Plarailchain HPU

Cable/Tube Carrier With Snap Open Flap

⚠Safety instructions for this product
Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)

*Bracket for moving-end and fixed-end must be ordered separately. For details, see the next page.

HP (1) U (2) 204 (3) – R50 (4) – (5)

(1) Plarailchain

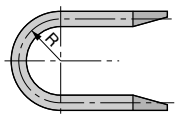
(2) Snap open flap type

(3) Size (Overall dimensions: H × W)

Code	102	202	203	204	206	306	408	412	615
Size (mm)	12×27	20×26	20×32	22×40	22×60	34×60	40×78	40×117	64×146

(4) Bending radius (R) (○: Available)

Code	R19	R25	R30	R38	R45	R50	R75	R100	R150	R200
102	○									
202		○	○		○					
203			○		○					
204, 206				○		○				
306						○		○	○	
408, 412						○	○	○	○	○
615							○	○	○	○



(5) Body color

Code	No code	W
Body color	Black	Light grey

Model Designatgion for Divider (Example)

SB (1) 4 (2)

(1) Divider for Plarailchain

(2) Applicable models

Code	4	6
Applicable models	HPU408, HPU412	HPU615

Model designation for flap (Example)

HPU (1) 204 (2) Flap

(1) Plarailchain HPU

(2) Model
[See Model Designation (3. Size)]

Characteristics

Flaps can be opened on either side.

Replacement or addition of cables is possible regardless of the installation direction.
Cables/hoses that go inside are visible.

Specifications

Series	102	202	203	204	206	306	408	412	615
Bending radius (mm)	19	25 30 45	30 45	38 50		50 100 150	50 75 100 150 200		75 100 150 200
Max. O.D. of cable/tube (mm)	7	11				19	19		36
Pitch length (mm)	20	25		32		45			70
No. of links (/m)	50	40		32		23			15
Max. free span (m)*	0.46	0.75		1		1.5			3
Max. travel stroke (m)	0.7	1.4		1.9		2.9			5.8
Max. contents weight (kg/m)	1.5	1.2		2		6	5		25
Max. travel speed (m/s)	2.5								
Chain weight (kg/m)	0.12	0.25	0.26	0.5	0.56	0.64	1.1	1.3	2.46
Chain material	PA6 GF20%								
Bracket material	SUS430	SPCC with Trivalent unichrome plating							
Divider material	—	—	—	—	—	—	PA6		
Operating temp. range (°C)	-10 to 80								
Operating environment	Avoid using in acid/alkaline atmosphere or in hot water.								

*Max. free span: Length that the upper runs in straight line with no sag.

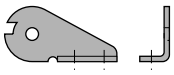
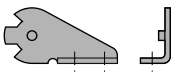
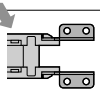
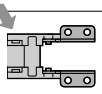
RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code
Snap open flap type HPU 	HPU102-R19-5
	HPU202-R25-5
	HPU202-4-5
	HPU203-4-5
	HPU204-4-5
	HPU206-4-5
	HPU306-4
	HPU408-4
	HPU412-4
	HPU615-4

Notes
*1. For 4 in model code, please select a code for bending radius, for 5, please select a code for body color.
*2. See page 792 for size selection instructions.
*3. See page 797 for the calculation method of the number of links.

CAD data is available at PISCO website.

Mounting bracket for HPU series

Application	For moving-end				For fixed-end			
Type	 For moving-end (Holed type)				 For fixed-end (Boss type)			
Screwing position	 Inside		 Outside		 Inside		 Outside	
Orientation	Outer periphery 	Inner periphery 	Outer periphery 	Inner periphery 	Outer periphery 	Inner periphery 	Outer periphery 	Inner periphery 
Type	Model code	Model code	Model code	Model code	Model code	Model code	Model code	Model code
HPU102	**U1-K**	**U1-K**	–	–	(*1)	(*1)	–	–
HPU202	**U2-MAO-S**	**U2-MAI-S**	**U2-MAO-S**	**U2-MAI-S**	**U2-FAO-S**	**U2-FAO-S**	**U2-FBO-S**	**U2-FBO-S**
HPU203								
HPU204	**U2-MAO**	**U2-MAI**	**U2-MAO**	**U2-MAI**	**U2-FAO**	**U2-FAO**	**U2-FBO**	**U2-FBO**
HPU206								
HPU306	**U3-MAO**	**U3-MAO**	**U3-MAO**	**U3-MAO**	**U3-FAO**	**U3-FAI**	**U3-FBO**	**U3-FBI**
HPU408	**U4-MAO**	**U4-MAO**	**U4-MAO**	**U4-MAO**	**U4-FAO**	**U4-FAI**	**U4-FBO**	**U4-FBI**
HPU412								
HPU615	**U6-MAO**	**U6-MAO**	**U6-MAO**	**U6-MAO**	**U6-FAO**	**U6-FAI**	–	–

