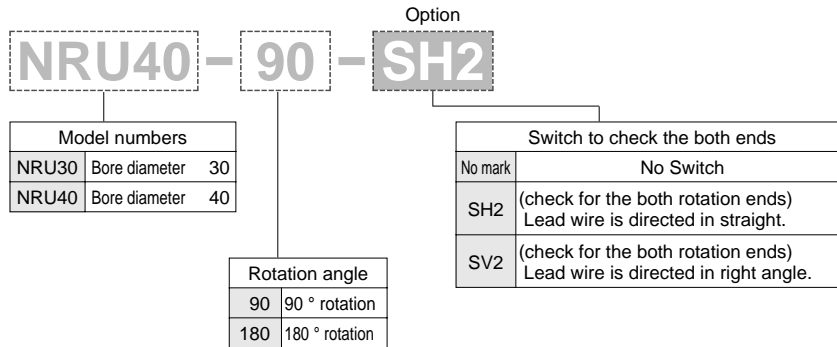
Long stroke (200mm ~ 3000mm)

Model	Shape	Type	Bore diameter mm	Pressure strength N { kgf }	Stroke mm	Max. load weight (N)	Features
Standard type		SU30	30	159 { 16 }	200 ~ 1000 (Ltype:1500)	80 (1000 Stroke)	This cylinder is driven by the rotary actuator which enables multiple cylinder operation in a synchronous manner or increasing the pressure strength. We can provide the cylinder of any stroke within the range of max. stroke.
		SU40	40	301 { 31 }	200 ~ 1500 (Ltype:2000)	150 (1400 Stroke)	
		SU63	63	742 { 76 }	200 ~ 2000	300 (1200 Stroke)	
Slide-less type		SU30-N	30	159 { 16 }	200 ~ 1500		This cylinder is based on the SU type but does not have the sliding part. Applicable in a combination with various types of sliding shafts and bearings.
		SU40-N	40	301 { 31 }	200 ~ 2000		
		SU63-N	63	742 { 76 }	200 ~ 3000		

(Note) The values of gripping force in the above table indicates pressure at the top edge of the fingers when gripping with pressure of 0.5MPa {5.1kgf/cm²}.

Rotary Actuators

Ordering code



(Note) The rotary actuators are equipped with an oil tank.

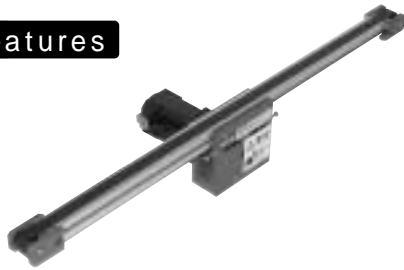
Type	Appearances	Model No.	Rotation angle (degree)	Actual torque N·m{ kgf·cm }	Allowable energy J{ kgf·cm }	Rotation time sec	Features		
Rack & pinion type		RM15	94	0.4 { 4.1 }	0.03 { 0.3 }	0.3 ~ 4.0	Compact actuators with an adjustable air cushion which smoothly stops the rotation at the rotating ends depending on the load.		
			184			0.4 ~ 4.0			
		RM20	96	1.0 { 10.2 }	0.07 { 0.7 }	0.3 ~ 4.0			
			186			0.4 ~ 4.0			
		RM40	95	5.7 { 58 } (Note)	0.26 { 2.7 }	0.5 ~ 1.5 /180 °		The output shafts are extended to the both sides which enables a wide range of application of this type of rotary actuators. In addition, an outer stopper can be fixed on each side for adjusting the rotating angles.	
			191						
			286						
		RT20W	94	2.5 { 26 }	0.15 { 1.5 }	0.2 ~ 5.0			Rigid actuators equipped with double pistons and thick shafts.
			186			0.3 ~ 7.0			
Hydraulic cushion built-in type		NRU30	90	5.4 { 55 }	0.8 { 8.2 }	0.5 ~ 2.5	Equipped with a hydraulic cushion to enable absorption of large kinetic energy. Equipped with a outer stopper for positioning the rotating ends precisely.		
			180			0.7 ~ 3.0			
		NRU40	90	13 { 132 }	1.0 { 10.2 }	0.5 ~ 2.5			
			180			0.7 ~ 3.0			
		RU60	90	34 { 347 }	1.6 { 16.3 }	0.7 ~ 3.5			
			180			1.0 ~ 4.0			
		RU80	90	80 { 820 }	2.0 { 20.4 }	1.5 ~ 4.0			
			180			2.0 ~ 5.0			

(Note) These values are theoretical figures.

Conveyors Micro Conveyor CS20

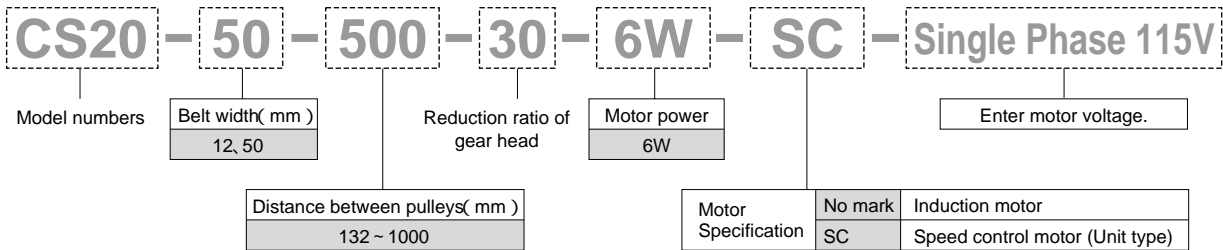


Features



Ultra-small and flat belt conveyor, suitable for transportation of small work pieces.

Ordering code



Reduction ratio of gear head

Reduction ratio	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Belt speed (m/sec) 50Hz	0.156	0.13	0.108	0.078	0.065	0.053	0.038	0.031	0.025	0.021	0.018	0.016	0.013	0.0108
60Hz	0.183	0.156	0.13	0.093	0.078	0.065	0.046	0.038	0.03	0.025	0.023	0.018	0.015	0.013

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

Specifications

Weight

Belt width (mm)	Distance between pulleys (mm)		
	132 ~ 500	501 ~ 750	751 ~ 1000
12	2.0	2.2	2.5
50	2.9	3.4	3.9

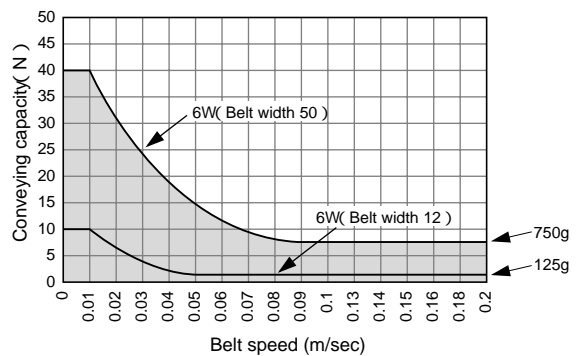
The above table indicates the maximum value for each distance between pulleys.

Belt specifications

Oil	
Temperature	- 30 ~ 80
Static electricity	
Friction efficiency	0.5 ~ 0.9
Sanitary	
Material	Polyurethane impregnation
Color	Green
Thickness	0.7mm
Manufacturer's model number	Mitsuboshi belt co.,itd NS41UN0/2G

In addition to flat belts, we can provide specifications for timing and round belts. Please contact us for details.

Belt speed and conveying capacity



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values. (Note) 1N = 0.102 kgf

Conveyors Belt Conveyor CSJ30-A



Features



Light and thin conveyor with aluminum frame.
Low cost conveyor for transportation of small parts.

