

公司製造能力與品管流程 / Manufacturing Capabilities and Quality Assurance

■ 產品測試能力 / Testing Capability

- 耐壓檢測 / Hydro Testing
- 爆破檢測 / Burst Testing
- 彈性係數檢測 / Spring Rate Testing
- 作動量檢測 / Deflection Testing
- 疲勞檢測 / Fatigue Testing
- 有限元素分析 / Finite Element Analysis
- 材質分析 / Material Analysis

■ 製造能力 / Manufacturing Capability

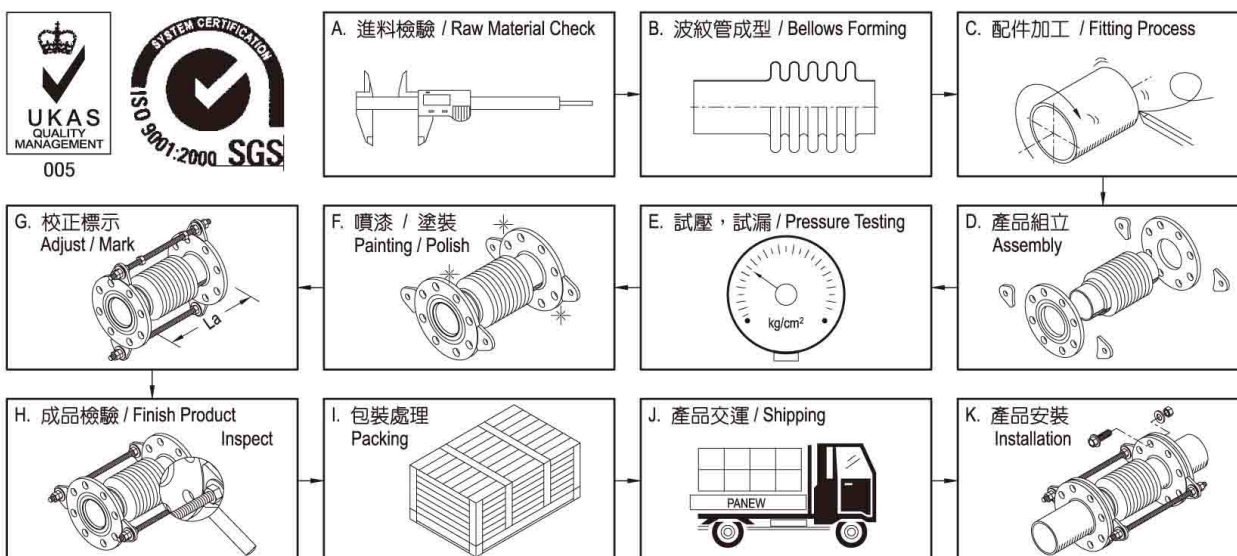
- 鵬宇國際股份有限公司成立於1989年
Panew Company Limited was established in 1989.
- 總製造面積 / Manufacturing Floor Area : 20000 m²
 - 天車最大載重 / Bridge Crane Capacity : 20 ton
 - 天車掛載最大高度 / Max. Hook Height : 5 m
 - L線自動焊接 / Automatic Welding of Bellows L-line : 0.1 ~ mm
 - 銲接品質 / Welding Qualifications : GTAW, FCAW, SMAW, PAW

■ 波紋管成型 / Bellows Forming

- | | | | |
|--|--------------|---------------------------------|------------------------------|
| 1. 橡膠擠壓成型 / Elastomeric Forming : | ~ Φ 12" | 4. 滾壓成型 / Roll Forming : | 最大口徑 Φ 7m / Max. Size Φ 7m |
| 2. 金屬橫擠壓成型 / Expanding Mandrel Forming : | Φ 5" ~ Φ 16" | 5. 模片組銲成型 / Disc-Welded Forming | |
| 3. 液壓成型 / Hydraulic Forming : | Φ 1" ~ Φ 3m | 6. 摺壓成型 / Press-Brake Forming : | U-shape, V-shape and L-shape |

■ 品質保證 / Quality Assurance

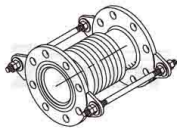
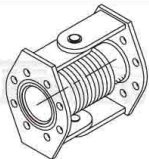
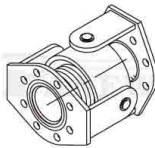
鵬宇國際股份有限公司之品質系統，已取得ISO 9001品質系統認證。每項產品於出廠前，均經100%壓力檢測。
Panew's Quality Assurance system has been certified to ISO 9001 and each product must be passed 100% pressure test before delivery.


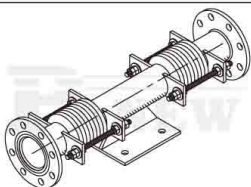
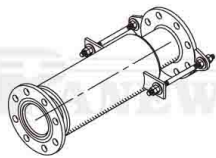
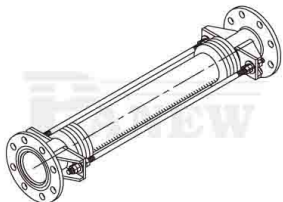
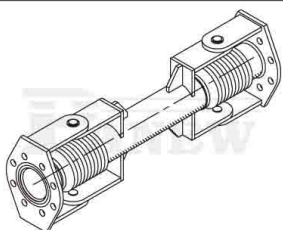
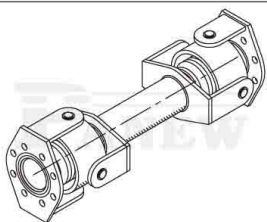
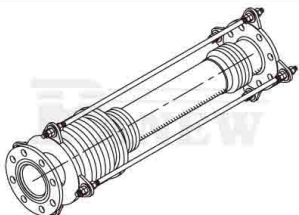


產品型號與功能比較



FUNCTION COMPARISON FOR PRODUCTS MODELS

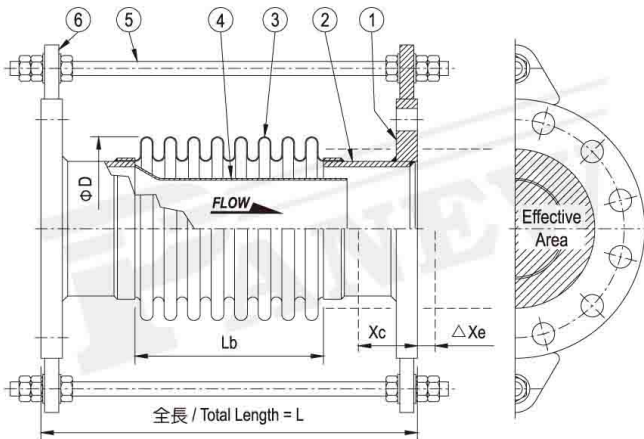
產品型號 圖示 Model No. Figure	<input type="checkbox"/> P-3000 	<input type="checkbox"/> P-5600 	<input type="checkbox"/> P-5700 
△X (mm)	25 ~ 65	---	---
△Y (mm)	---	---	---
△Z (mm)	---	---	---
△θ (deg.)	---	10 ~ 20	10 ~ 20
Pressure Thrust Force Applied.	<input checked="" type="checkbox"/> Yes. Pressure Thrust Force applied. ※ Main Anchor Required	<input type="checkbox"/> No Pressure Thrust Force applied. ※ Intermediate Anchor Required	<input type="checkbox"/> No Pressure Thrust Force applied. ※ Intermediate Anchor Required

產品型號 / 圖示 Product Model No. / Figure		△X (mm)	△Y (mm)	△Z (mm)	△θ (deg.)	配置方式 Config.	Pressure Thrust Force Applied
<input type="checkbox"/> P-3600 		70 ~ 130	---	---	---	水平 Horizontal	<input checked="" type="checkbox"/> Yes ※ Main Anchor Required
<input type="checkbox"/> P-3800 		55 ~ 130	---	---	---	垂直 Vertical 水平 Horizontal	<input checked="" type="checkbox"/> Yes ※ Main Anchor Required
<input type="checkbox"/> P-5000 		5 ~ 10	<input type="checkbox"/> 50 STD. <input type="checkbox"/> 150 Max.	50 ~ 150	---	垂直 Vertical 水平 Horizontal	<input type="checkbox"/> No
<input type="checkbox"/> P-5640 		---	200	---	10 ~ 20	垂直 Vertical 水平 Horizontal	<input type="checkbox"/> No
<input type="checkbox"/> P-5800 		---	200	---	10 ~ 20	垂直 Vertical 水平 Horizontal	<input type="checkbox"/> No
<input type="checkbox"/> P-8300 		~ 100	~ 150	~ 150	~ 5	垂直 Vertical 水平 Horizontal	<input type="checkbox"/> No

P-3000 軸向式伸縮接頭



AXIAL / SINGLE EXPANSION JOINT



※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材料 Std. Material	選用材料 Option Material
1.	法蘭(Flange)	SS-400	SUS-304/316
2.	端管(End Pipe)	SGP/SS-400	SUS-304/316
3.	波紋管(Bellows)	SUS-304	SUS-316
4.	內套管(Sleeve)	SUS-304	SUS-316
5.	固定螺桿(Shipping Rod)	SS-400	SUS-304
6.	焊耳(Lug)	SS-400	SUS-304

#法蘭標準規格 (Flange Standard) : JIS-10K

其餘規格亦可依實際需求選用，如ANSI, DIN, BS ...等。

Other standard flanges are available, like ANSI, DIN, BS ...etc.

#本產品依EJMA規範設計生產，產品於最大作動量時，其壽命達1000次以上。

Our products are designed and manufactured according to EJMA. The Max. life cycles of our products exceed 1000 cycles.

□ P-3000 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				軸向變位 (Axial Movement)		操作壓力 working pressure	單品重量 Weight/pc (JIS-10K)
				有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	伸張 Extension	壓縮 Compression		
mm	inch	mm	inch	Lb (mm)	Φ D (mm)	cm ²	kg/mm	Δ Xe(mm)	Δ Xc(mm)	kg/cm ²	kg/pc
32	1-1/4	200	8	88	59.2	20.3	10.0	5	25	10	4.8
40	1-1/2	250	10	96	65.7	25.8	10.3	5	30	10	5.2
50	2	300	12	120	81.2	39.3	12.7	5	35	10	6.5
65	2-1/2	300	12	120	97.2	59.0	15.6	5	35	10	8.7
80	3	300	12	120	113.7	80.4	13.2	10	40	10	9.1
100	4	300	12	132	139.7	127.1	15.0	10	40	10	11.0
125	5	300	12	144	165.7	184.3	16.4	10	45	10	14.9
150	6	350	14	165	196.7	257.6	18.9	10	50	10	20.9
200	8	350	14	180	247.7	423.1	22.0	10	50	10	27.3
250	10	400	16	200	305.7	646.5	39.5	10	55	10	39.1
300	12	400	16	200	355.5	890.4	46.4	10	55	10	44.4
350	14	400	16	200	399.0	1123.4	43.3	10	60	10	59.4
400	16	400	16	200	458.7	1470.5	61.8	10	60	10	84.2
450	18	400	16	210	500.0	1727.6	45.3	10	70	10	98.1
500	20	400	16	210	551.0	2123.7	49.9	10	70	10	111.7
550	22	400	16	210	602.0	2558.9	93.4	10	65	10	136.0
600	24	400	16	210	653.0	3036.6	101.9	10	65	10	144.3
650	26	500	20	280	724.0	3658.4	92.2	10	80	10	177.4
700	28	500	20	280	775.0	4225.6	99.3	10	80	10	196.8
750	30	500	20	280	825.0	4821.3	107.3	10	80	10	230.5
800	32	500	20	280	876.0	5469.4	114.4	10	80	10	241.7
850	34	500	20	280	926.0	6144.5	121.3	10	80	10	254.7
900	36	500	20	280	970.0	6771.0	127.4	10	80	10	302.7
950	38	500	20	280	1020.0	7497.0	134.2	10	80	10	325.6
1000	40	500	20	280	1070.0	8308.0	141.3	10	80	10	354.5
1050	42	500	20	250	1140.0	9305.7	108.6	10	80	10	400.1
1100	44	500	20	250	1192.0	10216.0	113.8	10	80	10	416.8
1150	46	500	20	250	1242.0	11131.4	118.8	10	80	10	458.9
1200	48	500	20	250	1293.0	12105.5	123.9	10	80	10	492.6
1250	50	500	20	250	1344.0	13090.0	129.0	10	80	10	516.0
1300	52	500	20	250	1394.0	14155.3	134.0	10	80	10	541.0
1350	54	500	20	250	1445.0	15251.2	139.1	10	80	10	606.0

#上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

#上表所示工作壓力以溫度100°C為基準，其最大使用壓力為 1.5 倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

#上表所示產品重量，均以 JIS-10K 為準，如需其它規格重量或相關資料，請隨時與我們聯絡。

The unit weight of the products tabulated above are based on JIS-10K flanges. If you need more information, please feel free to contact us any time.