Notes
*1. The brackets for HPU102 (U1-K), which are different shape from above drawing, come in a set of moving-end and fixed-end brackets.
*2. Two types of brackets are required, each for a fixed-end and a moving-end. Select best-suited bracket for your application from above selection. Moving-end (the hole type) and fixed-end (the pivot type) must be ordered separately when you need both of them.

Divider for HPU series

Type	Model code	Applicable models
SB4 	SB4	HPU408, HPU412
SB6 	SB6	HPU615

Flap for HPU series

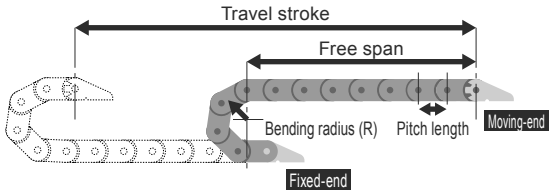
Type	Model code
HPU□ Flap 	HPU102 Flap
	HPU202 Flap
	HPU203 Flap
	HPU204 Flap
	HPU206 Flap
	HPU306 Flap
	HPU408 Flap
	HPU412 Flap
	HPU615 Flap

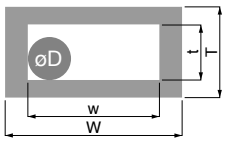
Related product

Low Friction Polyurethane Tube

▶ P.94

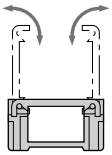
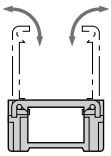
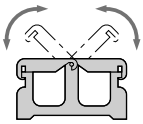
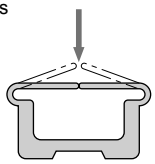
Selection chart for Plarailchain series





T : Height
W : Width
t : Inner height
w : Inner width
øD: Max. O.D. of cable/tube

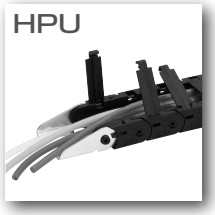
Open-close flap type

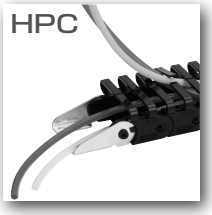
		Bending radius (mm)	Pitch length (mm)	No. of links (/m)	Max. free span (m)*	Max. travel stroke (m)	Max. contents weight (kg/m)	Max. travel speed (m/s)	Chain weight (kg/m)	Divider	Open/close system
HPU	102	19	20	50	0.46	0.7	1.5	2.5	0.12	–	Snap open on either side (along the outer radius). 
	202	25, 30, 45	25	40	0.75	1.4	1.2		0.25	–	
	203	30, 45							0.26	–	
	204	38, 50	32	32	1	1.9	2		0.5	–	
	206								0.56	–	
	306	50, 100, 150	45	23	1.5	2.9	6		0.64	–	
	408	50, 75, 100,150, 200					5		1.1	●	
	412								1.3	●	
	615	75, 100, 150, 200	70	15	3	5.8	25		2.46	●	
HPO Fully-enclosed type	202	30, 45	20	50	0.75	1.4	1.9	2.5	0.28	–	Snap open on either side (along the outer radius). 
	203								0.31	–	
	204	38, 50	26	39			2.5		0.5	–	
	206								0.6	–	
	408	70, 100,150, 200	45	23	1.75	3.4	10		1.36	●	
	412								1.7	●	
	512	100	60	17	4.5	8.8	30.6		2.15	●	
	819	150, 200, 250, 300, 400	90	11	2.5	4.6	35		4.4	●	
HPE Open-close split flap type	408	50, 75, 100,150, 200	45	23	1.5	2.9	2.5	2.5	1.1	–	Twin gull-wing crossbars operate independently. 
	412								1.3	–	
HPC Simple flap type Low noise	203	30, 45, 60	25	40	0.9	1.7	2.5	2.5	0.37	–	Cut apart crossbars by a cutter (at the spot indicated by the arrow) so that cables / tubings can be easily installed. 
	204	50, 90, 150	32	32	1	1.8	4		0.59	–	
	306	50, 100, 150	45	23			6		0.78	–	
	50	60	25	40	1.06	1.9	5		0.358	–	
	100	90			1	1.8			0.608	–	
	200	105							1.056	–	