Ordering code

CSJ30-A - 50 - 1000 - 60 - 6W - SC - Single Phase 115V

Model numbers: CSJ30-A

Belt width (mm): 50
30, 50, 75, 100, 150, 200

Reduction ratio of gear head: 1000
Distance between pulleys (mm): 180 ~ 3000

Motor power: 60
6W, 25W

Motor Specification: SC
No mark: SC

Enter motor voltage: Single Phase 115V
Induction motor
Speed control motor (Unit type)

Reduction ratio of gear head

Reduction ratio	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Belt speed (m/sec)	0.377	0.314	0.262	0.188	0.157	0.131	0.094	0.079	0.063	0.052	0.047	0.039	0.031	0.026
50Hz	0.377	0.314	0.262	0.188	0.157	0.131	0.094	0.079	0.063	0.052	0.047	0.039	0.031	0.026
60Hz	0.452	0.377	0.314	0.226	0.188	0.157	0.113	0.094	0.075	0.063	0.057	0.047	0.038	0.031

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

Specifications

Weight

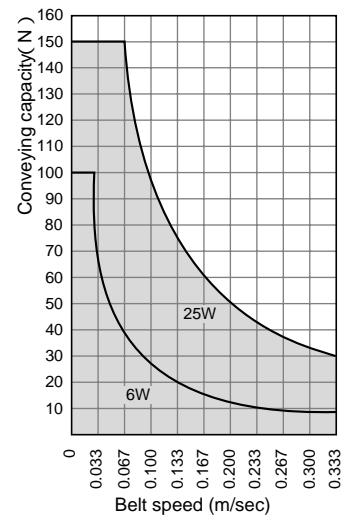
Belt width (mm)	Distance between pulleys (mm)					
	180 ~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	2001 ~ 3000
30	4.3	4.7	5.2	6.2	7.1	9.2
50	4.6	5.1	5.6	6.7	7.7	9.9
75	5.1	5.6	6.2	7.4	8.6	10.9
100	5.5	6.1	6.7	8.1	9.2	11.9
150	6.5	7.3	7.8	9.6	11.0	14.1
200	7.5	8.3	9.1	10.9	12.6	16.0

The above table indicates the maximum value for distance between each pulley of the 6W output motors. For the 25W output motors, add 1.3 kg to the indicated value.

Belt specifications

Oil	
Temperature	- 30 ~ 80
Static electricity	
Friction efficiency	0.2 ~ 0.3
Sanitary	
Material	Holding Polyurethane
Color	Green
Thickness	0.5mm
Manufacturer's model number	Mitsuboshi belt co.,itd NS41UM0/OG

Belt speed and conveying capacity



The graph shown above indicates total the conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values.
(Note) 1N 0.102 kgf

Conveyors Belt Conveyor CSJ30 Series



Features



CSJ30-V

Light and thin conveyors with aluminum frames, which are easily maintained. Available with roller-knife edge which ensures conveying of parts. The middle driving motor enables alternative positioning of the motor and its orientation can be selected from three types. Conveyors can be set in parallel and operated with one motor.

Ordering code

CSJ30 - V - [] - 50 - 1000 - 60 - 6W - SC - Single Phase 115V

Model numbers	Driving motor		Belt width(mm) 30, 50, 75,100, 150, 200	Reduction ratio of gear head	Motor power 6W, 15W, 25W Roller knife edge : 25W	Enter motor voltage.	
	V	Motor mounted in vertical					
	H	Motor mounted in parallel					
	T	Motor mounted directly					
	Pulley shape		Distance between pulleys(mm)		Motor Specification		
No mark	Round pulley at both ends		~ 400(Round pulley)		No mark	Induction motor	
RK	Roller knife edge at both ends		~ 200(Roller knife edge)		SC	Speed control motor (Unit type)	
RF	Roller knife edge at downstream end						
RB	Roller knife edge at upstream end						

*In case of roller-knife edge, motor output is 25W.

*The minimum distance between pulleys are: 142 mm for V type driving motor, 122 mm for H type driving motor and 61 mm for T type driving motor.

Reduction ratio of gear head

Reduction ratio	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	
Belt speed (m/sec)	50Hz	0.313	0.262	0.218	0.157	0.132	0.108	0.078	0.065	0.052	0.043	0.040	0.033	0.027	0.022
	60Hz		0.313	0.262	0.188	0.157	0.132	0.095	0.078	0.063	0.052	0.047	0.040	0.032	0.027

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed. (Precautions before use) Gear is used for CSJ30 conveyors, and V/H type driving motors. In case of high speed operation, driving motor noise becomes slightly louder, but it does not effect on the quality. We deliver conveyors which meet our standards.

Specifications

Weight

(kg)

Belt width (mm)	Distance between pulleys (mm)						
	~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	2001 ~ 3000	3001 ~ 4000
30	4.4	4.6	5.1	5.8	6.5	8.3	10.0
50	5.9	6.2	6.8	7.6	8.4	10.4	12.3
75	6.2	6.5	7.2	8.2	9.2	11.4	13.5
100	6.5	7.1	7.7	8.8	9.9	12.3	14.6
150	7.5	8.2	9.0	10.5	12.0	14.8	17.6
200	8.2	9.1	10.0	11.7	13.5	16.8	20.1

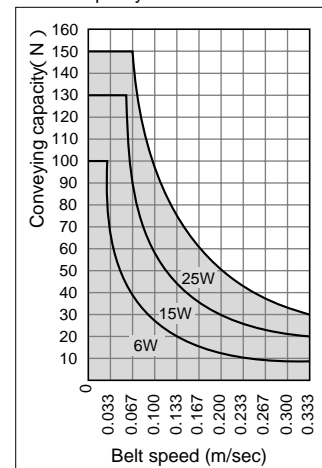
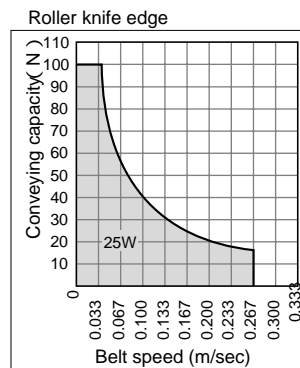
The above table indicates the maximum weight of V type with 6W output motors and round pulleys at both ends. The value needs to be modified based on the following specifications:
 (1) H type: Plus 0.3 kg, T type: Subtract 0.7 kg.
 (2) 15W motor: Plus 0.6 kg, 25W motor: Subtract 1.2 kg
 (3) Knife-edge type: Subtract 0.4-1 kg per on edge (Belt width: 30-200 mm)

Belt specifications

Oil	
Temperature	- 30 ~ 80
Static electricity	
Friction efficiency	0.2 ~ 0.3
Sanitary	
Material	Holding Polyurethane
Color	Green
Thickness	0.5mm
Manufacturer's model number	Mitsubishi belt co.,itd NS41UN0/2G

Belt speed and conveying capacity

Round pulley at both ends



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values. (Note) 1N = 0.102 kgf

Conveyors Belt Conveyor CSSK50 Series



Features



The most versatile belt conveyor.
 Applicable for various usages with a wide range of motor output and belt width.
 Two types are available for driving motors: Head and middle driving motors.
 Motor position can be alternated for middle driving motors.

Ordering code

CSSK50 - 50 - 1000 - 60 - 6W - SC - Single Phase 115V

Model numbers	
CSSK50	Head driving
CSSK50M	Middle driving

Distance between pulleys(mm)
 (Please refer to the related table shown below.)

Reduction ratio of gear head

Motor power
6W, 15W 25W, 40W
200V : 6W,25W,40W

Enter motor voltage.