P-3200 軸向式伸縮接頭



AXIAL / SINGLE EXPANSION JOINT

□ P-3200 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				軸向變位 (Axial Movement)		操作壓力 working pressure	單品重量 Weight/pc (JIS-16K)
				有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	伸張 Extension	壓縮 Compression		
mm	inch	mm	inch	Lb (mm)	φ D (mm)	cm ²	kg/mm	ΔXe (mm)	ΔXc (mm)	kg/cm ²	kg/pc
32	1-1/4	200	8	88	59.2	20.0	19.7	5	30	16	4.9
40	1-1/2	250	10	96	65.7	25.4	20.3	5	30	16	5.4
50	2	300	12	120	81.4	38.7	25.0	5	35	16	6.5
65	2-1/2	300	12	120	97.2	58.4	30.8	5	35	16	8.8
80	3	300	12	120	113.7	79.6	26.0	10	40	16	11.3
100	4	300	12	132	139.7	126.1	29.6	10	45	16	14.6
125	5	300	12	144	165.7	183.1	32.6	10	45	16	19.9
150	6	350	14	165	196.7	255.9	37.5	10	50	16	27.6
200	8	350	14	180	247.7	420.9	43.8	10	55	16	37.6
250	10	400	16	200	305.7	643.6	57.0	10	60	16	55.7
300	12	400	16	200	355.5	887.1	66.2	10	60	16	68.1
350	14	400	16	200	399.0	1119.7	61.8	10	65	16	90.7
400	16	400	16	200	458.7	1464.9	93.6	10	65	16	135.3
450	18	400	16	210	500.0	1720.2	90.1	10	70	16	164.7
500	20	400	16	210	551.0	2115.6	99.3	10	70	16	192.2
550	22	400	16	210	602.0	2551.8	109.1	10	70	16	223.1
600	24	400	16	210	653.0	3028.8	119.0	10	70	16	244.4

#上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

#上表所示工作壓力以溫度100°C為基準，其最大使用壓力為1.5倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

#上表所示產品重量，均以 JIS-16K 為準，如需其它規格重量或相關資料，請隨時與我們聯絡。

The unit weight of the products tabulated above are based on JIS-16K flanges. If you need more information, please feel free to contact us any time.

□ 其它型式外型規格說明 / Profile specifications of other types

※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	端管 (End Pipe)	SGP/SS-400	SUS-304/316
3.	波紋管 (Bellows)	SUS-304	SUS-316
4.	內套管 (Sleeve)	SUS-304	SUS-316
5.	固定螺桿 (Shipping Rod)	SS-400	SUS-304
6.	焊耳 (Lug)	SS-400	SUS-304
7.	外筒 (Cover)	SS-400	SUS-304

型號說明：
(Model No. Instruction)

P - 3 X X X

- 0. 法蘭碳鋼材質 (Flange C.S. Material)
- 5. 法蘭不銹鋼材質 (Flange S.S. Material)

如下圖 (as figures below)

0 : 10 kg/cm² / 2 : 16 kg/cm²

軸向伸縮接頭
(Axial Expansion Joint)

騰宇公司 (Panew Company)

□ P-3010 □ P-3210

□ P-3020 □ P-3220

□ P-3030 □ P-3230

□ P-3050 □ P-3250

□ P-3060 □ P-3260

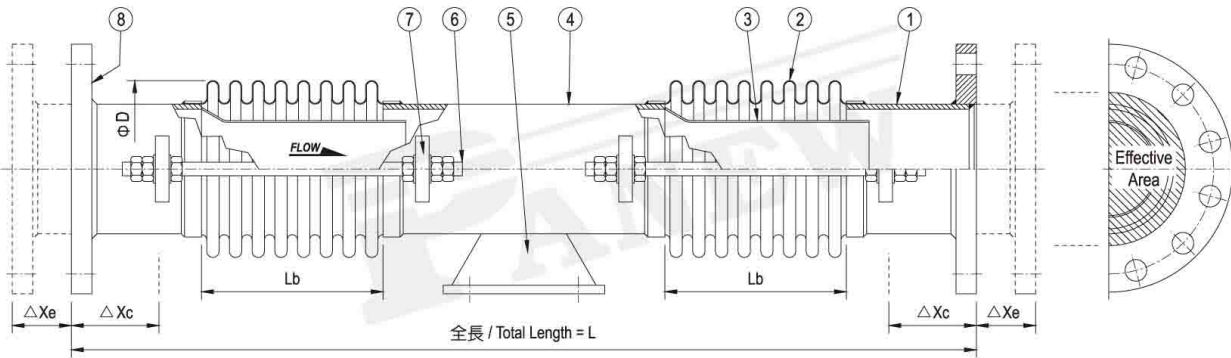
□ P-3070 □ P-3270

□ P-3080 □ P-3280

P-3600 複式伸縮接頭



DUAL TYPE EXPANSION JOINT



※主結構件 / Main Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	端管 (End Pipe)	SGP/SS-400	SUS-304/316
2.	波紋管 (Bellows)	SUS-304	SUS-316
3.	內套管 (Sleeve)	SUS-304	SUS-316
4.	中間管 (Mid. Pipe)	SGP/SS-400	SUS-304/316
5.	管座 (Anchor Base)	SS-400	SUS-304

亦可提供其它特殊材質 / Other special materials are available.

※選用結構 / Optional Fittings

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
6.	固定螺桿 (Shipping Rod)	SS-400	SUS-304
7.	焊耳 (Lug)	SS-400	SUS-304
8.	法蘭 (Flange)	SS-400	SUS-304/316

本產品依 EJMA 規範設計，壽命於最大作動量時達 1000 次以上。
Our products are designed and manufactured according to EJMA. The Max. life cycles of our products exceed 1000 cycles.

□ P-3600 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				軸向變位 (Axial Movement)		操作壓力 working pressure	單品重量 Weight/pc (JIS-10K)
				有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	伸張 Extension	壓縮 Compression		
mm	inch	mm	inch	Lb (mm)	Φ D (mm)	cm ²	kg/mm	Δ Xe (mm)	Δ Xc (mm)	kg/cm ²	kg/pc
50	2	600	24	120	81.2	39.3	12.7	5	35	10	8.1
65	2-1/2	600	24	120	97.2	59.0	15.6	5	35	10	11.0
80	3	650	26	120	113.7	80.4	13.2	10	40	10	12.5
100	4	650	26	132	139.7	127.1	15.0	10	40	10	15.8
125	5	750	30	144	165.7	184.3	16.4	10	45	10	21.1
150	6	850	34	165	196.7	257.6	18.9	10	50	10	39.3
200	8	850	34	180	247.7	423.1	22.0	10	50	10	45.3
250	10	1000	40	220	305.7	646.5	39.5	10	55	10	72.2
300	12	1000	40	220	355.5	890.4	46.4	10	55	10	86.0
350	14	1000	40	200	399.0	1123.4	43.3	10	60	10	110.4
400	16	1000	40	200	458.7	1470.5	61.8	10	60	10	142.1

□ P-3620 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				軸向變位 (Axial Movement)		操作壓力 working pressure	單品重量 Weight/pc (JIS-16K)
				有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	伸張 Extension	壓縮 Compression		
mm	inch	mm	inch	Lb (mm)	Φ D (mm)	cm ²	kg/mm	Δ Xe (mm)	Δ Xc (mm)	kg/cm ²	kg/pc
50	2	600	24	120	81.2	38.7	25.0	5	35	20	8.5
65	2-1/2	600	24	120	97.2	58.4	30.8	5	35	20	12.3
80	3	650	26	120	113.7	79.6	26.0	10	40	20	16.5
100	4	650	26	132	139.7	126.1	29.6	10	45	20	21.8
125	5	750	30	144	165.7	183.1	32.6	10	45	20	32.9
150	6	850	34	165	196.7	255.9	37.5	10	50	20	46.1
200	8	850	34	180	247.7	420.9	43.8	10	55	20	63.8
250	10	1000	40	220	305.7	643.6	57.0	10	60	20	103.7
300	12	1000	40	220	355.5	887.1	66.2	10	60	16	130.4
350	14	1000	40	200	399.0	1119.7	61.8	10	65	16	169.4
400	16	1000	40	200	458.7	1464.9	93.6	10	65	16	222.9

上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

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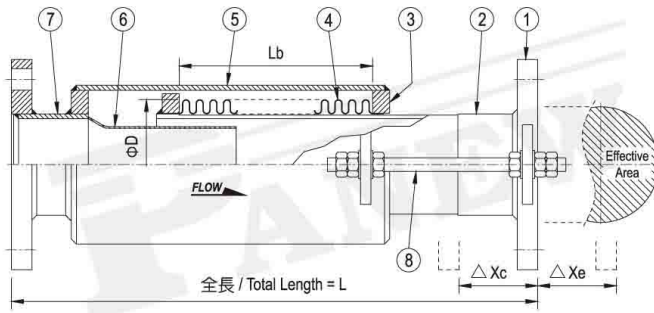
上表所示產品重量，均以 JIS 為準，如需其它規格重量或相關資料，請隨時與我們聯絡。

The unit weight of the products tabulated above are based on JIS flanges. If you need more information, please feel free to contact us any time.

P-3800 外壓式伸縮接頭



EXTERIOR PRESSURIZED EXPANSION JOINT



※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	滑套管 (Sleeve Pipe)	STPG/SS-400	SUS-304/316
3.	側封板 (Ring Plate)	SS-400	SUS-304/316
4.	波紋管 (Bellows)	SUS-304	SUS-316
5.	外套管 (Cover Pipe)	STPG/SS-400	SUS-304/316
6.	內套管 (Sleeve)	SUS-304	SUS-316
7.	端管 (End Pipe)	STPG/SS-400	SUS-304/316
8.	固定螺桿 (Shipping Rod)	SS-400	SUS-304

法蘭標準規格 (Flange Standard) : JIS-10K

其餘規格亦可依實際需求選用，如 ANSI, DIN, BS ... 等。
Other standard flanges are available, like ANSI, DIN, BS ... etc.

本產品依 EJMA 規範設計生產，產品壽命於最大作動量時達 1000 次以上。
Our products are designed and manufactured according to EJMA. The Max. life cycles of our products exceed 1000 cycles with the max. movement.

