

Plarailchain SPO

Cable/Tube Carrier With Low Abrasion, Low Noise, Snap Open Flap, Fully-enclosed Type.

PISCO®

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.

SP (1) **O** (2) **4575** (3) - **R125** (4)

(1) Low abrasion, Low noise, Snap Open flap type

(2) Flap type

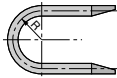
O: Fully enclosed

(3) Size (Storing dimensions: H × W)

Code	4575	45100	45125	45150	5575	55100	55125	55150
Size (mm)	45×75	45×100	45×125	45×150	55×75	55×100	55×125	55×150

(4) Bending radius (R) (○: Available)

Code	R125	R150	R175	R200	R250
45	○	○	○	○	○
55		○		○	○



Model Designatgion for Divider (Example)

SB (1) **45** (2) - **SP**

(1) Divider for Plarailchain

(2) Applicable models

Code	45	55
Applicable models	SPO45	SPO55

Model Designation for Shelf (Example)

TB (1) **4575** (2) - **SP**

(1) Shelf for Plarailchain

(2) Applicable models

Code	4575	45100
Applicable models	SPO4575	SPO45100

Flap Model designation for SPO45 (Example)

SPO (1) **4575** (2) **Flap** (3) **T** (4)

(1) Plarailchain SPO

(2) Applicable models

Code	4575	45100	45125	45150
Applicable models	SPO4575	SPO45100	SPO45125	SPO45150

(3) Orientation

Code	T	B
Orientation	Outer periphery	Inner periphery

Flap Model designation for SPO55 (Example)

SP (1) **55(80)75** (2) **Flap** (3)

*Flap for SPO55 requires SPO55 Cover T or SPO55 Cover B.

(1) Plarailchain SP

(2) Applicable models

Code	55(80)75	55(80)100	55(80)125	55(80)150
Applicable models	SPO5575	SPO55100	SPO55125	SPO55150

SPO (1) **5575** (2) **Flap** (3) **T** (4) **Cover**

(1) Plarailchain SPO

(2) Applicable models

Code	5575	55100	55125	55150
Applicable models	SPO5575	SPO55100	SPO55125	SPO55150

(3) Orientation

Code	T	B
Orientation	Outer periphery	Inner periphery

Related product



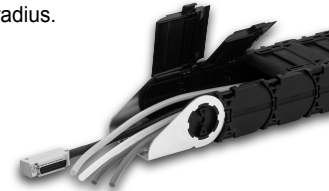
Low Friction Polyurethane Tube

► P.94

Plarailchain SPO

Characteristics

- Reduce wear between cables/tubes.
- Excellent in durability.
- Special resin contribute to the low noise.
- The Full-cover type Plarailchain protect cables from dust or particles.
- Snap open along both the outer radius and the inner radius.



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

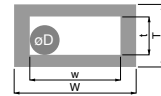
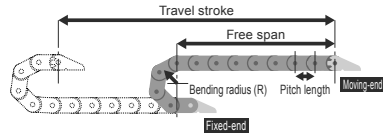
Type	Model code	Mounting bracket for SPO series			
Low abrasion, low noise, Fully-enclosed snap open flap type SPO	SPO4575- ⁽⁴⁾	Application	For moving-end		For fixed-end
	SPO45100- ⁽⁴⁾	Type	For moving-end		For fixed-end
	SPO45125- ⁽⁴⁾				
	SPO45150- ⁽⁴⁾				
	SPO5575- ⁽⁴⁾	Screwing position	Inside	Outside	Inside
	SPO55100- ⁽⁴⁾				
	SPO55125- ⁽⁴⁾	Orientation	Outer periphery	Inner periphery	Outer periphery
	SPO55150- ⁽⁴⁾				
		Type	Model code	Model code	Model code
			SPO45	SP45-M	SP45-F
			SPO55	SP55-A	SP55-B

CAD data is available at PISCO website.

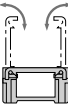
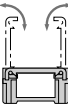
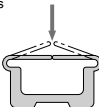
Divider for SPO series			R-piece for SPO45		
SB45	SB55	Model code	SP45R-PC	Model code	Applicable models
		SB45-SP		SP45R-PC- ⁽⁴⁾	SPO45
		SB55-SP			
Shelf for SPO45			Joint Cap for SPO55		
TB45	Model code	Applicable models	SP Joint cap	Model code	Applicable models
	TB4575-SP	SPO4575		SP55Joint collar	SPO55
	TB45100-SP	SPO45100			
Flap for SPO45		Flap for SPO55		Flap cover for SPO55	
SPO_FlapT	SPO_FlapB	SP_Flap	SPO_FlapTCover	SPO_FlapBCover	
Model code	Applicable models	Model code	Applicable models	Model code	Applicable models
SPO4575FlapT	SPO4575	SP55(80)75Flap	SPO5575	SPO5575FlapTCover	SPO5575
SPO4575FlapB		SP55(80)100Flap	SPO55100	SPO5575FlapBCover	
SPO45100FlapT	SPO45100	SP55(80)125Flap	SPO55125	SPO55100FlapTCover	SPO55100
SPO45100FlapB		SP55(80)150Flap	SPO55150	SPO55100FlapBCover	
SPO45125FlapT	SPO45125			SPO55125FlapTCover	SPO55125
SPO45125FlapB				SPO55125FlapBCover	
SPO45150FlapT	SPO45150			SPO55150FlapTCover	SPO55150
SPO45150FlapB				SPO55150FlapBCover	

- Notes**
- For ⁽⁴⁾ in model code, please select a code for bending radius from the Model designation (example).
 - See page 792 for size selection instructions.
 - See page 797 for the calculation method of the number of links.
 - Two types of brackets are required, each for a fixed and a moving-end. Select best-suited bracket for your application from above selection. Moving-end (the holed type) and fixed-end (the boss type) must be ordered separately when you need both of them.
 - Brackets for SPO55 series have different shape from above drawing. Two sets are required for the moving-end and the fixed-end.
 - T at the end of the model code for flap for SPO series represents flap for outer radius, and B represents flap for inner radius.