Belt width(mm)	
40, 50, 75, 100, 150, 200, 300, 400, 500	CSSK50
40, 50, 75, 100, 150, 200, 300	CSSK50M

Motor Specification	No mark	Induction motor
	SC	Speed control motor (Unit type)

Reduction ratio of gear head

Reduction ratio	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	
Belt speed (m/sec)	50Hz	0.313	0.262	0.218	0.157	0.132	0.108	0.078	0.065	0.052	0.043	0.040	0.033	0.027	0.022
	60Hz		0.313	0.262	0.188	0.157	0.132	0.095	0.078	0.063	0.052	0.047	0.040	0.032	0.027

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

Specifications

Belt specifications

Oil	
Temperature	- 30 ~ 80
Static electricity	
Friction efficiency	0.2 ~ 0.3
Sanitary	

Material	Holding Polyurethane
Color	Green
Thickness	0.5mm
Manufacturer's model number	Mitsuboshi belt co.,itd NS41UM0/0G

Distance between pulleys

Type	Belt width (mm)	Distance between pulleys(mm)
CSSK50	40, 50, 75	192 ~ 4000 (6W)
	100, 150, 200	197 ~ 4000 (15W)
	300, 400, 500	219 ~ 4000 (25W) 223 ~ 4000 (40W)
CSSK50M	40, 50, 75	308 ~ 4000 (6W)
	100, 150	320 ~ 4000 (15W)
	200, 300	335 ~ 4000 (25W)
		341 ~ 4000 (40W)

(Note 1) This table shows distance between pulleys depending on motor output. In case of wide belt, the minimum distance between pulleys becomes more than double the length of the belt's width.

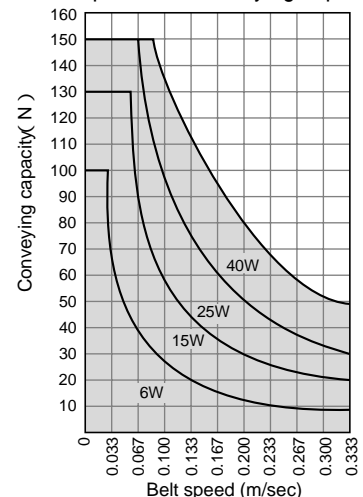
(Note 2) If you need more than 4000 mm between pulleys, please contact us for details.

Weight

Type	Belt width (mm)	Distance between pulleys (mm)						
		180 ~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	2001 ~ 3000	3001 ~ 4000
CSSK50	40	4.6	5.8	7	8.9	10.5	14.5	18.5
	50	4.7	6	7.2	9.1	10.8	14.8	18.8
	75	5.1	6.4	7.6	9.5	11.9	15.9	19.9
	100	5.5	6.8	8	9.9	12.4	16.9	21.4
	150	6.6	7.9	9.1	11.6	14.1	19.1	24.1
	200	7.8	9.1	10.3	13.3	15.8	21.3	26.8
	300			13	16	19	25	30.9
	400			15.3	18.8	22.3	29.3	36.2
CSSK50M	40	6.2	7.4	8.6	10.5	12.1	16.1	20.1
	50	6.4	7.7	8.9	10.8	12.5	16.5	20.5
	75	7.1	8.4	9.6	11.5	13.9	17.9	21.9
	100	7.7	9	10.2	12.1	14.6	19.1	23.6
	150	9.3	10.6	11.8	14.3	16.8	21.8	26.8
	200	11.1	12.4	13.6	16.6	19.1	24.6	30.1
	300	15.1	16.2	17.3	20.3	23.3	29.3	35.2

The above table shows the maximum value of each distance between pulleys of 6W motors. For 15W motor, add 0.5 kg. For 25W motor, add 1.0 kg. For 40W motor, add 3.5 kg.

Belt speed and conveying capacity



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor.

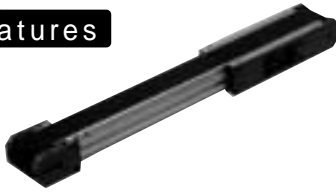
In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values.

(Note) 1N 0.102 kgf

Conveyors Built-in Motor Type CSS50N

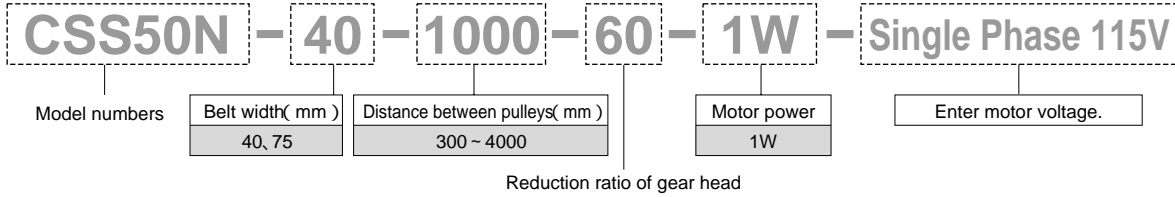


Features



Saves space with a built-in motor.

Ordering code



Reduction ratio of gear head

Reduction ratio	15	18	25	30	36	50	60	75	90	100	120	150	180	
Belt speed (m/sec)	50Hz		0.218	0.157	0.132	0.108	0.078	0.065	0.052	0.043	0.040	0.033	0.027	0.022
	60Hz			0.188	0.157	0.132	0.095	0.078	0.063	0.052	0.047	0.040	0.032	0.027

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. (Precautions before use) Gear is used for CSS50N conveyors with a built-in motor, and V/H type driving motors. In case of high speed operation, driving motor noise becomes slightly louder, but it does not effect on the quality. We deliver conveyors which meet our standards.

Specifications

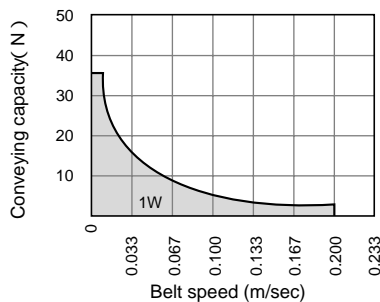
Weight

(kg)

Belt width (mm)	Distance between pulleys (mm)						
	300 ~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	2001 ~ 3000	3001 ~ 4000
40	3.0	4.1	5.0	6.9	8.8	12.7	16.6
75	3.7	4.8	5.8	7.9	9.9	14.1	18.6

The above table indicates the maximum value for each distance between pulleys.

Belt speed and conveying capacity



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values. (Note) 1N = 0.102 kgf

Belt specifications

Oil		Material	Holding Polyurethane
Temperature	- 30 ~ 80	Color	Green
Static electricity		Thickness	0.5mm
Friction efficiency	0.2 ~ 0.3	Manufacturer's model number	Mitsuboshi belt co.,itd NS41UM0/0G
Sanitary			

Conveyors Motor internal type CSN70

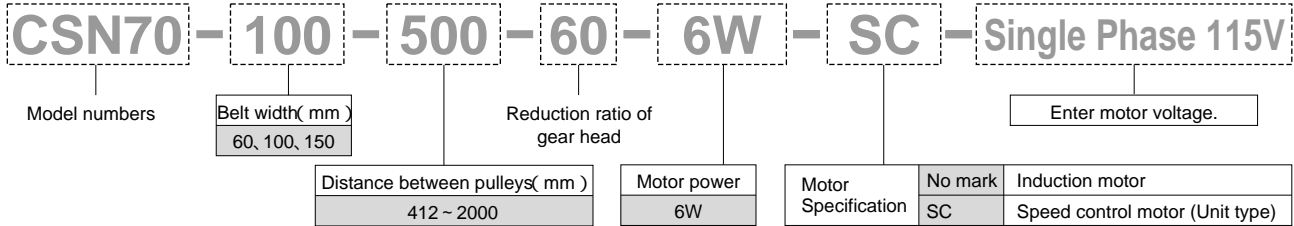


Features



Saves space with a built-in motor and enables easy installation in compact instruments.

Ordering code



Reduction ratio of gear head

Reduction ratio	15	18	25	30	36	50	60	75	90	100	120	150	180
Belt speed (m/sec) 50Hz	0.367	0.305	0.220	0.183	0.153	0.110	0.092	0.073	0.062	0.055	0.045	0.037	0.030
60Hz		0.367	0.263	0.220	0.183	0.132	0.110	0.088	0.073	0.067	0.055	0.043	0.037

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed. (Precautions before use) Gear is used for CSN70 conveyors, and V/H type driving motors. In case of high speed operation, driving motor noise becomes slightly louder, but it does not effect on the quality. We deliver conveyors which meet our standards.