下表所示產品變位量，為自由長度下之最大容許軸向變位量，您亦可依實際需求，進行產品預拉或預壓，以達到您所需之軸變位。
The axial movements tabulated below are based on the free length of the product, you can also pre-extend or pre-compress the total length to get a proper axial movement absorption.

符號說明 / nomenclature :

- a: 預拉伸量 / pre-ext. movement b: 預壓縮量 / pre-comp. movement
Ae: 允許伸長量 / allowable extension Be: 允許伸長量 / allowable extension
Ac: 允許壓縮量 / allowable compression Bc: 允許壓縮量 / allowable compression

容許變位量百分比 :

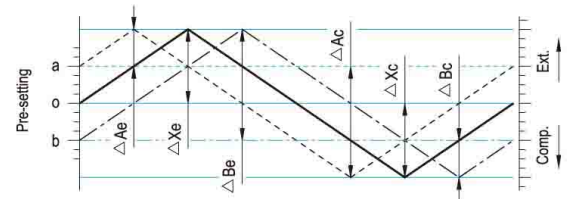
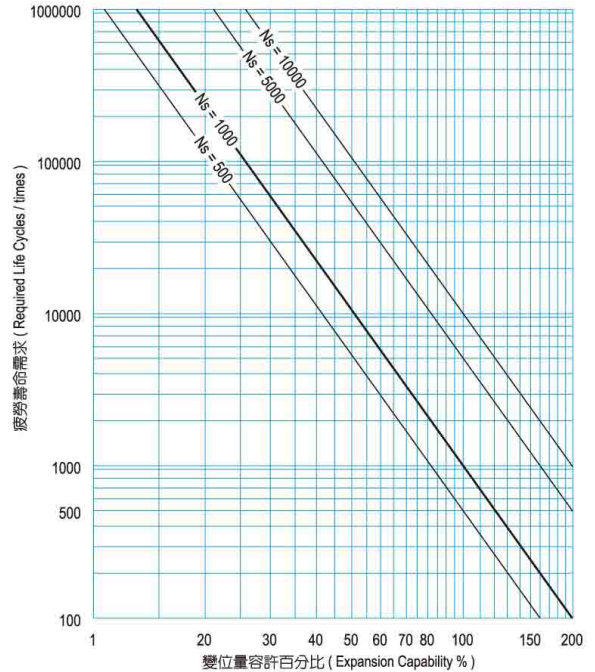
$$Ec = Nf = \sqrt[3.4]{\frac{Ns}{Nr}}$$

Ec: 容許變位量百分比 (Expansion Capability %)

Nf: 疲勞壽命因數 (Life Factor)

Nr: 疲勞壽命需求 (Required Life Cycles)

Ns: 標準疲勞壽命 (Nominal Life Cycles)



□ P-3800 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				軸向變位 (Axial Movement)		操作壓力	單品重量
mm	inch	mm	inch	有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	伸張 Extension	壓縮 Compression	working pressure	Weight/pc (JIS-10K)
				Lb (mm)	Φ D (mm)	cm ²	kg/mm	ΔXe (mm)	ΔXc (mm)	kg/cm ²	kg/pc
32	1-1/4	600	24	248	59.2	20.3	3.6	55	55	20	10.3
40	1-1/2	600	24	272	65.7	25.8	3.6	60	60	20	11.0
50	2	600	24	260	81.2	39.3	5.9	60	60	20	14.4
65	2-1/2	700	28	340	97.2	59.0	5.5	75	75	20	21.0
80	3	700	28	312	113.7	80.4	5.1	80	80	10	21.5
100	4	700	28	312	139.7	127.1	6.3	80	80	10	27.5
125	5	700	28	312	165.7	184.3	7.6	80	80	10	31.8
150	6	900	36	375	196.7	257.6	8.3	100	100	10	52.5
200	8	900	36	405	247.7	423.1	9.8	100	100	10	75.3
250	10	900	36	420	305.7	646.5	15.7	100	100	10	120.9
300	12	900	36	420	355.5	890.4	18.4	100	100	10	141.5
350	14	1000	40	460	399.0	1123.4	18.8	110	110	10	166.8
400	16	1100	44	475	458.7	1470.5	26.0	120	120	10	199.7
450	18	1100	44	420	500.0	1727.6	22.9	130	130	10	258.4
500	20	1100	44	420	551.0	2123.7	25.4	130	130	10	295.8
550	22	1200	48	510	602.0	2558.9	38.9	130	130	10	355.4
600	24	1200	48	510	653.0	3036.6	42.5	130	130	10	383.3

上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

上表所示工作壓力以溫度 100°C 為基準，其最大使用壓力為 1.5 倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

上表所示產品重量，均以 JIS-10K 為準，如需其它規格重量或相關資料，請隨時與我們聯絡。

The unit weight of the products tabulated above are based on JIS-10K flanges. If you need more information, please feel free to contact us any time.

P-3820 外壓式伸縮接頭



EXTERIOR PRESSURIZED EXPANSION JOINT

□ P-3820 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				軸向變位(Axial Movement)		操作壓力	單品重量
mm	inch	mm	inch	有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	伸張 Extension	壓縮 Compression	working pressure	Weight/pc (JIS-16K)
mm	inch	mm	inch	Lb (mm)	Φ D (mm)	cm ²	kg/mm	Δ Xe(mm)	Δ Xc(mm)	kg/cm ²	kg/pc
32	1-1/4	600	24	248	59.2	20	7.1	55	55	40	10.7
40	1-1/2	600	24	272	65.7	25.4	7.3	60	60	40	11.6
50	2	600	24	260	81.4	38.7	11.7	60	60	40	14.8
65	2-1/2	700	28	340	97.2	58.4	11.0	75	75	40	22.8
80	3	700	28	312	113.7	79.6	10.1	80	80	20	25.6
100	4	700	28	312	139.7	126.1	12.6	80	80	20	31.5
125	5	700	28	312	165.7	183.1	15.1	80	80	20	36.9
150	6	900	36	375	196.7	255.9	16.6	100	100	20	65.8
200	8	900	36	405	247.7	420.9	19.6	100	100	20	95.0
250	10	900	36	400	305.7	643.6	23.8	100	100	20	149.0
300	12	900	36	400	355.5	887.1	28.0	100	100	16	180.2
350	14	1000	40	400	399.0	1119.7	29.4	110	110	16	219.5
400	16	1100	44	450	458.7	1464.9	41.8	120	120	16	283.6
450	18	1100	44	420	500.0	1720.2	45.8	130	130	16	365.1
500	20	1100	44	420	551.0	2115.6	51.2	130	130	16	421.0
550	22	1200	48	420	602.0	2551.8	55.3	130	130	16	484.4
600	24	1200	48	420	653.0	3028.8	60.4	130	130	16	529.5

#上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

#上表所示工作壓力以溫度100°C為基準，其最大使用壓力為 1.5 倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

#上表所示產品重量，均以 JIS-16K 為準，如需其它規格重量或相關資料，請隨時與我們聯絡。

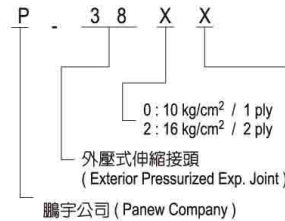
The unit weight of the products tabulated above are based on JIS-16K flanges. If you need more information, please feel free to contact us any time.

□ 其它型式外型規格說明 / Profile specifications of other types

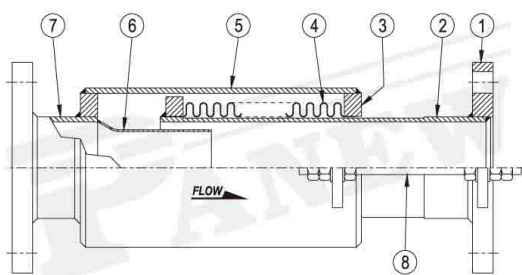
※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	滑套管 (Sleeve Pipe)	STPG/SS-400	SUS-304/316
3.	側封板 (Ring Plate)	SS-400	SUS-304/316
4.	波紋管 (Bellows)	SUS-304	SUS-316
5.	外套管 (Cover Pipe)	STPG/SS-400	SUS-304/316
6.	內套管 (Sleeve)	SUS-304	SUS-316
7.	端管 (End Pipe)	STPG/SS-400	SUS-304/316
8.	螺桿 (Rods)	SS-400	SUS-304/316

型號說明：
(Model No. Instruction)

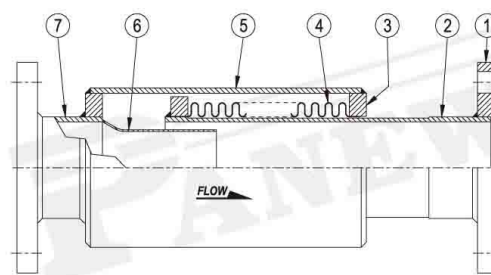


0. 法蘭口含固定螺桿
(Flanged Ends with Shipping Rods)
1. 法蘭口不含螺桿
(Flanged Ends without Rods)
2. 法蘭口含設限螺桿
(Flanged Ends with Tie Rods)
5. 對焊口含固定螺桿
(Welded Ends with Shipping Rods)
6. 對焊口不含螺桿
(Welded Ends without Rods)
7. 對焊口含設限螺桿
(Welded Ends with Tie Rods)



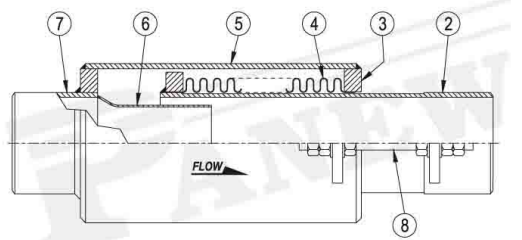
□ P-3800

□ P-3820



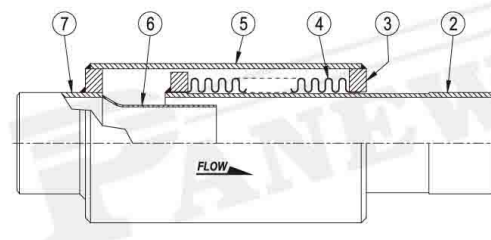
□ P-3801

□ P-3821



□ P-3805

□ P-3825



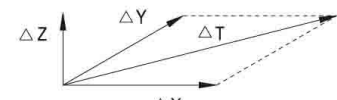
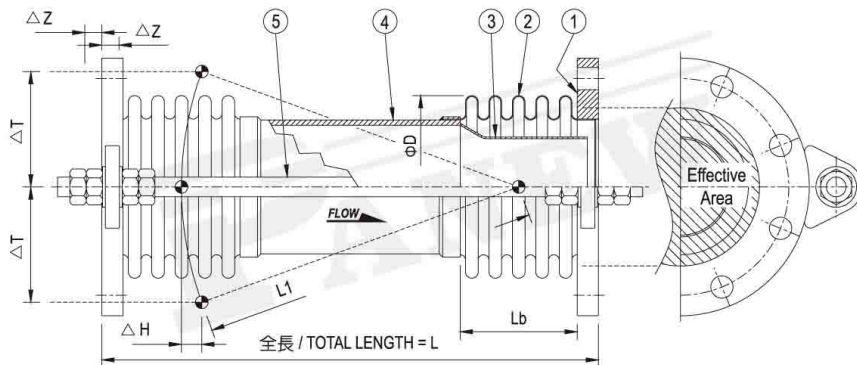
□ P-3806