Fixed flap type

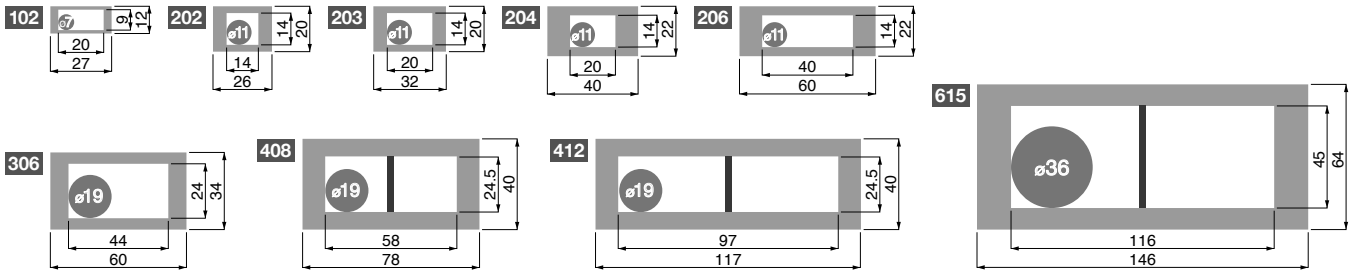
		Bending radius (mm)	Pitch length (mm)	No. of links (/m)	Max. free span (m)*1	Max. travel stroke (m)	Max. contents weight (kg/m)	Max. travel speed (m/s)	Chain weight (kg/m)	Divider	Open/close system
HPK Compact	101	19	20	50	0.5	0.8	1.5	1	0.105	–	No flap
	202	30, 45	25	40	0.75	1.4	3		0.222	–	
	203								0.24	–	
	204	38, 50	32	32	0.75	1.4	4	2.5	0.45	–	
	206				0.86	1.6	4.5		0.51	–	
HPM Fully-enclosed type	204	28	15	67	1	1.8	3	2.5	0.34	–	No flap
	205								0.39	–	
	206	38, 50	22	46			4.5		0.46	–	

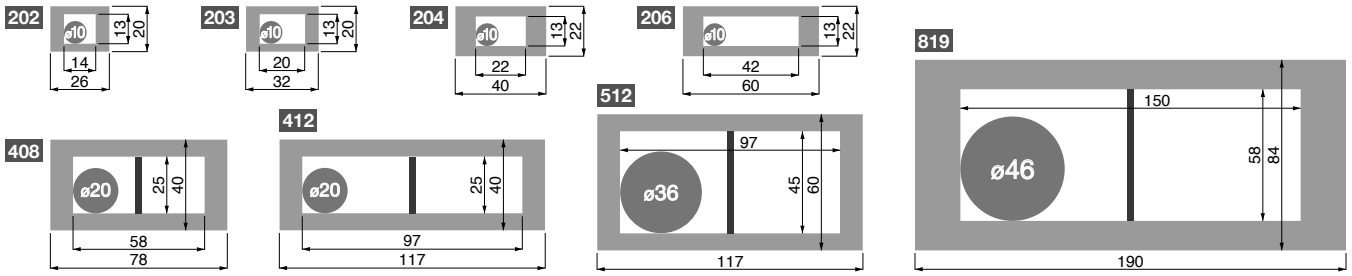
*Max. free span is the maximum length that the upper runs in straight line with no sag.