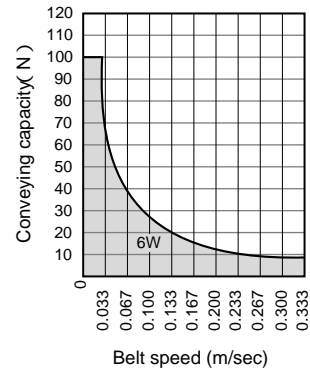
Specifications

Weight

Belt width (mm)	Distance between pulleys (mm)				
	500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000
60	6.3	6.6	7.0	8.0	9.0
100	8.3	8.6	9.1	10.0	11.0
150	10.8	11.4	12.0	13.0	14.0

The above table indicates the maximum value for each distance between pulleys.

Belt speed and conveying capacity



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values. (Note) 1N 0.102 kgf

Belt specifications

Oil		Material	Holding Polyurethane
Temperature	- 30 ~ 80	Color	Green
Static electricity		Thickness	0.5mm
Friction efficiency	0.2 ~ 0.3	Manufacturer's model number	Mitsubishi belt co.,itd NS41UM0/0G
Sanitary			

Conveyors Built-in Motor Type CSN90



Features



Saves space with a built-in motor and enables easy installation in compact instruments.

Ordering code

CSN90 - 100 - 1000 - 60 - 25W - SC - Single Phase 115V

Model numbers Belt width(mm)
100, 150

Reduction ratio of gear head

Distance between pulleys(mm)
487 ~ 2000

Motor power
25W

Motor Specification

No mark Induction motor
SC Speed control motor (Unit type)

Enter motor voltage.

Reduction ratio of gear head

Reduction ratio	15	18	25	30	36	50	60	75	90	100	120	150	180
Belt speed (m/sec)													
50Hz		0.393	0.283	0.235	0.197	0.142	0.118	0.095	0.078	0.070	0.058	0.047	0.040
60Hz			0.340	0.283	0.235	0.170	0.142	0.113	0.095	0.085	0.070	0.057	0.047

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

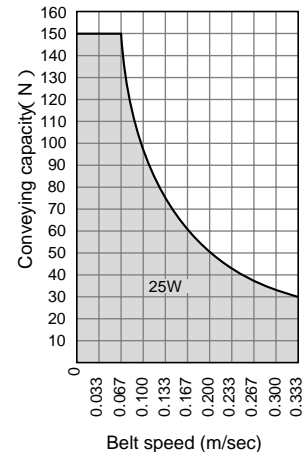
Specifications

Weight

Belt width (mm)	Distance between pulleys (mm)					(kg)
	487 ~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	
100	12.5	13.3	14.0	15.5	16.5	
150	16.5	17.3	18.0	19.5	21.0	

The above belt speed shows without the load, therefore, it shall be calculated to reduce 2 ~ 15% according to the load. (Precautions before use) Gear is used for CSN90 conveyors, and V/H type driving motors. In case of high speed operation, driving motor noise becomes slightly louder, but it does not effect on the quality. We deliver conveyors which meet our standards.

Belt speed and conveying capacity



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values. (Note) 1N 0.102 kgf

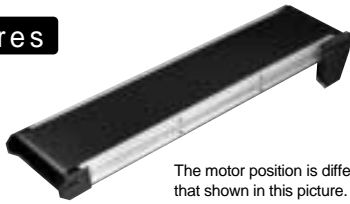
Belt specifications

Oil		Material	Holding Polyurethane
Temperature	- 30 ~ 80	Color	Green
Static electricity		Thickness	0.5mm
Friction efficiency	0.2 ~ 0.3	Manufacturer's model number	Mitsuboshi belt co.,itd NS41UM0/0G
Sanitary			

Conveyors Belt Conveyor CSH90



Features



The motor position is different from that shown in this picture.

Flat belt conveyor for heavy-weight transportation.

Ordering code

CSH90 - 150 - 2000 - 60 - 60W - SC - Single Phase 115V

Model numbers

Belt width(mm)

150, 200, 300

Reduction ratio of gear head

Enter motor voltage.

Distance between pulleys(mm)	
Belt width	Distance between pulley
150	300 ~ 3000
200	400 ~ 3000
300	600 ~ 3000

Motor power
60W, 90W

Motor Specification	No mark	Induction motor
SC	SC	Speed control motor (Unit type)

Reduction ratio of gear head

Reduction ratio	25	30	36	50	60	75	90	100	120	150	180
Belt speed (m/sec) 50Hz	0.283	0.235	0.197	0.142	0.118	0.095	0.078	0.070	0.058	0.047	0.040
60Hz	0.340	0.283	0.235	0.170	0.142	0.113	0.095	0.085	0.070	0.057	0.047

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

Specifications

Weight

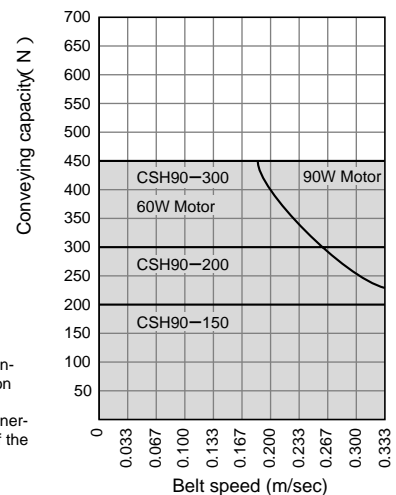
(kg)

Belt width (mm)	Distance between pulleys (mm)		
	300 ~ 1000	1001 ~ 2000	2001 ~ 3000
150	22.5	31.7	41.4
200	24.8	35.2	46.0
300	29.4	42.0	55.0

The above table indicates the maximum value for each distance between pulleys. Add 1 kg to the value shown above for 90W output motors.

The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values.
(Note) 1N 0.102 kgf

Belt speed and conveying capacity



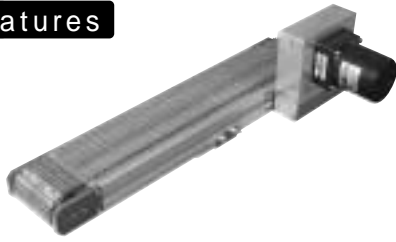
Belt specifications

Oil		Material	Holding Polyurethane
Temperature	- 30 ~ 80	Color	Green
Static electricity		Thickness	1.3
Friction efficiency	0.5 ~ 0.9	Manufacturer's model number	Mitsubishi belt co.,itd NS82UN0/2G
Sanitary			

Conveyors Mesch Belt Conveyor CSSK50-W



Features



Suitable for work which involves adherence of water, oil or chemicals.
 Applicable for work with burrs, unlike belt conveyors.
 The motor is attached on the top to prevent effects of adhesion.

Ordering code

CSSK50-W - **100** - **400** - **60** - **25W** - **SC** - **Single Phase 115V**

Model numbers | Belt width (mm) 100, 150, 200, 300 | Reduction ratio of gear head | Motor power 25W, 40W | Motor Specification SC | No mark | Induction motor | Enter motor voltage. | Speed control motor (Unit type)

Distance between sprockets (mm)	400 ~ 4000
Motor power	25W, 40W
Motor Specification	SC
No mark	Induction motor
	Speed control motor (Unit type)

Reduction ratio of gear head

Reduction ratio	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Belt speed (m/sec) 50Hz	0.361	0.301	0.251	0.180	0.150	0.125	0.090	0.075	0.060	0.050	0.045	0.038	0.030	0.025
60Hz	0.433	0.361	0.301	0.217	0.180	0.150	0.108	0.090	0.072	0.060	0.054	0.045	0.036	0.030

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

Specifications

Weight

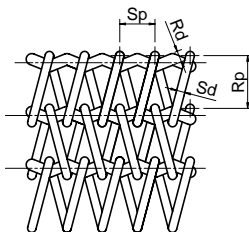
Belt width (mm)	Distance between pulleys (mm)						
	400 ~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	2001 ~ 3000	3001 ~ 4000
100	10.3	11.9	13.5	16.8	19.9	26.4	32.9
150	11.4	13.4	15.3	19.4	23.2	31.3	39.3
200	12.3	14.5	16.6	21.2	25.4	34.3	43.2
300	14.2	17.0	19.6	25.5	30.7	42.1	53.3

The above table indicates the maximum value for each distance between pulleys. Add 1.9 kg to the value shown above for 40W output motors.