Selection chart for Plarailchain series

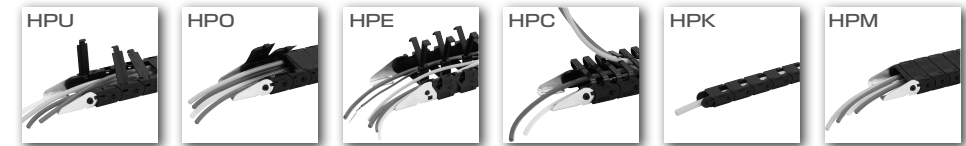


T : Height
 W : Width
 t : Inner height
 w : Inner width
 øD: Max. O.D. of cable/tube

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							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	1.75	3.4	10		0.5	—			
	206								0.6	—			
	408	70, 100, 150, 200	45	23	4.5	8.8	30.6		1.36	●			
	412								1.7	●			
	512								100	60			17
	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					0.78	—			
	50	60	25	40	1.06	1.9	5		0.358	—			
	100	90							0.608	—			
	200	105							1.056	—			

Fixed 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	
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	—		

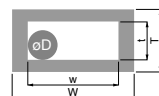
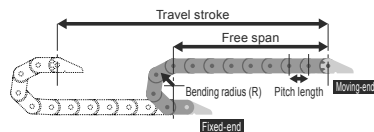
*Max. free span is the maximum length that the upper runs in straight line with no sag.



	Size (Max. O.D. of cable/tube (mm))											
	102	202	203	204	206	306	408	412	615	819	100	200

* 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	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	—	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	67	15	2.13	4.2	32	3	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	—	(75 and 100 are not available for SPO.)							3.5	—	—	
5575	5575	135, 150, 200, 250	91	11	5	9.8	65	3	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	—	(135 is not available for SPO.)							4.2	—	—	
8075	—	150, 200, 250, 300, 350, 400	100	10	5	9.8	70	3	4.7	—	—	
80100	—								4.8	—	—	
80125	—								4.9	—	—	
80150	—								5.1	—	—	
80175	—								5.2	—	—	
80200	—								5.3	—	—	
80250	—								5.6	—	—	
80300	—								5.8	—	—	

SD		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
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.

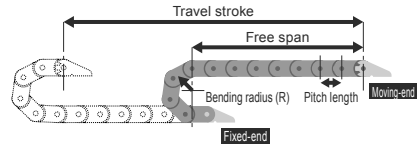


		Size (Max. O.D. of cable/tube) (mm)				
1520	2035	2550	2560	2585		
3580	35105					
4542	4575	45100	45115	45125		
45150	45175	45200	45250			
5575	55100	55125	55150	55175		
55200	55250	55300				
8075	80100	80125	80150	80175		
80200	80250	80300				

		Size (Max. O.D. of cable/tube) (mm)				
2550	2560	2580				

— 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

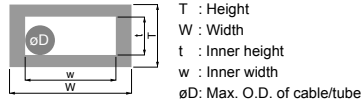


Open-Close Flap,
Hinge Connection Type

SC	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	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.



	1520	2040	2540	2560	2580	3560	35100
SC Low noise, Low dust							
SCL Low noise, Low dust Space-saving type							

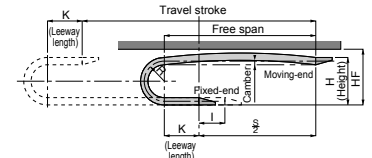
Plarailchain Number of Links Calculation

Number of links calculation

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

$$n = \frac{S}{2} + a + 1$$

n : Number of links (Round up after the decimal point)
 S : Travel stroke
 a : $\pi R + 2K$ (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
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		140	170		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
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
	150		384	445		651.0
	200		484	545		808.0
	250		584	645		965.0
	300		684	745		1,122.0
	400		884	945		1,436.0
408,412	50		140	180		257.0
	75		190	230		335.5
	100		240	280		414.0
	150		340	380		571.0
	200		440	480		728.0
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
204,205	28	15	79	100	15	117.9
206	30	22	80	95	25	144.2
	45		110	125		191.3
203	30	25	98	120		144.2
	45		128	150		191.3
	60		158	180		238.4
204	50	32	146	165		271.0
	90		226	245		342.6
	150		346	365		531.0
306	50	45	160	177		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
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
	50		135	160		257.0
2550, 2560	75	36	185	210		335.5
	100		235	260		414.0
	150		335	360		571.0
2585	60	43.5	155	180		288.4
	75		185	210		335.5
	100		235	260		414.0
	150		335	360		571.0
35 □	100	62.5	250	280		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		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		623.9
	150		380	430		671.0
	200		480	530		828.0
	250		580	630		985.0
80 □	150	100	406	495		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
45 □	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 □	150	91	380	430		671.0
	200		480	530		828.0
	250		580	630		985.0
	300		680	730		1,130.0
	350		780	830		1,275.0
	400		880	930		1,420.0
25 □	70	25	173	190	28	275.8
	100		233	250		370.0
1520	28[26.3]	18	95	115	23	126.6
	34[31.3]		105	125		144.3
L2020	36[34]	20	120	150	25	156.8
	31[28.8]		115	145		150.4
2040	38[36.3]	20	130	160	30	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
	85[82.8]		235	265		330.0
L2570	64[61.3]	30	185	215	35	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.