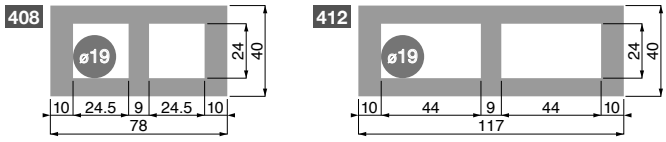


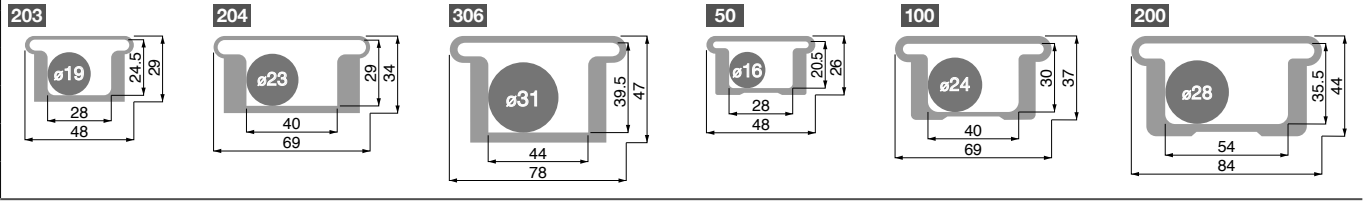


Size (Max. O.D. of cable/tube) (mm)

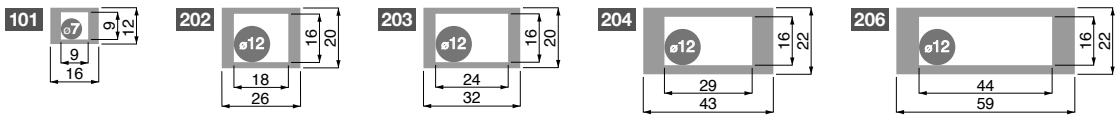


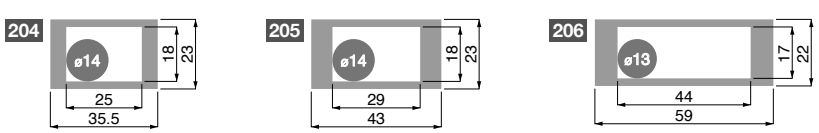






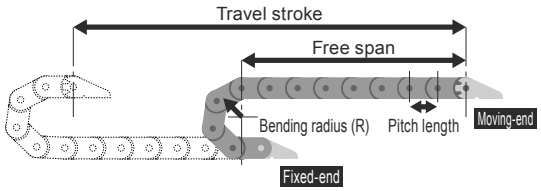
Size (Max. O.D. of cable/tube) (mm)

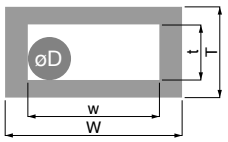




* ▬ Highlighted line indicates approximate positions where a divider can be installed.

Selection chart for Plarailchain series





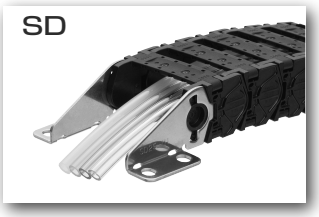
T : Height
W : Width
t : Inner height
w : Inner width
øD: Max. O.D. of cable/tube

Low Abrasion, Low Noise, Open-Close Flap Type.