Belt specifications

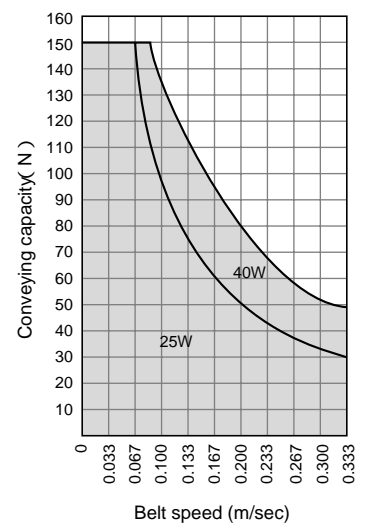
Material	SUS304
Sp (mm)	5.0
Sd (mm)	1.2
Rp (mm)	7.5
Rd (mm)	1.6
width (mm)	100,150 200,300
Thickness (mm)	5.4
Weight (kg ² /m)	7.5
Manufacturer's model number	Nippon Filcon co.,ltd
Type	SD - 5

Dimension of mesh belt



Sp: Spiral pitch
 Sd: Spiral diameter
 Rp: Rod pitch
 Rd: Rod diameter

Belt speed and conveying capacity



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values.
 (Note) 1N 0.102 kgf

Conveyors Timing Belt Conveyor CSSK50-T

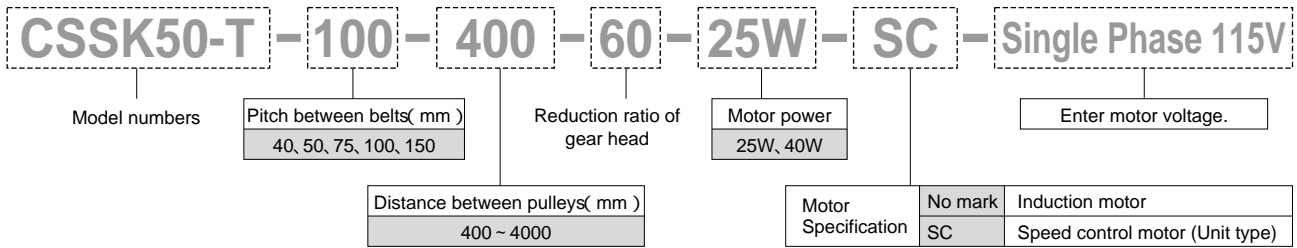


Features



Servo and stepping motors are used for more precise pitch length.
 Maintains stable transportation with non-slip driving motors, even in case of transportation of oily work.
 Available with a wide range of belt width.

Ordering code



Reduction ratio of gear head

Reduction ratio	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Belt speed (m/sec) 50Hz	0.360	0.300	0.250	0.180	0.150	0.125	0.090	0.075	0.060	0.050	0.045	0.038	0.030	0.025
Belt speed (m/sec) 60Hz	0.432	0.360	0.300	0.216	0.180	0.150	0.108	0.090	0.072	0.060	0.054	0.045	0.036	0.030

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

Specifications

Weight

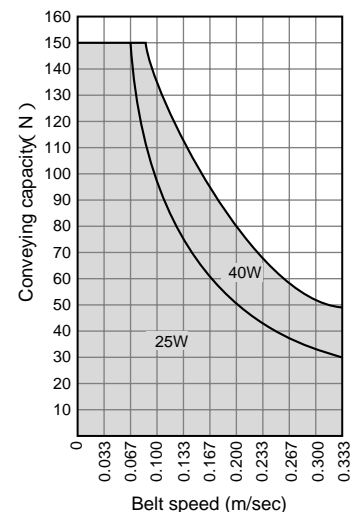
Belt width (mm)	Distance between pulleys (mm)						
	400 ~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	2001 ~ 3000	3001 ~ 4000
40	7.0	8.1	9.1	11.3	13.5	17.8	22.1
50	7.5	8.6	9.7	11.9	14.1	18.7	23.1
75	8.6	9.8	11.0	13.6	16.1	21.1	26.1
100	9.6	11.0	12.2	15.1	17.8	23.3	28.8
150	11.8	13.4	14.9	18.3	21.4	27.8	34.2

The above table indicates the maximum value for each distance between pulleys. Add 1.9 kg to the value shown above for 40W output motors.

Belt specifications

Material	Urethane rubber
Color	Translucent
Temperature	0 ~ 60
Tensile material	Steel (Galvanized)
Pitch	10mm
width	40,50,75,100,150
Thickness	4.5mm
Manufacturer's model number	NOK co.,itd
Type	width -T10-***A-J

Belt speed and conveying capacity



The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values. (Note) 1N = 0.102 kgf

Conveyors Plastic Chain Conveyor CSSK50-P

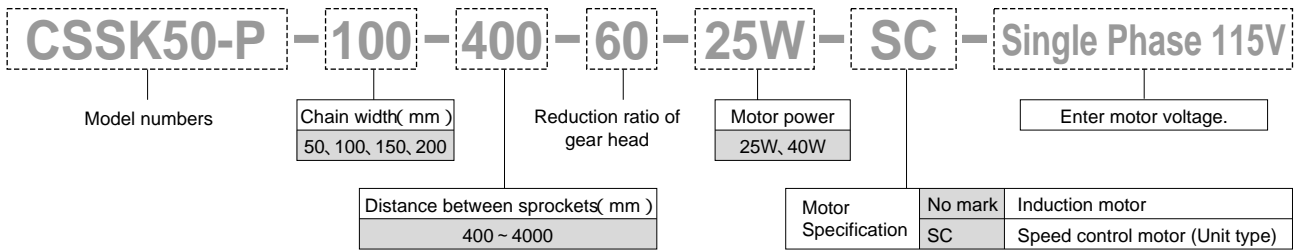


Features



Tougher belt than that of belt conveyors and easily maintained.
 Stable accumulated transportation.
 Prevents scratches on work by using plastic chain with less friction resistance.

Ordering code



Reduction ratio of gear head

Reduction ratio	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	
Chain speed (m/sec)	50Hz	0.381	0.318	0.265	0.191	0.159	0.132	0.095	0.079	0.064	0.053	0.048	0.040	0.032	0.026
	60Hz	0.457	0.381	0.318	0.229	0.191	0.159	0.114	0.095	0.076	0.064	0.057	0.048	0.038	0.032

The belt speed shown above is calculated without the load. Therefore, the general belt speed shall be calculated to be 2-15 % less than the above values, depending on the load. If motors with a speed control function are needed, select the gear head at the highest belt speed.

Specifications

Weight

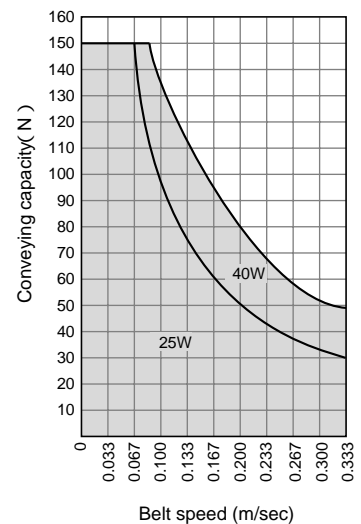
Belt width (mm)	Distance between pulleys (mm)						
	400 ~ 500	501 ~ 750	751 ~ 1000	1001 ~ 1500	1501 ~ 2000	2001 ~ 3000	3001 ~ 4000
50	7.6	8.9	10.2	12.9	15.5	20.9	26.3
100	9.1	11.1	12.8	16.8	20.1	27.8	35.0
150	10.6	12.9	15.1	20.0	24.2	33.6	42.5
200	12.1	14.9	17.6	23.3	28.4	39.5	50.1

The above table indicates the maximum value for each distance between pulleys. Add 1.9 kg to the value shown above for 40W output motors.