□ P-3826

P-5000 側向式伸縮接頭



UNIVERSAL TYPE EXPANSION JOINT



三度空間側向變位量
Lateral deflection for three plane "Z" bend

$$\Delta T = \sqrt{\Delta X^2 + \Delta Y^2}$$

弧線落差 (Arch height)

$$\Delta H = L1 - \sqrt{L1^2 - \Delta T^2}$$

※結構組合 / Construction

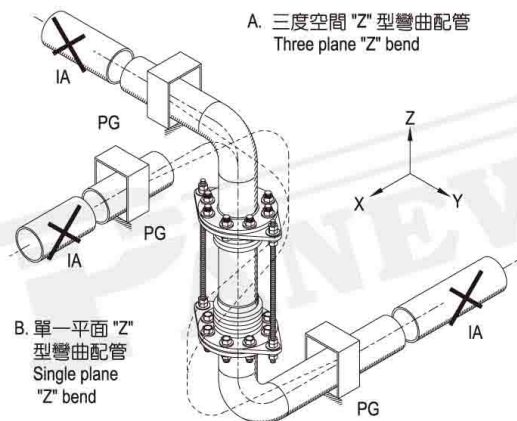
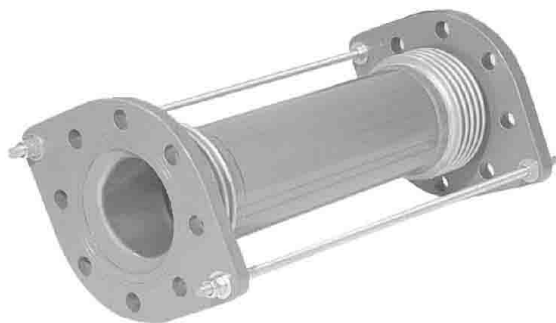
項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	波紋管 (Bellows)	SUS-304	SUS-316
3.	內套管 (Sleeve)	SUS-304	SUS-316
4.	中間管 (Mid. Pipe)	SGP/SS-400	SUS-304/316
5.	設限螺桿 (Tie Rod)	SS-400	SUS-304

法蘭標準規格 (Flange Standard): JIS-10K

其餘規格亦可依實際需求選用, 如 ANSI, DIN, BS ... 等。
Other standard flanges are available, like ANSI, DIN, BS ...etc.

本產品依 EJMA 規範設計生產, 產品壽命於最大作動量時達 1000 次以上。

Our products are designed and manufactured according to EJMA. The Max. life cycles of our products exceed 1000 cycles.



□ P-5000 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				容許變位 (Deflection)		操作壓力 working pressure	單品重量 Weight/pc (JIS-10K)
				有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	軸向 Axial	側向 Lateral		
mm	inch	mm	inch	Lb (mm)	φ D (mm)	cm ²	kg/mm	Δ Z (mm)	Δ T (mm)	kg/cm ²	kg/pc
40	1-1/2	500	20	32	65.7	25.8	0.1	± 5	± 50	10	6.5
50	2	500	20	40	81.2	39.3	0.3	± 5	± 50	10	7.8
65	2-1/2	500	20	40	97.2	59.0	0.5	± 5	± 50	10	10.1
80	3	500	20	48	113.7	80.4	0.5	± 5	± 50	10	10.7
100	4	500	20	48	139.7	127.1	1.0	± 5	± 50	10	13.5
125	5	600	24	60	165.7	184.3	0.9	± 5	± 50	10	21.3
150	6	600	24	75	196.7	257.6	1.5	± 5	± 50	10	26.6
200	8	700	28	75	247.7	423.1	2.1	± 5	± 50	10	40.4
250	10	700	28	100	305.7	646.5	5.9	± 5	± 50	10	57.3
300	12	1100	44	100	355.5	890.4	9.2	± 5	± 50	10	107.7
350	14	1200	48	100	399.0	1123.4	7.8	± 5	± 50	10	134.7
400	16	1200	48	125	458.7	1470.5	11.5	± 5	± 50	10	179.0
450	18	1300	52	120	500.0	1727.6	8.0	± 5	± 50	10	206.8
500	20	1300	52	120	551.0	2123.7	12.1	± 5	± 50	10	252.7
550	22	1400	56	120	602.0	2558.9	20.9	± 5	± 50	10	312.5
600	24	1400	56	120	653.0	3036.6	30.0	± 5	± 50	10	349.0

上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格, 本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

上表所示工作壓力以溫度 100°C 為基準, 其最大使用壓力為 1.5 倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

上表所示產品重量, 均以 JIS-10K 為準, 如需其它規格重量或相關資料, 請隨時與我們聯絡。

The unit weight of the products tabulated above are based on JIS-10K flanges. If you need more information, please feel free to contact us any time.

P-5200 側向式伸縮接頭



UNIVERSAL TYPE EXPANSION JOINT

□ P-5200 性能規格表 / Specification

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				容許變位 (Deflection)		操作壓力	單品重量
mm	inch	mm	inch	有效長度 Eff. Length	外徑 O.D.	有效面積 Eff. Area	彈性係數 Spring Rate	軸向 Axial	側向 Lateral	working pressure	Weight/pc (JIS-16K)
mm	inch	mm	inch	Lb (mm)	φ D (mm)	cm ²	kg/mm	Δ Z(mm)	Δ T(mm)	kg/cm ²	kg/pc
40	1-1/2	500	20	32	65.7	25.4	0.3	± 5	± 50	16	6.7
50	2	500	20	40	81.2	38.7	0.5	± 5	± 50	16	7.7
65	2-1/2	500	20	40	97.2	58.4	1.0	± 5	± 50	16	11.0
80	3	500	20	48	113.7	79.6	1.0	± 5	± 50	16	13.9
100	4	500	20	48	139.7	126.1	2.0	± 5	± 50	16	19.7
125	5	600	24	60	165.7	183.1	1.9	± 5	± 50	16	28.5
150	6	600	24	75	196.7	255.9	3.0	± 5	± 50	16	39.2
200	8	700	28	75	247.7	420.9	4.3	± 5	± 50	16	59.4
250	10	700	28	100	305.7	643.6	8.7	± 5	± 50	16	85.1
300	12	1100	44	100	355.5	887.1	13.1	± 5	± 50	16	178.2
350	14	1200	48	100	399.0	1119.7	10.1	± 5	± 50	16	220.5
400	16	1200	48	125	458.7	1464.9	20.3	± 5	± 50	16	267.8
450	18	1300	52	120	500.0	1720.2	21.1	± 5	± 50	16	319.7
500	20	1300	52	120	551.0	2115.6	32.4	± 5	± 50	16	389.2
550	22	1400	56	120	602.0	2551.8	35.6	± 5	± 50	16	458.0
600	24	1400	56	120	653.0	3028.8	49.2	± 5	± 50	16	501.3

#上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

#上表所示工作壓力以溫度100°C為基準，其最大使用壓力為 1.5 倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

#上表所示產品重量，均以 JIS-16K 為準，如需其它規格重量或相關資料，請隨時與我們聯絡。

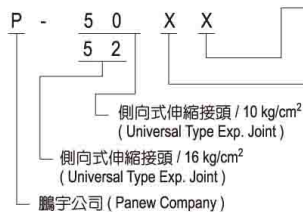
The unit weight of the products tabulated above are based on JIS-16K flanges. If you need more information, please feel free to contact us any time.

□ 其它型式外型規格說明 / Profile specifications of other types

※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	端管 (End Pipe)	SGP/SS-400	SUS-304/316
3.	波紋管 (Bellows)	SUS-304	SUS-316
4.	內套管 (Sleeve)	SUS-304	SUS-316
5.	中間管 (Mid. Pipe)	SGP/SS-400	SUS-304/316
6.	設限螺桿 (Tie Rod)	SS-400	SUS-304
7.	外筒 (Cover)	SS-400	SUS-304

型號說明 (Model No. Instruction) :

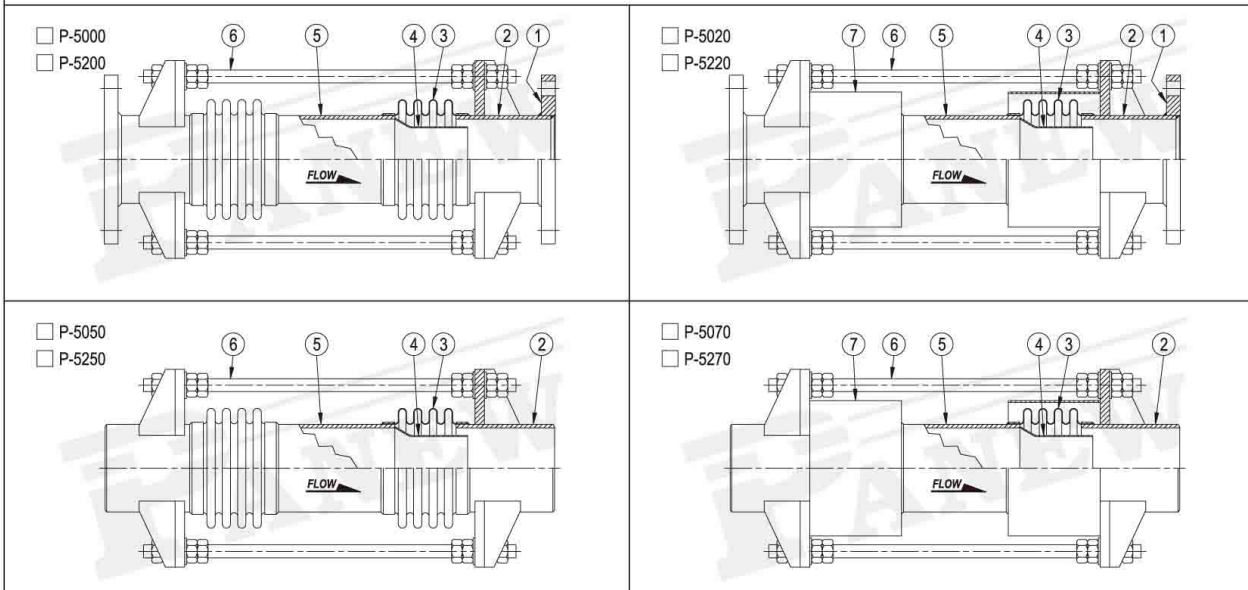


接頭材質 / Ends material :

0. SS-400/A-105 1. A-105 2. SB-410 4. other C.S.
5. SUS-304/304L 6. SUS-316/316L 9. other S.S.

外型結構 / Construction Profile :

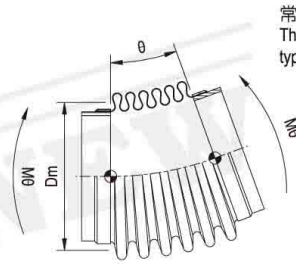
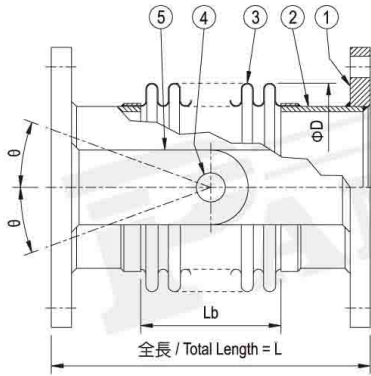
0. 法蘭口 / Flanged Ends / Rods + Sleeve
1. 法蘭口 / Flanged Ends / Sleeve
2. 法蘭口 / Flanged Ends / Rods + Sleeve + Cover
4. 法蘭口 / Flanged Ends / Special Design
5. 對焊口 / Welded Ends / Rods + Sleeve
6. 對焊口 / Welded Ends / Sleeve
7. 對焊口 / Welded Ends / Rods + Sleeve + Cover
9. 對焊口 / Welded Ends / Special Design