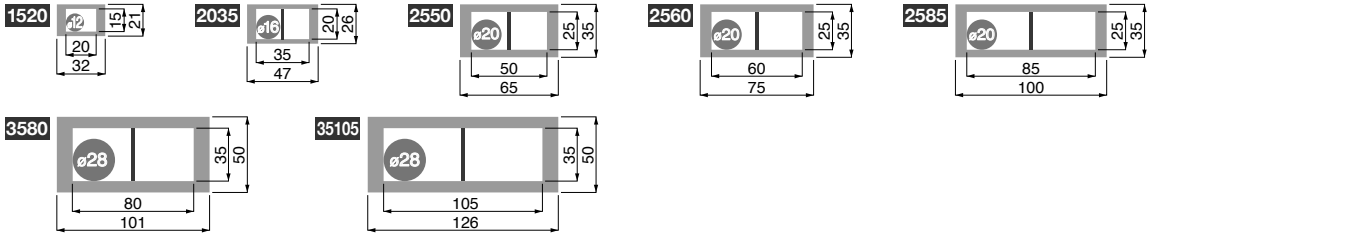
SP	SPO (Fully-enclosed type)	Bending radius (mm)	Pitch length (mm)	No. of links (/m)	Max. free span (m)*1	Max. travel stroke (m)	Max. contents weight (kg/m)	Max. travel speed (m/s)	Chain weight (kg/m)	Divider	Rack	Open/close system
1520*2	—	30, 50, 75	25	40	1.25	2.4	2.2	3	0.36(0.35)	—	—	Snap open on either side (along the outer radius).
2035*2	—	45	32	32	1.25	2.4	2.3		0.5(0.48)	●	—	
2550*2	—	50, 75, 100, 150	36	28	1.63	3.1	6.5		0.86(0.83)	●	—	
2560*2	—				1.75	3.3			0.85(0.82)	●	—	
2585*2	—	60, 75, 100, 150	43.5	23	1.88	3.6	8		1.05(1.01)	●	—	
3580	—	100, 125, 150, 175, 200	62.5	16	2.25	4.4	10		1.76	●	—	
35105	—				2.38	4.6	13		1.96	●	—	
4542	—	75, 100, 125, 150, 175, 200, 250 (75 and 100 are not available for SPO.)	67	15	2.13	4.2	32		2.3	●	●	Snap open on either side along both the inner radius and the outer radius.
4575	4575								2.4[3]	●	●	
45100	45100								2.6[3.3]	●	●	
45115	—								2.7	●	●	
45125	45125								2.8[3.6]	●	—	
45150	45150								3.0[3.9]	●	—	
45175	—								3.1	●	—	
45200	—								3.2	●	—	
45250	—								3.5	●	—	
5575	5575	135, 150, 200, 250 (135 is not available for SPO.)	91	11	5	9.8	65		3.5[3.9]	●	—	
55100	55100								3.6[4]	●	—	
55125	55125								3.7[4.1]	●	—	
55150	55150								3.8[4.2]	●	—	
55175	—								3.9	●	—	
55200	—								4.0	●	—	
55250	—								4.1	●	—	
55300	—								4.2	●	—	
8075	—	150, 200, 250, 300, 350, 400	100	10	5	9.8	70		4.7	●	—	
80100	—								4.8	●	—	
80125	—								4.9	●	—	
80150	—								5.1	●	—	
80175	—								5.2	●	●	
80200	—								5.3	●	●	
80250	—								5.6	●	●	
80300	—								5.8	●	●	

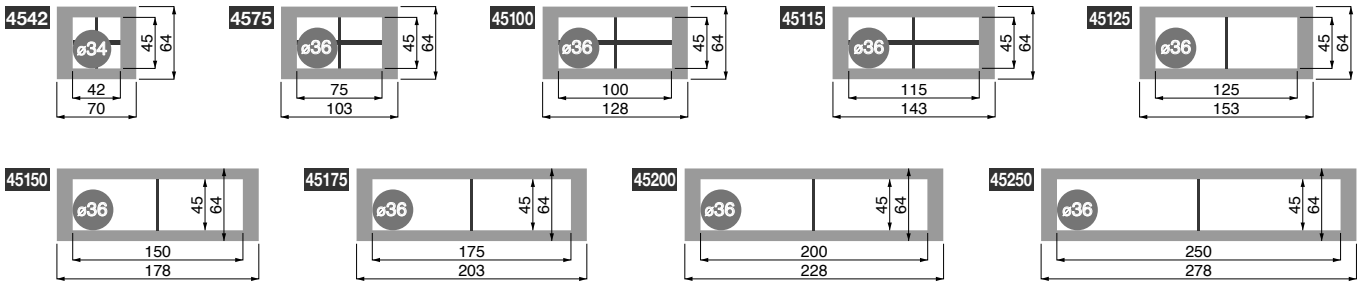
		Bending radius (mm)	Pitch length (mm)	No. of links (/m)	Max. free span (m)*1	Max. travel stroke (m)	Max. contents weight (kg/m)	Max. travel speed (m/s)	Chain weight (kg/m)	Divider	Open/close system
SD (High resistance, Low abrasion.)	2550	50, 70, 100	25	40	2.2	4.3	7	4	0.9	●	Snap open on either side along both the inner radius and the outer radius.
	2560								0.95	●	
	2580								1.07	●	