Belt specifications

Material	Polypropylene
Color	White
Temperature	- 10 ~ 105
Allowable chain speed	~ 0.5m/sec
Chain Pitch	12.7mm
width	50,100,150,200(mm)
Thickness	10mm
Manufacturer's model number	Habasit Nippon co.,itd
Type	M1220 - PP

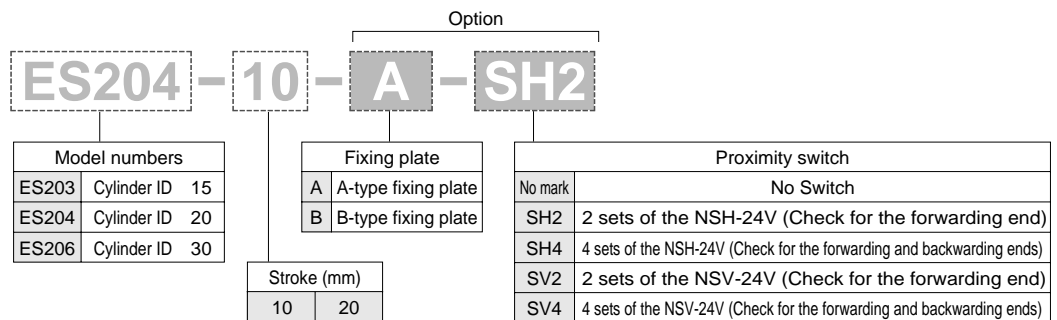
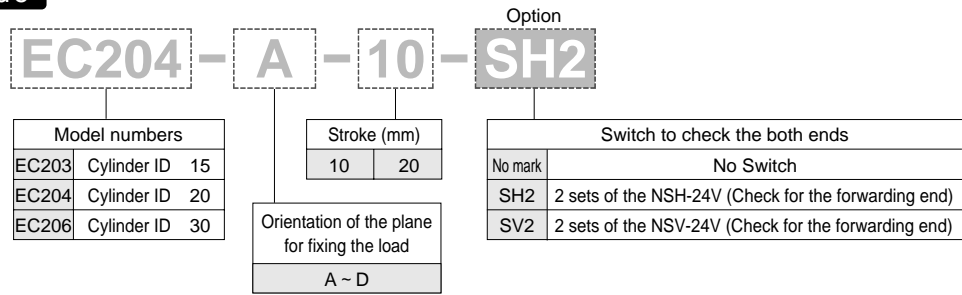
Belt speed and conveying capacity




The graph shown above indicates total the total conveying capacity without accumulation of the work on the conveyor. In case of accumulation of work, the capacity is generally assumed to be decreased by more than half of the above values. (Note) 1N 0.102 kgf

Stopper and Escapement Units

Ordering code

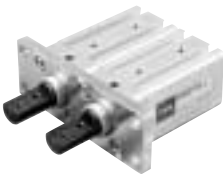


Stopper

Model	Shape	Type	Cylinder bore mm	Rod diameter mm	Theoretical force N { kgf }	Stroke mm	Weight kg
Stopper		EC203	15	9	push 85 { 8.6 } pull 55 { 5.6 }	10	0.11
						20	0.16
		EC204	20	12	push 155 { 15 } pull 100 { 10 }	10	0.22
						20	0.35
		EC206	30	15	push 350 { 35 } pull 265 { 27 }	10	0.29
						20	0.42

An attachment can be fixed on the top of the rod for stopping the work flow on the conveyor.

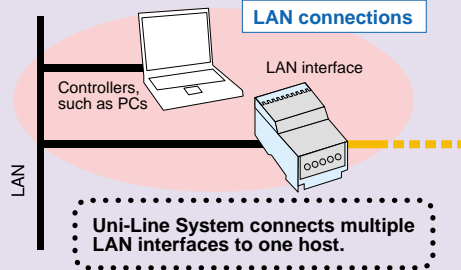
Stopper & Escapement Unit

Model	Shape	Type	Cylinder bore mm	Rod diameter mm	Theoretical force N { kgf }	Stroke mm	Weight kg
Stopper & Escape		ES203	15	9	push 85 { 8.6 } pull 55 { 5.6 }	10	A-type fixing plate : 0.30 B-type fixing plate : 0.33
						20	A-type fixing plate : 0.40 B-type fixing plate : 0.43
		ES204	20	12	push 155 { 15 } pull 100 { 10 }	10	A-type fixing plate : 0.55 B-type fixing plate : 0.61
						20	A-type fixing plate : 0.81 B-type fixing plate : 0.87
		ES206	30	15	push 350 { 35 } pull 265 { 27 }	10	A-type fixing plate : 0.83 B-type fixing plate : 0.95
						20	A-type fixing plate : 1.07 B-type fixing plate : 1.21

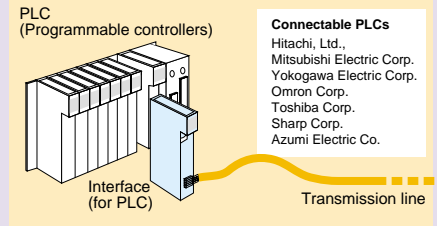
This unit is used to separate the work flowing in jam one by one.

Controllers

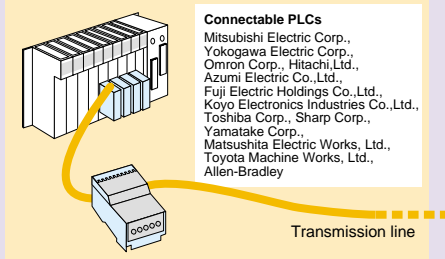
UNILINE System connects various controllers to various I/O instruments with wide selections of controller interfaces and terminal units which realize ideal I/O networks.



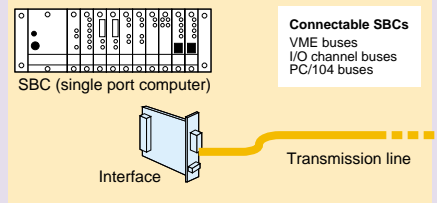
PLC connections (specific interface system)



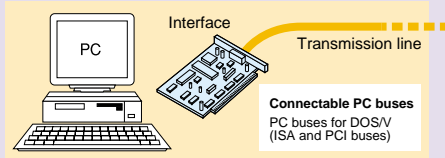
PLC connections (PLC connectors and send-unit system)