P-5600 鉸鍊式伸縮接頭



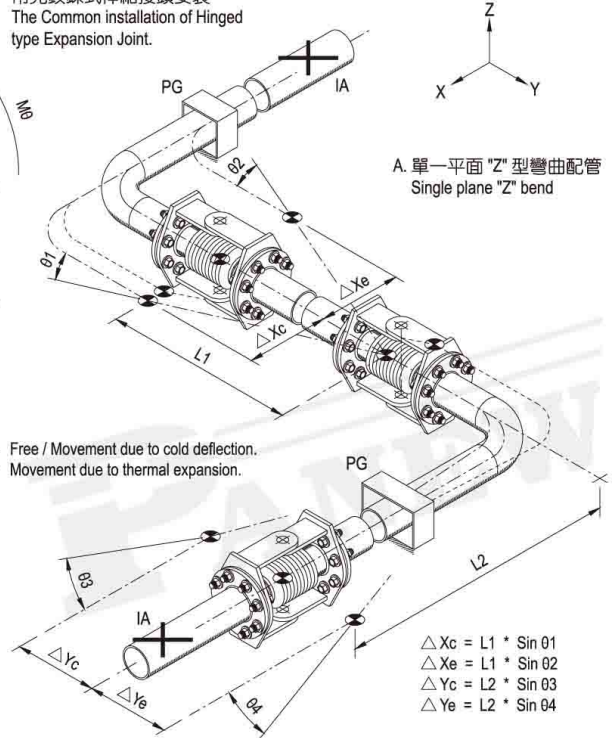
HINGED TYPE EXPANSION JOINT



$$M\theta = Kx * (Dm / 1200)^2 * \Delta\theta * \pi$$

$$= K\theta * \Delta\theta$$

常見鉸鍊式伸縮接頭安裝
The Common installation of Hinged type Expansion Joint.



A. 單一平面 "Z" 型彎曲配管
Single plane "Z" bend

※結構組合 / CONSTRUCTION

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	端管 (End Pipe)	SGP/SS-400	SUS-304/316
3.	波紋管 (Bellows)	SUS-304	SUS-316
4.	鉸鍊銷 (Hinged Pin)	SS-400	SUS-304
5.	鉸鍊臂 (Hinged Arm)	SS-400	SUS-304

- @ 法蘭標準規格 (Flange Standard): JIS-10K
其餘規格亦可依實際需求選用, 如 ANSI, DIN, BS ... 等。
Other standard flanges are available, like ANSI, DIN, BS ...etc.
- @ 本產品依 EJMA 規範設計生產, 產品壽命於最大作動量時達 1000 次以上。
Our products are designed and manufactured according to EJMA. The Max. life cycles of our products exceed 1000 cycles.

--- Free / Movement due to cold deflection.
--- Movement due to thermal expansion.

□ P-5600 性能規格表 / Specification

* 下表單位重量僅供參考 / The unit weight below is just for reference.

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				角度變位	操作壓力	單品重量
mm	inch	mm	inch	有效長度 Eff. Length	外徑 φ O.D (mm)	有效徑 Eff. Diameter	彈性係數 (Spring Rate) Kx Kθ	Angular Rotation	working pressure	Weight/pc (JIS-10K)
mm	inch	mm	inch	Lb (mm)	φ D (mm)	φ Dm (mm)	kg/mm kg*m/degree	Δ θ (degree)	kg/cm ²	kg/pc
32	1-1/4	200	8	56	59.2	50.8	15.8 0.1	20	10	5.9
40	1-1/2	200	8	56	65.7	57.3	17.7 0.1	20	10	6.2
50	2	200	8	70	81.2	70.7	21.8 0.2	20	10	7.6
65	2-1/2	250	10	90	97.2	86.7	20.9 0.3	19	10	10.6
80	3	250	10	96	113.7	101.2	16.5 0.4	19	10	10.9
100	4	250	10	96	139.7	127.2	20.6 0.7	15	10	13.4
125	5	250	10	108	165.7	153.2	21.9 1.1	13	10	19.6
150	6	250	10	105	196.7	181.1	29.7 2.1	13	10	26.0
200	8	300	12	150	247.7	232.1	26.4 3.1	12	10	32.6
250	10	350	14	220	305.7	286.9	39.5 7.1	12	10	51.1
300	12	350	14	220	355.5	336.7	46.4 11.5	11	10	56.0
350	14	350	14	200	399.0	378.2	43.3 13.5	10	10	73.1
400	16	400	16	200	458.7	432.7	61.8 25.3	10	10	105.0
450	18	400	16	210	500.0	469.0	45.3 21.7	10	10	127.6
500	20	400	16	210	551.0	520.0	50.4 29.7	10	10	144.6
550	22	400	16	210	602.0	570.8	66.4 47.2	10	10	183.5
600	24	400	16	210	653.0	621.8	72.4 61.0	8	10	195.4
650	26	500	20	280	724.0	682.5	93.2 94.7	10	10	232.1
700	28	500	20	280	775.0	733.5	100.3 117.7	9	10	262.0
750	30	500	20	280	825.0	783.5	107.3 143.7	9	10	315.1
800	32	500	20	280	876.0	834.5	114.4 173.8	8	10	330.6
850	34	500	20	280	926.0	884.5	121.3 207.1	8	10	349.3
900	36	500	20	280	970.0	928.5	127.4 239.7	7	9.5	404.3
950	38	500	20	280	1020.0	978.5	134.4 280.7	7	9	443.7
1000	40	500	20	280	1070.0	1028.5	141.3 326.0	7	8.5	485.2

- # 上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格, 本公司亦可依客戶實際需求訂製。
The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.
- # 上表所示工作壓力以溫度 100°C 為基準, 其最大使用壓力為 1.5 倍之工作壓力值。
The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.
- # 上表所示產品重量, 均以 JIS-10K 為準, 如需其它規格重量或相關資料, 請隨時與我們聯絡。
The unit weight of the products tabulated above are based on JIS-10K flanges. If you need more information, please feel free to contact us any time.

P-5620 鉸鍊式伸縮接頭



HINGED TYPE EXPANSION JOINT

□ P-5620 性能規格表 / Specification

* 下表單位重量僅供參考 / The unit weight below is just for reference.

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				角度變位	操作壓力	單品重量	
				有效長度	外徑	有效徑	彈性係數 (Spring Rate)	Angular	working	Weight/pc	
				Eff. Length	Φ O.D.	Eff. Diameter	Kx	Rotation	pressure	(JIS-16K)	
mm	inch	mm	inch	Lb (mm)	Φ D (mm)	Φ Dm (mm)	kg/mm	K θ	Δ θ (degree)	kg/cm ²	kg/pc
32	1-1/4	200	8	56	59.2	50.4	30.9	0.2	20	20	6.0
40	1-1/2	200	8	56	65.7	56.9	34.7	0.2	20	20	6.4
50	2	200	8	70	81.2	70.2	42.8	0.5	20	20	7.2
65	2-1/2	250	10	90	97.2	86.2	41.1	0.7	19	20	10.5
80	3	250	10	96	113.7	100.7	32.6	0.7	19	20	14.5
100	4	250	10	96	139.7	126.7	40.7	1.4	15	20	19.3
125	5	250	10	108	165.7	152.7	43.4	2.2	13	20	27.5
150	6	250	10	105	196.7	180.5	58.9	4.2	13	20	36.1
200	8	300	12	150	247.7	231.5	52.5	6.1	12	20	47.8
250	10	350	14	220	305.7	286.3	57.0	10.2	13	16	77.2
300	12	350	14	220	355.5	336.1	66.2	16.3	12	16	93.4
350	14	350	14	200	399.0	377.6	61.8	19.2	11	16	131.1
400	16	400	16	200	458.7	431.9	93.6	38.1	11	16	186.2
450	18	400	16	210	500.0	468.0	90.1	43.1	12	16	233.6
500	20	400	16	210	551.0	519.0	99.3	58.4	11	16	273.6
550	22	400	16	210	602.0	570.0	109.1	77.3	10	16	323.8
600	24	400	16	210	653.0	621.0	119.0	100.1	9	16	357.3

上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

上表所示工作壓力以溫度100°C為基準，其最大使用壓力為 1.5 倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

上表所示產品重量，均以 JIS-16K 為準，如需其它規格重量或相關資料，請隨時與我們聯絡。

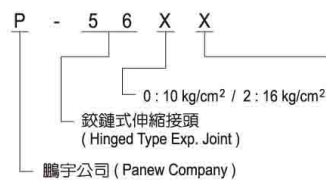
The unit weight of the products tabulated above are based on JIS-16K flanges. If you need more information, please feel free to contact us any time.

□ 其它型式外型規格說明 / Profile specifications of other types

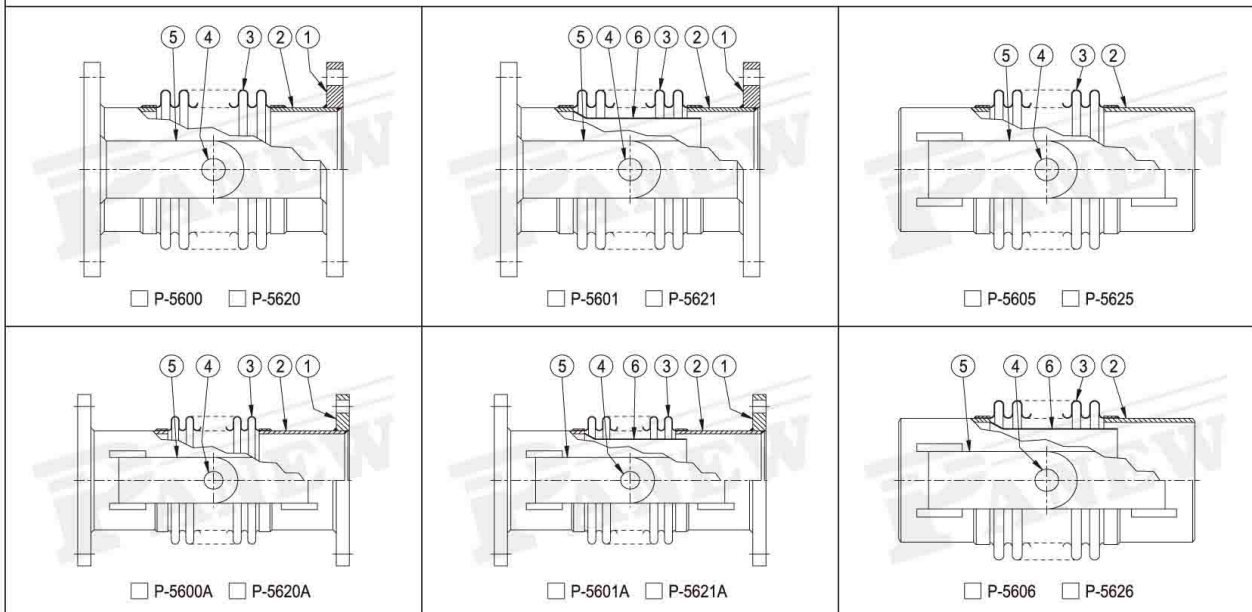
※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	端管 (End Pipe)	SGP/SS-400	SUS-304/316
3.	波紋管 (Bellows)	SUS-304	SUS-316
4.	鉸鍊銷 (Hinged Pin)	SS-400	SUS-304
5.	鉸鍊臂 (Hinged Arm)	SS-400	SUS-304
6.	內套管 (Sleeve)	SUS-304	SUS-316