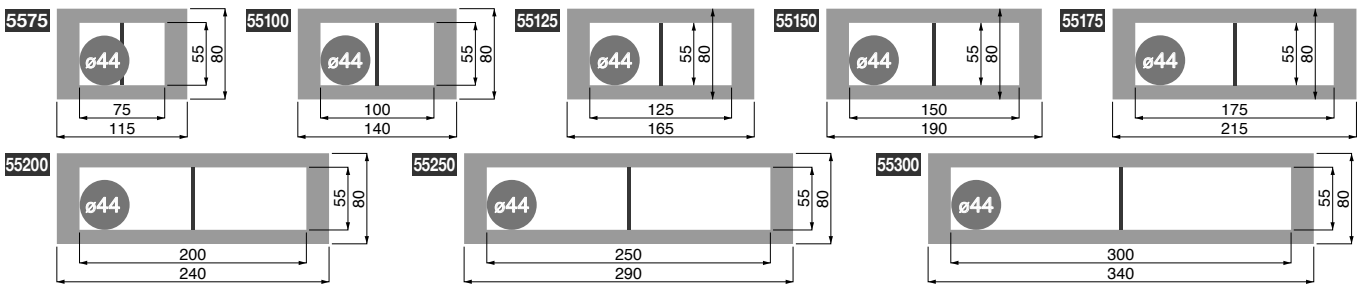
*1. Max. free span is the maximum length that the upper runs in straight line with no sag.
*2. Models available in Anti-static type.
*3. Weights in ( ) are for Anti-static type.
*4. Weights in [ ] are for SPO.

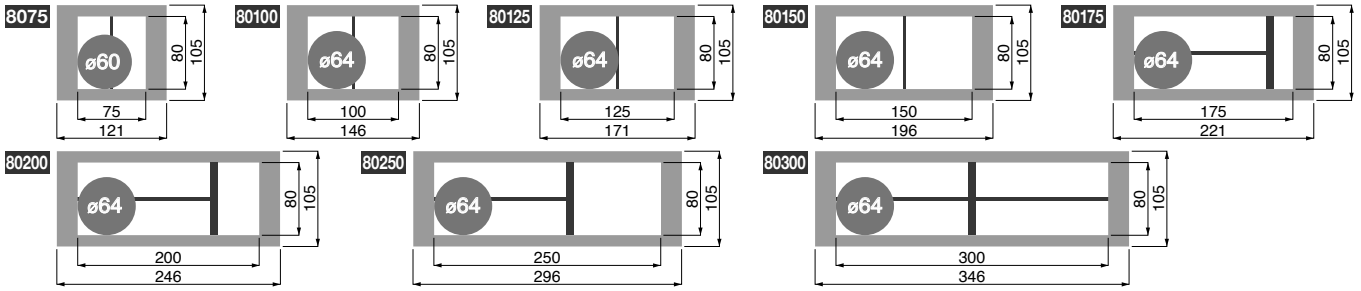


Size (Max. O.D. of cable/tube) (mm)

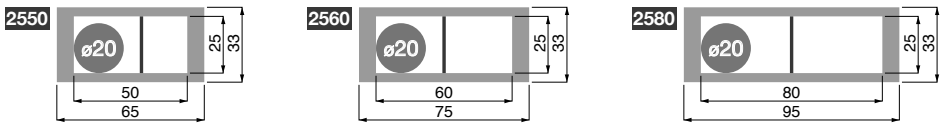






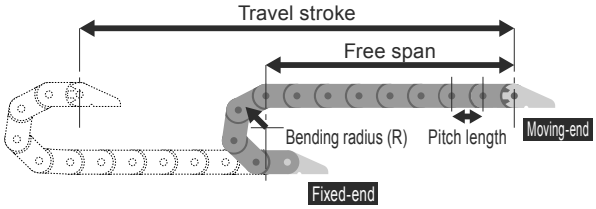


Size (Max. O.D. of cable/tube) (mm)

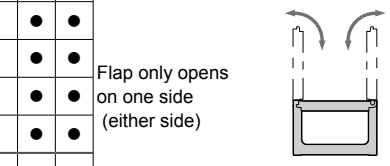


* ▬ indicates approximate positions where a divider and a rack can be installed.
SP80□ requires a shelf divider to install a shelf.