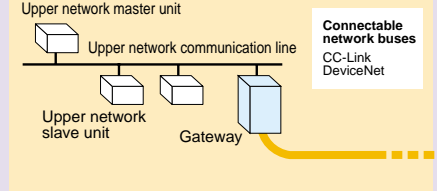
SBC connections



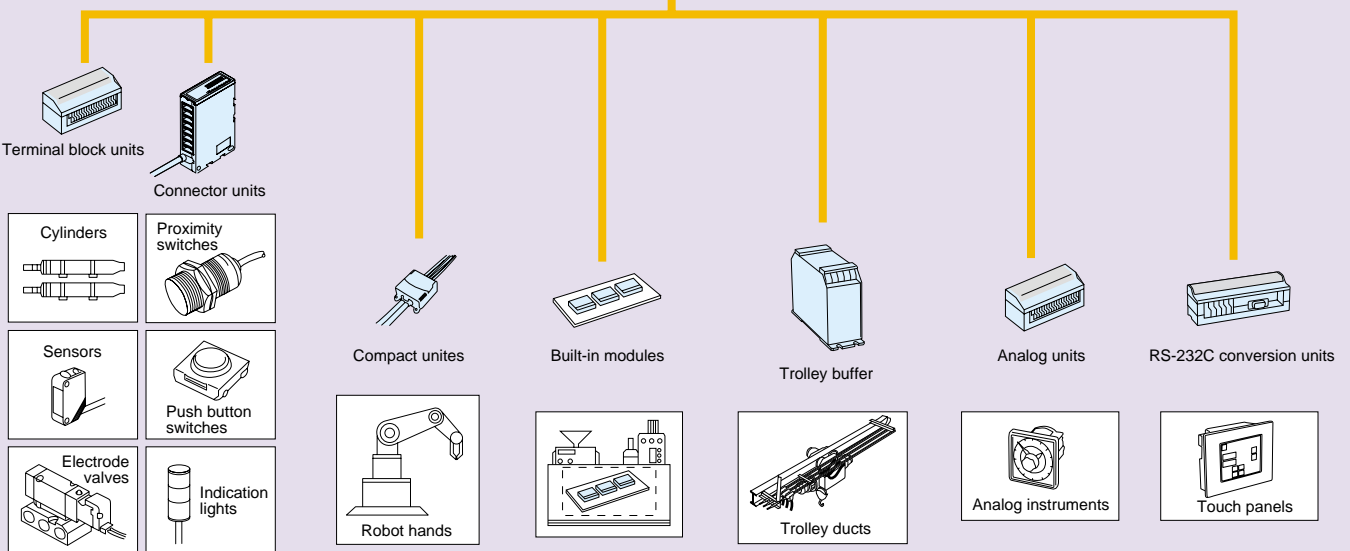
PC connections



Upper network connections



Terminal Units



Wire-saving Input/output instruments

Flexible combination of various Uni-Line terminal units can decrease number of wires and improve the efficiency. Uni-Line System can be flexibly applied for any Input/output conditions.

Wire-saving robot arms

Compact units can be applied to significantly decrease number of wires which are concentrated to the top edge of the robots.

Networking users' instruments

Uni-Line IC modules can be installed in substrates of user equipments to be linked with networks as a part of Uni-Line terminals.

Trolley buffers can be used for transmission lines.

Trolley buffers consist of booster units which increase electric voltage to 100V, and reduction units which decrease the voltage from 100V to 24V.

Wire-saving analog instruments



Uni-Line System can connect analog instruments including various A/D and D/A converters.

232C conversion units connect touch panels.

232C signals can be transmitted up to 2 km through Uni-Line System. Control signals can be sent and received anywhere on transmission lines using touch panels (RS-232C terminals).

UN Series

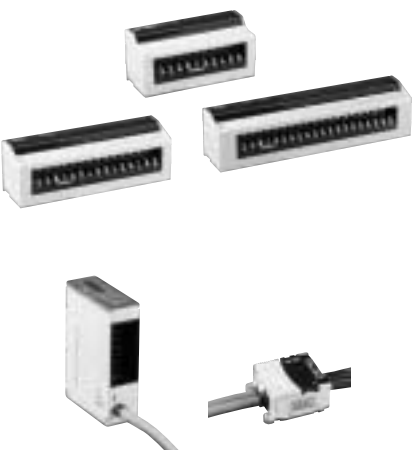
Control Units

Appearances	Name	Model No.	Specifications
	LAN interfaces	UNG-LN1	Ethernet gateways 1:1 correspondence only Easy set up type
		UNG-LN1N	Ethernet Gateways 1:N correspondence only Easy set up type
		UNG-LN2	Ethernet Gateways 1:1 correspondence only Set up in detail type
		UNG-LN2N	Ethernet Gateways 1:N correspondence only Set up in detail type
	Gateways	UNG-CC1	Gateways for the CC-Link Control points : 512
	Send units	SD-UN1	Maximum control points : 512 1:1 correspondence possible
	PLC connectors	UC-UN32S	PLC input connectors
		UC-UN32P	PLC output connectors

(Note) The cables for the send units and PLC connectors are the same as those for the H Series.

UC-UN32S/UC-UN32P can also be used in a combination with the send units and/or terminal units of the H Series.

Terminal Units


Appearances	Name	Model No.	Points	Specifications
	Input Terminal	STV-UN08T	8	DC photo-coupler input ON current : 4.8mA
		STV-UN16T	16	
		STV-UN32T	32	
		STVD-UN08T	8	DC photo-coupler input 3-wire sensors
		STVD-UN16T	16	
		C1SE-UN08T	8	DC photo-coupler input Pressure e-CON connectors
		N3S-UN4	4	
	Output Terminals	PTV-UN08T	8	Transistor output ON current : 500mA or less
		PTV-UN16T	16	
		PTV-UN32T	32	
		PTV-UN08R	8	Relay output(with relays)
		PTV-UN16RS	16	
		C1PE-UN08T	8	Transistor output Pressure e-CON connectors
N3P-UN4		4		


(Note) For the terminal units of the UN Series, a dip switch can be used to setup points/distances.
Specifications and models are no longer needed for the setup.

H Series and Others

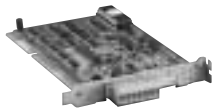
Control Units

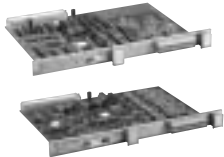

Appearances	Name	Model No.	Specifications
	Interface (for MITSUBISHI PLC)	MQ-HUW	For MITSUBISHI PLC MELSEC-Q Compliant CPU: Q00J/Q00/Q01/Q02/Q02H/Q06H/Q12H/Q12PH/Q25H/Q25PH(The Q mode use only)
	Interface (for OMRON PLC)	OMC02-HUW	For OMRON PLC C200H/CS1
		OMCJ1-HUW	For OMRON PLC CJ1
	Interface (for YOKOGAWA PLC)	F3SVH64	For YOKOGAWA PLC FA-M3
	Interface (for HITACHI PLC)	RIOH-HUN	For HITACHI PLC H-252/250/200
		REM-NKMH	For HITACHI PLC H-300/302/700/702/1002/2000/2002/4010
		EH-UNW	For HITACHI PLC EH-150
	Interface (for TOSHIBA PLC)	UWH11	For TOSHIBA PLC EX100, T2
		UWH311	For TOSHIBA PLC T3
		UWH611	For TOSHIBA PLC S2T
	Interface (for SHARP PLC)	J2-HUW	For SHARP PLC JW-20, JW20/30H


Appearances	Name	Model No.	Specifications
	PLC connectors	UC-32 S	Input PLC connectors
		UC-32 P	Output PLC connectors


Appearances	Name	Model No.	Specifications
	Send units	SD-H2A	Send units

H Series and Others

Appearances	Name	Model No.	Specifications
	Personal computer interface	AT-H250	For ISA buses(128points x 2ports)
		AT-H500	For ISA buses(256points x 2ports)
		AT-HUW	For ISA buses
		PCI-HUW	For PCI buses

Appearances	Name	Model No.	Specifications
	SBC interface	UV-H250	For VME buses(double height, 128points x 2ports)
		UV-H510	For VME buses(double height, 128points x 4ports)
		PC/104-HUW	For PC/104 buses


Appearances	Name	Model No.	Specifications
	Graphic display panel interface	CGP-HUW	For graphic display panels For the GLC 100/300 group

Appearances	Name	Model No.	Specifications
	Gateways	SDD-CC1	For CC-Link
		SDD-DN1	For DeviceNet

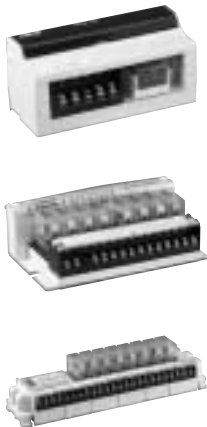
H Series and Others

Terminal Units

Terminal Block Type

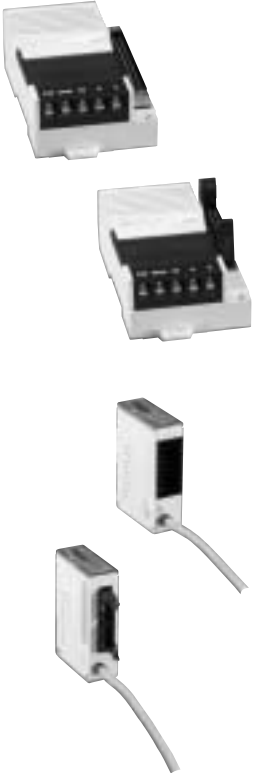
Appearances	Name	Model No.	Points	Specifications
	Sensor terminals	STV-H04T	4	DC photo-coupler input ON current : 4.8mA
		STV-H08T	8	
		STV-H16T	16	
		STV-H32T	32	
		STV-H16TF	16	DC photo-coupler input ON current: 2.5 mA (all-point ON type)
		STV-H32TF	32	
		STVD-H04T	4	DC photo-coupler input 3-wire sensors
		STVD-H08T	8	
	Power terminals	PTV-H04T	4	Transistor output ON current : 200mA or less
		PTV-H08T	8	
		PTV-H16T	16	
		PTV-H32T	32	
	Twin terminals	XTV-H0404T	4/4	DC photo-coupler input Transistor output ON current : 200mA or less
XTV-H0808T		8/8		
XTVD-H0808T		8/8	DC photo-coupler input 3-wire sensors Transistor output	
Power terminals (high power output)	PTB-H08P2A	8	Transistor output ON current : 2A or less	