型號說明 (Model No. Instruction):



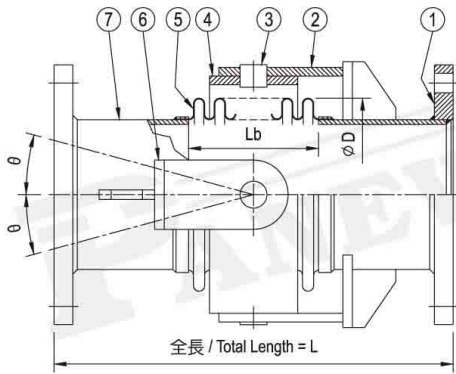
0. 法蘭口不含內套管
(Flanged Ends without Sleeve)
1. 法蘭口含內套管
(Flanged Ends with Sleeve)
2. 法蘭口含內套管 + 外筒
(Flanged Ends with Sleeve & Cover)
5. 對焊口不含內套管
(Welded Ends without Sleeve)
6. 對焊口含內套管
(Welded Ends with Sleeve)



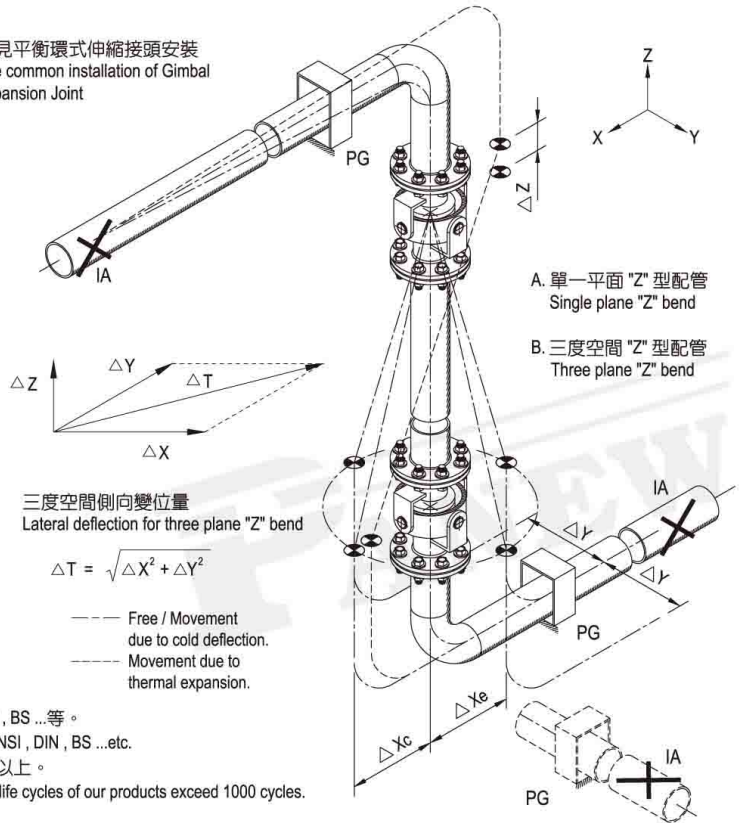
P-5700 平衡環/單式伸縮接頭



GIMBAL / SINGLE TYPE EXPANSION JOINT



常見平衡環式伸縮接頭安裝
The common installation of Gimbal Expansion Joint



※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	懸臂 (Holding Arm)	SS-400	SUS-304
3.	插銷 (Pin)	SS-400	SUS-304
4.	平衡環 (Gimbal Ring)	SS-400	SUS-304
5.	波紋管 (Bellows)	SUS-304	SUS-316
6.	補強板 (Brackets)	SS-400	SUS-304
7.	端管 (End Pipe)	SGP/SS-400	SUS-304/316

#法蘭以JIS-10K為標準，其餘規格亦可依實際需求選用，如ANSI, DIN, BS...等。

The standard Flange is based on JIS-10K, other flanges are available, like ANSI, DIN, BS...etc.

#本產品依EJMA規範設計生產，產品壽命於最大作動量時達1000次以上。

Our products are designed and manufactured according to EJMA. The Max. life cycles of our products exceed 1000 cycles.

□ P-5700 性能規格表 / Specification

* 下表單位重量僅供參考 / The unit weight below is just for reference.

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)					角度變位	操作壓力	單品重量
mm	inch	mm	inch	有效長度 Eff. Length	外徑 φ O.D.	有效徑 φ Dm (mm)	彈性係數 (Spring Rate) Kx	Kθ	Angular Rotation	working pressure	Weight/pc (JIS-10K)
mm	inch	mm	inch	Lb (mm)	φ D (mm)	φ Dm (mm)	kg/mm	kg*m/degree	Δθ (degree)	kg/cm ²	kg/pc
50	2	300	12	70	81.2	70.7	21.8	0.2	20	10	10.6
65	2-1/2	300	12	90	97.2	86.7	20.9	0.3	19	10	13.6
80	3	350	14	96	113.7	101.2	16.5	0.4	19	10	14.4
100	4	350	14	96	139.7	127.2	20.6	0.7	15	10	17.7
125	5	400	16	108	165.7	153.2	21.9	1.1	13	10	26.7
150	6	400	16	105	196.7	181.1	29.7	2.1	13	10	35.5
200	8	450	18	150	247.7	232.1	26.4	3.1	12	10	44.8
250	10	550	22	220	305.7	286.9	39.5	7.1	12	10	71.8
300	12	550	22	220	355.5	336.7	46.4	11.5	11	10	79.6
350	14	550	22	220	399.0	378.2	43.3	13.5	10	10	102.5
400	16	550	22	220	458.7	432.7	61.8	25.3	10	10	140.5

□ P-5720 性能規格表 / Specification

* 重量以JIS-16K為基準 / Weight is based on JIS-16K

公稱管徑 N.D.	# 產品總長 Total Length (L)	有效長度 Eff. Length	外徑 φ O.D.	有效徑 φ Dm (mm)	彈性係數 (Spring Rate) Kx	Kθ	角度變位	操作壓力	單品重量
mm	mm	mm	mm	mm	kg/mm	kg*m/degree	Angular Rotation	working pressure	Weight/pc (JIS-16K)
50	300	70	81.2	70.2	42.8	0.5	20	20	11.0*
65	300	90	97.2	86.2	41.1	0.7	19	20	14.0*
80	350	96	113.7	100.7	32.6	0.7	19	20	19.0*
100	350	96	139.7	126.7	40.7	1.4	15	20	25.4*
125	400	108	165.7	152.7	43.4	2.2	13	20	37.4*
150	400	105	196.7	180.5	58.9	4.2	13	20	58.9*
200	450	150	247.7	231.5	52.5	6.1	12	20	63.5*
250	550	220	305.7	286.3	57.0	10.2	13	16	107.4*
300	550	220	355.5	336.1	66.2	16.3	12	16	131.1*
350	550	220	399.0	377.6	61.8	19.2	11	16	181.5*
400	550	220	458.7	431.9	93.6	38.1	11	16	247.2*

#上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

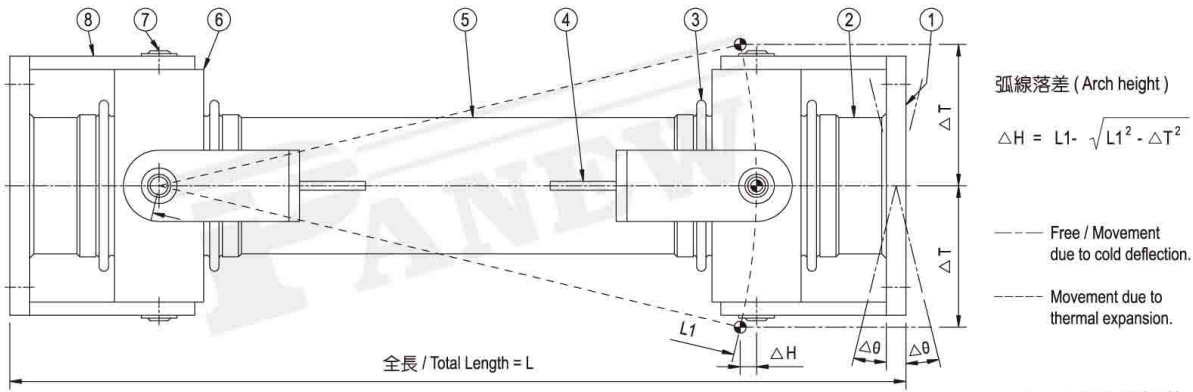
#上表所示工作壓力以溫度100°C為基準，其最大使用壓力為1.5倍之工作壓力值。

The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

P-5800 平衡環/萬向式伸縮接頭



GIMBAL / UNIVERSAL TYPE EXPANSION JOINT



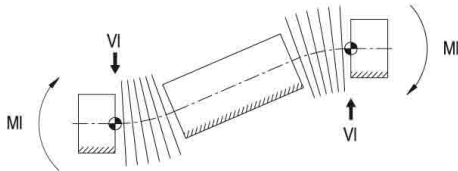
A. 單一平面 "Z" 型配管
Single plane "Z" bend

結構組合 / Construction

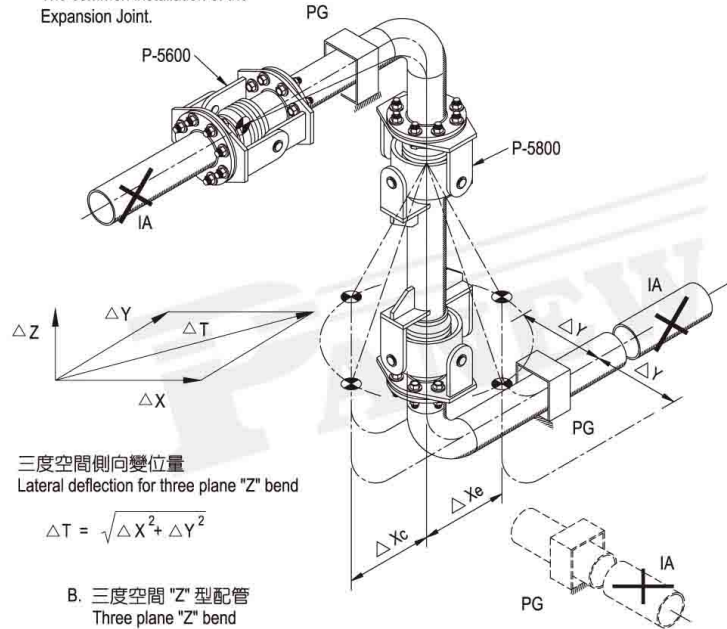
項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	端管 (End Pipe)	SGP/SS-400	SUS-304/316
3.	波紋管 (Bellows)	SUS-304	SUS-316
4.	補強板 (Brackets)	SS-400	SUS-304
5.	中間管 (Mid. Pipe)	SGP/SS-400	SUS-304/316
6.	平衡環 (Gimbal Ring)	SS-400	SUS-304
7.	插銷 (Pin)	SS-400	SUS-304
8.	懸臂 (Holding Arm)	SS-400	SUS-304

法蘭以 JIS-10K 為標準，其餘規格亦可依實際需求選用，如 ANSI, DIN, BS ... 等。
 The standard Flange is based on JIS-10K, other flanges are available, like ANSI, DIN, BS ...etc.