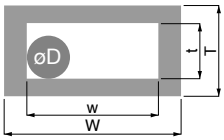
Selection chart for Plarailchain series



Open-Close Flap, Hinge Connection Type		Bending radius (mm)	Pitch length (mm)	No. of links (/m)	Max. free span (m)*	Max. travel stroke (m)	Max. contents weight (kg/m)	Max. travel speed (m/s)	Chain weight (kg/m)	Divider	Rack	Open/close system
SC Low noise, Low dust	1520	28, 34	18	56	1.1	2.15	1	4	0.34	–	–	Flap only opens on one side (either side)
	2040	31, 38, 58	20	50	1.4	2.75			0.7	●	–	
	2540	60, 85	30	33	1.5	2.9	3		0.77	●	●	
	2560	60							0.94	●	●	
	2580	60, 85							1.2	●	●	
	3560	75, 100	45	23	2	3.9	6		1.4	●	●	
	35100	75, 100, 115			1.8	3.5			2	●	●	
SCL Low noise, Low dust Space-saving type	2020	36	20	50	1.4	2.75	1	4	0.39	–	–	
	2050	31							0.58	●	–	
	2570	46, 64	30	33	1.5	2.9	3		0.96	●	●	
	3050	46			1.6	3.13			1.2	●	●	



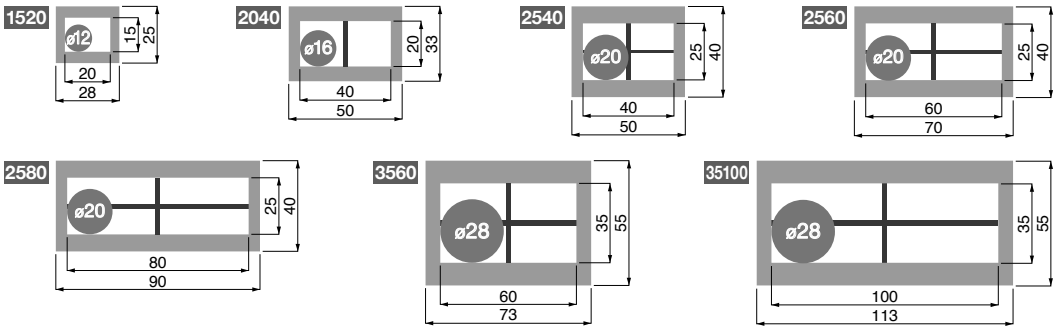
*Max. free span is the maximum length that the upper runs in straight line with no sag.



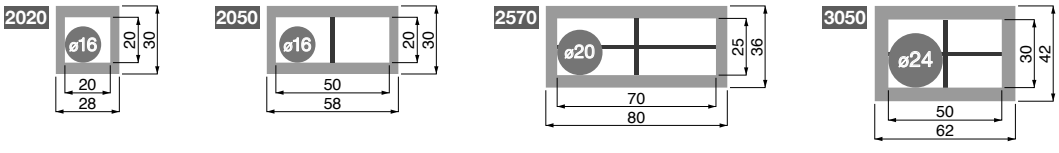
T : Height
W : Width
t : Inner height
w : Inner width
øD: Max. O.D. of cable/tube

Size (Max. O.D. of cable/tube) (mm)

SC Low noise, Low dust



SCL Low noise, Low dust Space-saving type



Number of links calculation

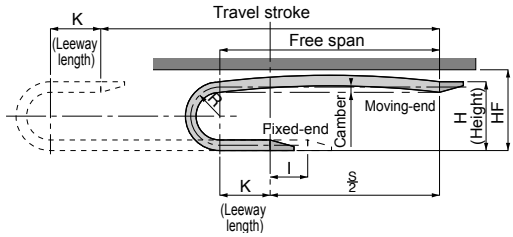
Number of links is to be calculated by the following formula.

$$n = \frac{\frac{S}{2} + a + l}{P}$$

n: Number of links (Round up after the decimal point)
S: Travel stroke
a: πR + 2K (R: Bending radius (mm), K: Leeway (mm))
l : Distance from mid point (mm) when the fixed-end is not in the middle of travel stroke. (When the travel stroke is in the mid point: 0).
P: Pitch length (mm)

《Note》

Placing the fixed-end in the center point of travel stroke minimizes the number of Plarailchains required.



*1. "HF" in the drawing above shows the installation height (clearance height) taking into account the camber (curve of upper run with no cables / hoses being accommodated)

*2. Please make inquiries for special travel conditions.