Terminal Block (Relay) Type


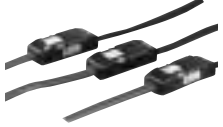
Appearances	Name	Model No.	Points	Specifications
	Sensor terminals	STV-H04R	4	DC24V relay input (with relays)
	Power terminals	PTV-H04R	4	Relay output(with relays)
		PTV-H08R	8	
		PTV-H16RS	16	
	Twin terminals	XTV-H0202R	2/2	DC photo-coupler input Relay output(with relays)
	Power terminals	PTC-H08R2D2-A	8	Relay output(with relays)
		PTC-H08R2D2-N	8	Relay output(without relays)
		PTC-H08R2D2-SA	8	Relay output (individual circuits with relays)
	Sensor terminals	R1S-H04R-N	4	Relay output(without relays)
		R1S-H08R-N	8	
		R1S-H16R-N	16	
	Power terminals	R1P-H04R-N	4	Relay output(without relays)
		R1P-H08R-N	8	
R1P-H16R-N		16		

H Series and Others

Connector Type

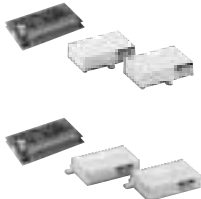
Appearances	Name	Model No.	Points	Specifications
	Sensor terminals	SCV-H16T	16	DC photo-coupler input
		SCV-H24T	24	Fujitsu connector 40P
		SCV-H32T	32	
		SCVM-H16T	16	DC photo-coupler input
		SCVM-H24T	24	MIL type connectors
		SCVM-H32T	32	
	Power terminals	PCV-H16T	16	Transistor output
		PCV-H24T	24	ON current : 200mA or less
		PCV-H32T	32	Fujitsu connector 40P
		PCVM-H16T	16	Transistor output
		PCVM-H24T	24	ON current : 200mA or less
		PCVM-H32T	32	MIL type connectors
	Twin terminals	XCV-H16T	16	DC photo-coupler input
		XCV-H32T	32	Transistor output
		XCVM-H16T	16	Fujitsu connector 40P
		XCVM-H32T	32	DC photo-coupler input
Sensor terminals	C1SE-H08FP	8	DC photo-coupler input	
			Pressure E-CON connectors	
Power terminals	C1PE-H08P	8	Transistor output ON current : 200mA or less	
			Pressure E-CON connectors	
Sensor terminals	C1SM-H08FP	8	DC photo-coupler input	
	C1SM-H16FP	16	MIL type connectors	
Power terminals	C1PM-H08P	8	Transistor output ON current : 200mA or less	
	C1PM-H16P	16	MIL type connectors	

Compact Units



Appearances	Name	Model No.	Points	Specifications
	Sensor terminals	N3S-H4	4	DC photo-coupler input
	Power terminals	N3P-H4	4	Transistor output ON current : 200mA or less
	Twin terminals	N3X-H4	2/2	DC photo-coupler input Transistor output
	Sensor terminals	L6S-H1F2	1	DC photo-coupler input
		L6S-H2F2	2	
	Power terminals	L6P-H1B2	1	Transistor output
		L6P-H2B2	2	ON current : 100mA or less
	Twin terminals	L6X-H2FB2	1/1	DC photo-coupler input Transistor output

H Series and Others


IC modules

Appearances	Name	Model No.	Points	Specifications
	Input modules	MAS-H08	8	DC photo-coupler input(Master modules)
		MOS-08	8	DC photo-coupler input(Slave modules)
	Output modules	MAP-H08	8	Transistor output(Master modules)
		MOP-08	8	Transistor output(Slave modules)
	In/Output modules	MIX-H08	4/4	DC photo-coupler input Transistor output
	Input modules	MAS-H16	16	DC photo-coupler input
	Output modules	MAP-H16	16	Transistor output
In/Output modules	MIX-H16	8/8	DC photo-coupler input Transistor output	


Analog Units

Appearances	Name	Model No.	Ch	Specifications
	A/D converters	AX-H15	4	4ch input ·4 ~ 20mA ·1 ~ 5V ·0 ~ 10V
		AX-16 E ~ G	4	4ch/8ch input ·4 ~ 20mA ·1 ~ 5V ·0 ~ 10V
		AX-16 A ~ D	8	
	D/A converters	AY-H15	1	output ·4 ~ 20mA ·1 ~ 5V ·0 ~ 10V ·-10 ~ 10V
		AYC-H16 E ~ G	4	4 ~ 20mA output
		AYC-H16 A ~ D	8	
		AYV-H16 E ~ G	4	1 ~ 5V output
		AYV-H16 A ~ D	8	
		AYV1-H16 E ~ G	4	0 ~ 10V output
		AYV1-H16 A ~ D	8	
		AYV2-H16 E ~ G	4	-10 ~ 10V output
AYV2-H16 A ~ D	8			

RS-232C Conversion Units


Appearances	Name	Model No.	Ch	Specifications
	RS-232C conversion units	XTV-H232C	1	RS-232C transmit / receive

Counter Units


Appearances	Name	Model No.	Ch	Specifications
	Counter terminals	CNT-H02F	2	Pulse signal input 16bit counter Calculation speed : 500cps

H Series and Others


Transfer Units

Appearances	Name	Model No.	Points	Specifications
	Data transfer units	DTV-H08	8	One-way type
		DTV-H16	16	
		DTV-H32	32	
	Data transfer units	DTVX-H0404	4/4	Duplex type
		DTVX-H0808	8/8	
		DTVX-H1616	16/16	
		DTVX-H256	256	


Trolley Buffers

Appearances	Name	Model No.	Specifications
	For trolley buffers	VAH-101	Pressure units (24 to 100 V)
		VAH-102	Decompress units (100 to 24 V)

Debug Tools

Appearances	Name	Model No.	Specifications
	Real time monitors (for interface units)	RM-120	Debugging tools for interface units 64-point change / 256-point monitoring
		RM-120Y	For SV64 64-point change / 256-point monitoring
		RM-Q120	For OMC02 64-point change / 256-point monitoring
	Real time monitors (for transmission lines)	RM-32	Real time monitor for transmission lines 32-point switches / 32-point lamps
		RM-32F	Real time monitor for transmission lines 32-point switches / 32-point lamps Forced output OFF
		RM-32F-SD	Real time monitor for transmission lines 32-point switches / 32-point lamps Forced output OFF with built-in send units

Cable / Accessories

Appearances	Name	Model No.	Specifications	Units
	T-diverge connectors	MAF-S407F	T-diverge pulse connectors	10
		MAF-S407FE	For T-diverge pulse connector ends	10
		MAF-P405C	T-diverge pulse connector plugs	10
	Flat cables	MAF-4M100	0.75mm ² 4 lines	100m
	PLC connector cables	CND-05-07	PLC connector cables	7cm
		CND-05-15	PLC connector cables	15cm
		CND-05-25	PLC connector cables	25cm
		CN-ED	End connectors	
	Send cables	HKCN-05-1K	Send cables	1m
		HKCN-05-2K	Send cables	2m