本產品依 EJMA 規範設計生產，產品壽命於最大作動量時達 1000 次以上。
 Our products are designed and manufactured according to EJMA. The Max. life cycles of our products exceed 1000 cycles.



常見伸縮接頭安裝型式
The common installation of the Expansion Joint.



三度空間側向變位量
Lateral deflection for three plane "Z" bend

$$\Delta T = \sqrt{\Delta X^2 + \Delta Y^2}$$

B. 三度空間 "Z" 型配管
Three plane "Z" bend

□ P-5800 性能規格表 / Specification

* 下表單位重量僅供參考 / The unit weight below is just for reference.

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				側向變位 Lateral Deflection	操作壓力 working pressure	單品重量 Weight/pc (JIS-10K)	
				有效長度 Eff. Length	外徑 Φ O.D.	有效徑 Eff. Diameter	彈性係數 (Spring Rate)				
mm	inch	mm	inch	Lb (mm)	Φ D (mm)	Φ Dm (mm)	$K_{lateral}$	K_{θ}	Δ T (mm)	kg/cm ²	kg/pc
50	2	900	36	70	81.2	70.7	0.1	0.2	200	10	16.8
65	2-1/2	900	36	90	97.2	86.7	0.1	0.3	200	10	17.3
80	3	1000	40	96	113.7	101.2	0.1	0.2	200	10	25.7
100	4	1100	44	96	139.7	127.2	0.1	0.4	200	10	33.5
125	5	1250	50	108	165.7	153.2	0.2	0.6	200	10	50.1
150	6	1250	50	105	196.7	181.1	0.3	0.9	200	10	65.9
200	8	1400	56	150	247.7	232.1	0.5	2.2	200	10	90.5
250	10	1500	60	220	305.7	286.9	0.9	3.6	200	10	134.1
300	12	1600	64	220	355.5	336.7	1.2	5.8	200	10	157.5
350	14	1700	68	200	399.0	378.2	1.1	6.7	200	10	211.5
400	16	1800	72	200	458.7	432.7	2.0	12.7	200	10	284.1
450	18	1900	76	210	500.0	469.0	1.8	11.3	200	10	347.0
500	20	1900	76	210	551.0	520.0	2.5	15.6	200	10	391.8
550	22	2000	80	210	602.0	570.8	4.6	33.6	200	10	488.9
600	24	2200	88	210	653.0	621.8	4.9	43.7	200	10	547.9

上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。
 The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

上表所示工作壓力以溫度 100°C 為基準，其最大使用壓力為 1.5 倍之工作壓力值。
 The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

P-5820 平衡環式 / 萬向伸縮接頭



GIMBAL / UNIVERSAL TYPE EXPANSION JOINT

□ P-5820 性能規格表 / Specification

* 下表單位重量僅供參考 / The unit weight below is just for reference.

公稱管徑 N.D.		# 產品總長 Total Length (L)		波紋管規格 (Bellows Specification)				側向變位	操作壓力	單品重量
mm	inch	mm	inch	有效長度 Eff. Length	外徑 Φ O.D.	有效徑 Eff. Diameter	彈性係數 (Spring Rate) K _{lateral} K _θ	Lateral Deflection	working pressure	Weight/pc (JIS-16K)
mm	inch	mm	inch	Lb (mm)	Φ D (mm)	Φ Dm (mm)	kg/mm kg*m/degree	Δ T (mm)	kg/cm ²	kg/pc
125	5	1250	50	108	165.7	152.7	0.3 1.1	200	20	70.1
150	6	1250	50	105	196.7	180.5	0.6 2.1	200	20	92.0
200	8	1400	56	150	247.7	231.5	1.0 4.5	200	20	130.0
250	10	1500	60	220	305.7	286.3	1.4 5.2	200	16	199.3
300	12	1600	64	220	355.5	336.1	1.9 8.3	200	16	254.1
350	14	1700	68	200	399.0	377.6	2.0 9.6	200	16	351.8
400	16	1800	72	200	458.7	431.9	3.3 19.3	200	16	482.6
450	18	1900	76	210	500.0	468.0	3.3 22.6	200	16	604.8
500	20	1900	76	210	551.0	519.0	5.0 31.0	200	16	699.4
550	22	2000	80	210	602.0	570.0	5.3 39.1	200	16	830.4
600	24	2200	88	210	653.0	621.0	6.0 50.8	200	16	949.4

上表所示口徑 / 操作壓力 / 總長 / 作動量均為標準規格，本公司亦可依客戶實際需求訂製。

The size, working pressure, total length, and movement tabulated above is the standard specification. We can also deliver products against your requests.

上表所示工作壓力以溫度100°C為基準，其最大使用壓力為1.5倍之工作壓力值。

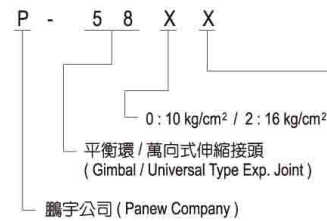
The working pressure tabulated above is based on 100°C. The maximum operating pressure is 1.5 times the working pressure tabulated above.

□ 其它型式外型規格說明 / Profile specifications of other types

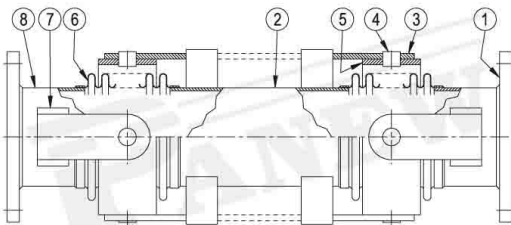
※結構組合 / Construction

項次 Item	配件名稱 Parts	標準材質 Std. Material	選用材質 Option Material
1.	法蘭 (Flange)	SS-400	SUS-304/316
2.	中間管 (Mid. Pipe)	SGP/SS-400	SUS-304/316
3.	懸臂 (Holding Arm)	SS-400	SUS-304
4.	插銷 (Pin)	SS-400	SUS-304
5.	平衡環 (Gimbal Ring)	SS-400	SUS-304
6.	波紋管 (Bellows)	SUS-304	SUS-316
7.	補強板 (Brackets)	SS-400	SUS-304
8.	端管 (End Pipe)	SGP/SS-400	SUS-304/316
9.	內套管 (Sleeve)	SUS-304	SUS-316

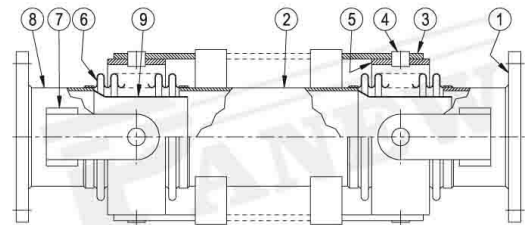
型號說明 (Model No. Instruction) :



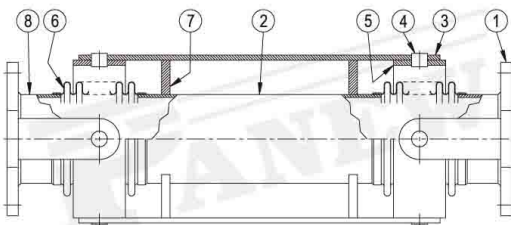
- 法蘭口不含內套管 / I 型
(Flanged Ends without Sleeve / Type I)
- 法蘭口含內套管 / II 型
(Flanged Ends with Sleeve / Type II)
- 法蘭口不含內套管 / II 型
(Flanged Ends without Sleeve / Type II)
- 法蘭口含內套管 / II 型
(Flanged Ends with Sleeve / Type II)
- 對焊口不含內套管
(Welded Ends without Sleeve)
- 對焊口含內套管
(Welded Ends with Sleeve)



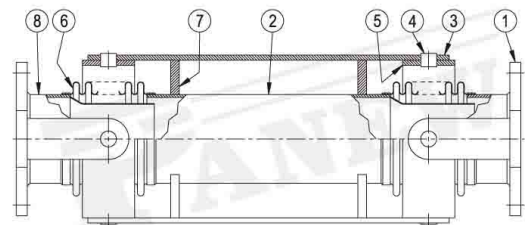
□ P-5800 □ P-5820



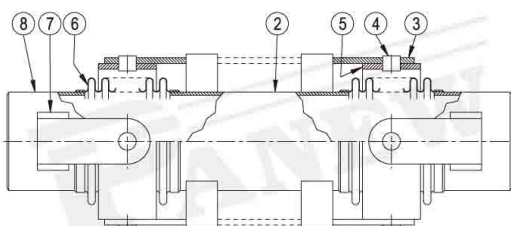
□ P-5801 □ P-5821



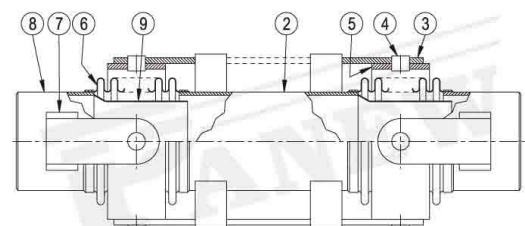
□ P-5802 □ P-5822



□ P-5803 □ P-5823



□ P-5805 □ P-5825



□ P-5806 □ P-5826

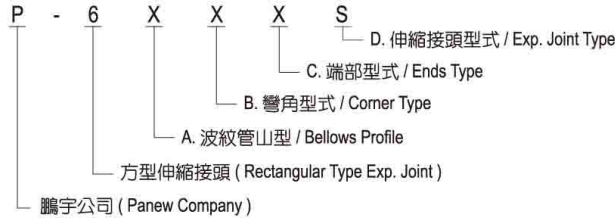
P-6000 方型伸縮接頭



RECTANGULAR TYPE EXPANSION JOINT

※型號說明：

(Model No. Instruction)

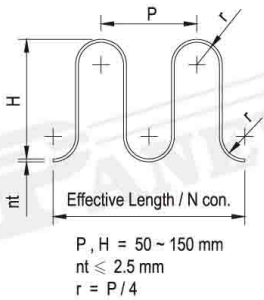


附註說明 / Remarks:

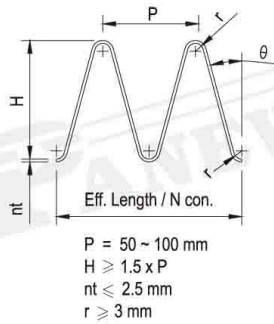
- A. 波紋管山型 / Bellows Profile
0: U-shape 1: V-shape 2: L-shape 3: other type
- B. 彎角型式 / Corner Type
0: Round Corner 1: Single Miter Corner 2: Double Miter Corner
3: Camera Corner 4: other type
- C. 端部型式 / Ends Type
0: Bellows only 1: Profile I 2: Profile II 3: Profile III
4: Profile IV 5: Profile V 6: Other Profile
- D. 伸縮接頭型式 / Exp. Joint Type
S: Single Type U: Universal Type