Series		R	P	H	HF	K	a
HPU	102	19	20	50	65	20	99.7
	202	25	25	70	85	25	128.5
		30		80	95		144.2
		45		110	125		191.3
	203	30	25	80	95	25	144.2
		45		110	125		191.3
	204,206	38	32	98	118	30	179.3
		50		122	142		217.0
	306	50	45	134	160	50	257.0
		100		234	260		414.0
		150		334	360		571.0
	408,412	50	45	140	170	50	257.0
		75		190	220		335.5
		100		240	270		414.0
		150		340	370		571.0
		200		440	470		728.0
	615	75	70	214	275	70	375.5
		100		264	325		454.0
		150		364	425		611.0
		200		464	525		768.0
HPO	202,203	30	20	80	95	25	144.2
		45		110	125		191.3
	204,206	38	26	98	118	30	179.3
		50		122	142		217.0
	408,412	70	45	180	210	50	319.8
		100		240	270		414.0
		150		340	370		571.0
		200		440	470		728.0
	512	100	60	260	320	60	434.0
	819	150	90	384	445	90	651.0
		200		484	545		808.0
		250		584	645		965.0
		300		684	745		1,122.0
		400		884	945		1,436.0
HPE	408,412	50	45	140	180	50	257.0
		75		190	230		335.5
		100		240	280		414.0
		150		340	380		571.0
		200		440	480		728.0
HPK	101	19	20	50	62	25	109.7
	202,203	30	25	80	95	25	144.2
		45		110	125		191.3
	204,206	38	32	98	118	30	179.3
		50		122	142		217.0
HPM	204,205	28	15	79	100	15	117.9
	206	30	22	80	95	25	144.2
		45		110	125		191.3
HPC	203	30	25	98	120	25	144.2
		45		128	150		191.3
		60		158	180		238.4
	204	50	32	146	165	30	271.0
		90		226	245		342.6
		150		346	365		531.0
	306	50	45	160	177	50	257.0
		100		260	277		414.0
		150		360	377		571.0
	50	60	25	152	206	90	368.4
	100	90	25	227	257	90	462.6
	200	105	25	260	295	90	509.7

You might find this helpful

The auto-calculator to help figure out the number of links is available on our website.

Series		R	P	H	HF	K	a
SP	1520	30	25	81	100	30	154.2
		50		121	140		217.0
		75		171	190		295.5
	2035	45	32	116	140	35	211.3
	2550, 2560	50	36	135	160	50	257.0
		75		185	210		335.5
		100		235	260		414.0
		150		335	360		571.0
	2585	60	43.5	155	180	50	288.4
		75		185	210		335.5
		100		235	260		414.0
		150		335	360		571.0
	35□	100	62.5	250	280	63	440.0
		125		300	330		518.5
		150		350	380		597.0
		175		400	430		675.5
		200		450	480		754.0
	45□	75	67	214	275	70	375.5
		100		264	325		454.0
		125		314	375		532.5
		150		364	425		597.0
		175		414	475		689.5
		200		464	525		754.0
		250		564	625		925.0
	55□	135	91	350	400	100	623.9
		150		380	430		671.0
		200		480	530		828.0
		250		580	630		985.0
	80□	150	100	406	495	106	683.0
		200		506	595		840.0
		250		606	695		997.0
		300		706	795		1,154.0
		350		806	895		1,311.0
		400		906	995		1,468.0
SPO	45□	125	67	314	375	70	532.5
		150		364	425		597.0
		175		414	475		689.5
		200		464	525		754.0
		250		564	625		925.0
	55□	150	91	380	430	100	671.0
		200		480	530		828.0
		250		580	630		985.0
SD	25□	50	25	133	150	28	213.0
		70		173	190		275.8
		100		233	250		370.0
SC	1520	28[26.3]	18	95	115	23	128.6
		34[31.3]		105	125		144.3
	L2020	36[34]	20	120	150	25	156.8
	2040	31[28.8]	20	115	145	30	150.4
		38[36.3]		130	160		174.0
		58[56.3]		170	200		236.8
	L2050	31[29]	20	110	140	25	141.1
	2540	60[57.8]	30	185	215	35	251.5
		85[82.8]		235	265		330.0
	2560	60[57.8]	30	185	215	35	251.5
	L2570	46[44]	30	150	180	35	208.2
		64[61.3]		185	215		262.5
	2580	60[57.8]	30	185	215	35	251.5
		85[82.8]		235	265		330.0
	L3050	46[44]	30	160	190	35	208.2
	3560, 35100	75[71.3]	45	240	270	50	323.9
		100[98.8]		295	325		410.2
	35100	115[113.8]	45	325	355	50	457.3

*As for SC Series, "R" value used for the calculation is inside [ ], which is different from "R" indication in the model code.