A. 波紋管山型 / Bellows Profile

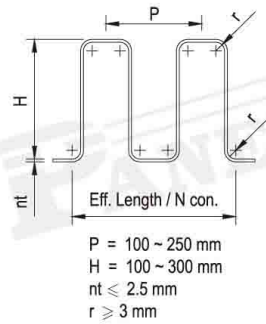
□ U-shape



□ V-shape

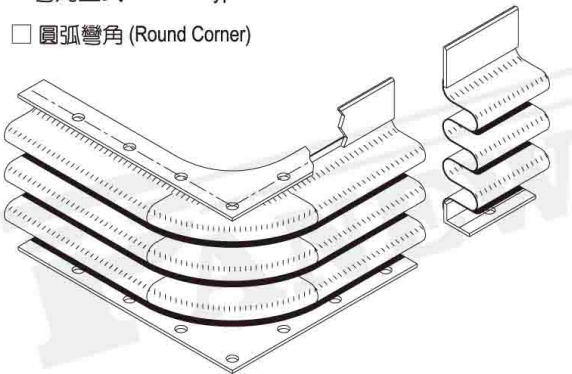


□ L-shape

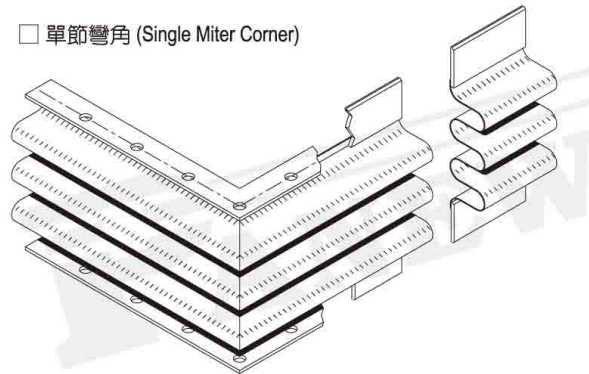


B. 彎角型式 / Corner Type

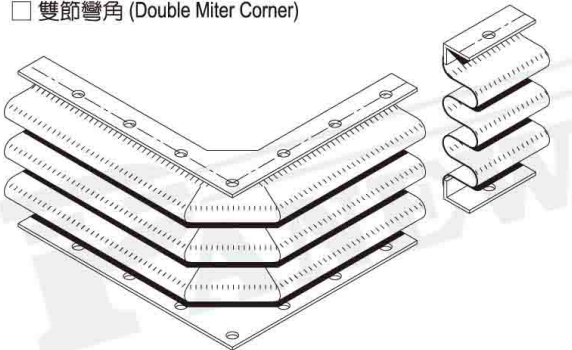
□ 圓弧彎角 (Round Corner)



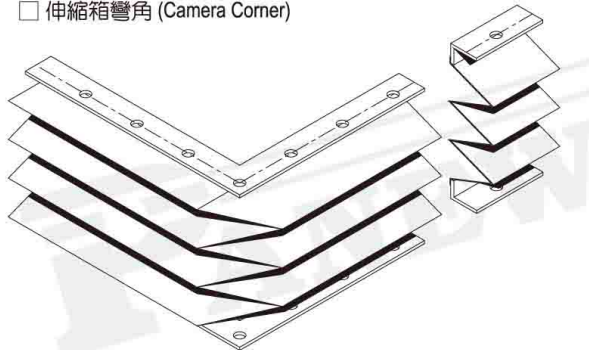
□ 單節彎角 (Single Miter Corner)



□ 雙節彎角 (Double Miter Corner)



□ 伸縮箱彎角 (Camera Corner)



C. 端部型式 / Ends Type

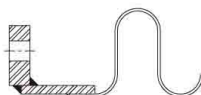
□ profile I



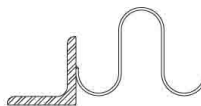
□ profile II



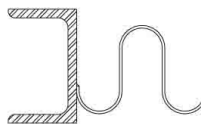
□ profile III



□ profile IV



□ profile V

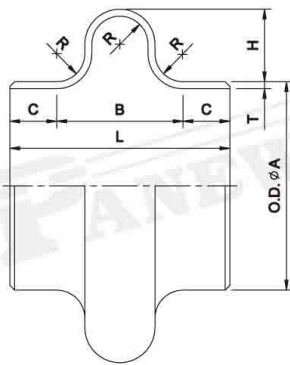


P-7300HE 熱交換器熱膨脹吸收波紋管

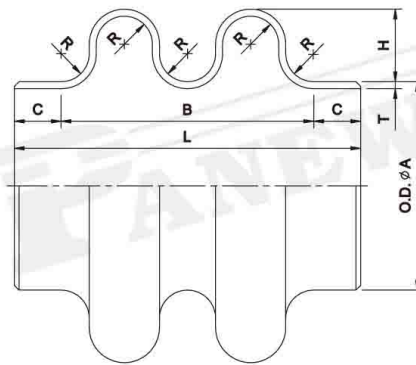


Bellows used for thermal Expansion on Heat Exchanger

單峰 (Single Convolution)



雙峰 (Double Convolution)



附註說明 (Remarks)

- 下表所示規格尺寸為建議值，本公司亦可依實際需求訂製。
The dimensions tabulated below are recommended. We can manufacture products according to your request.
- 製作材料 / Available Material:
SUS-304/304L, 316/316L, 321 ...
Alloy-600, 625, 800, 825 ...
Hastelloy-C276, C-22, B-3 ...
A-516 Gr.70, A-285 Gr.C, SS-400 ...
- 下表所示之彈性係數理論值僅適用於室溫 SUS-304 材質，如需其它詳細資料，請隨時與我們聯絡。
The theoretical spring rates tabulated below are for material SUS-304 only (at room temp.). Please contact us for more information.

P-7300HE 性能規格表 (Specification)

※ Hmax. is not available for carbon steel material.

公稱管徑 N.D.		產品規格 (Product Profile)										彈性係數 (Spring Rate) / Hmin.			
		ΦA	B		C	H		R	T	L		Kx / Axial		Kθ / Angular	
			1 con.	2 con.		min.	max.			1 con.	2 con.	1con.	2con.	1con.	2con.
mm	inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg/mm	kg-m/deg.	kg-m/deg.	kg-m/deg.
80	3	89.1	54	108	30	27	---	12	3	114	168	4294	2147	120	60
100	4	114.3	54	108	30	27	33	12	3	114	168	4282	2141	179	89
125	5	138.9	78	156	30	39	40	18	3	138	216	3304	1652	221	110
150	6	165.2	86	172	30	43	48	20	3	146	232	3062	1531	281	141
			92	184	30	46	48	20	6	152	244	9587	4793	440	881
200	8	216.3	106	212	30	53	58	25	3	166	272	2606	1303	403	202
			116	232	30	58	62	25	8	176	292	13526	6763	2093	1046
250	10	267.4	126	252	30	63	68	30	3	186	312	2391	1196	559	280
			136	272	30	68	73	30	8	196	332	11883	5942	2779	1389
			126	252	30	63	69	30	3	186	312	2366	1183	573	286
			136	272	30	68	74	30	8	196	332	11907	5953	2882	1441
300	12	318.5	126	252	30	63	72	30	3	186	312	2271	1136	710	355
			138	276	30	69	78	30	9	198	336	15101	7550	4720	2360
			166	332	30	83	90	40	3	226	392	1961	981	698	349
			178	356	30	89	93	40	9	238	416	12082	6041	4298	2149
350	14	355.6	126	252	30	63	72	30	3	186	312	2269	1135	855	428
			144	288	30	72	81	30	12	204	348	27454	13727	10345	5173
400	16	406.4	126	252	30	63	83	30	3	186	312	2299	1149	1091	545
			144	288	30	72	92	30	12	204	348	29852	14926	14167	7083
450	18	457.2	126	252	30	63	93	30	3	186	312	2224	1112	1298	649
			150	300	30	75	104	30	15	210	360	51524	25762	30069	15034
500	20	508.0	126	252	30	63	102	30	3	186	312	2211	1105	1556	778
			152	304	30	76	102	30	16	212	364	64557	32279	45439	22720
550	22	558.8	186	372	30	93	110	45	3	246	432	1834	917	1684	842
			212	424	30	106	110	45	16	272	484	33324	16662	30603	15302
600	24	609.6	206	412	30	103	120	50	3	266	472	1655	827	1833	917
			232	464	30	116	120	50	16	292	524	29783	14892	32718	16359

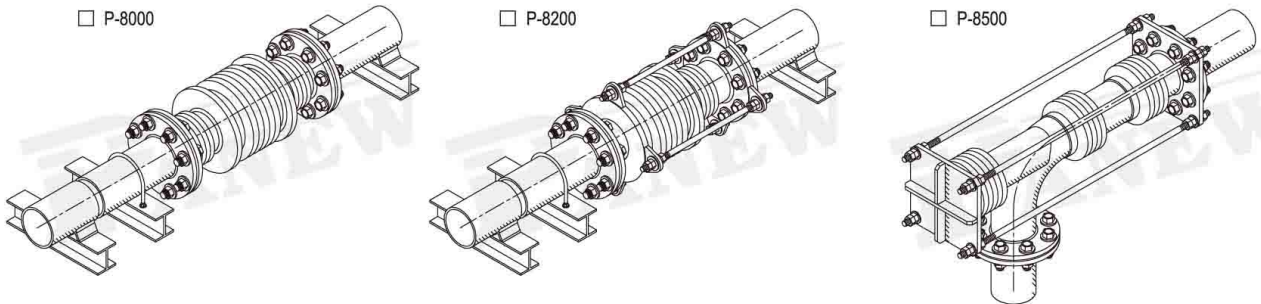
產品規格 (Product Profile)							
ΦA	B	C	H		R	T	L
			min.	max.			
mm	mm	mm	mm	mm	mm	mm	mm
306	126	30	63	69	30	3	186
	136	30	68	75	30	8	196
424	186	30	93	105	45	3	246
	204	30	102	115	45	12	264
468	126	30	63	95	30	3	186
	150	30	75	95	30	15	210
475	186	30	93	105	45	3	246
	210	30	105	115	45	15	270
518	186	30	93	105	45	3	246
	212	30	106	115	45	16	272
532	186	30	93	105	45	3	246
	212	30	106	115	45	16	272
596	186	30	93	115	45	3	246
	212	30	106	120	45	16	272

產品規格 (Product Profile)							
ΦA	B	C	H		R	T	L
			min.	max.			
mm	mm	mm	mm	mm	mm	mm	mm
608	186	30	93	105	45	3	246
	212	30	106	120	45	16	272
668	206	30	103	115	50	3	266
	232	30	116	133	50	16	292
724	206	30	103	120	50	3	266
	230	30	115	130	50	15	290
780	206	30	103	125	50	3	266
	228	30	114	135	50	14	288
822	206	30	103	130	50	3	266
	224	30	112	135	50	12	284
918	266	30	133	27	65	3	326
	280	30	140	36	65	10	340
1418	186	30	93	27	45	3	246
	196	30	98	36	45	8	256

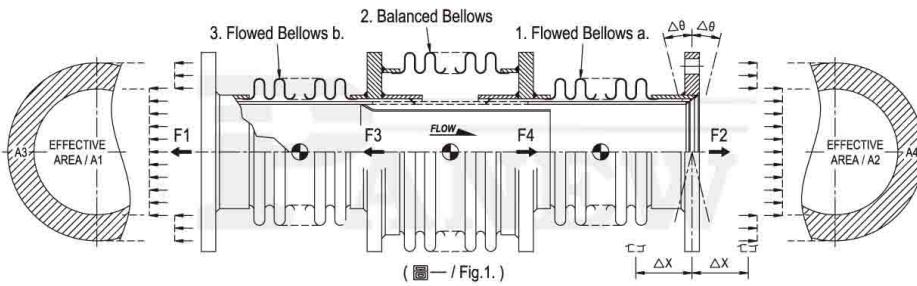
P-8000 壓力平衡式伸縮接頭



PRESSURE BALANCED TYPE EXPANSION JOINT



□ P-8000 / 直線型壓力平衡式伸縮接頭 (In-Line Single Pressure Balanced Exp. Joint)



壓力平衡 (Pressure Balance)

$$P \cdot A1 = P \cdot A4$$

$$F1 = F4$$

$$P \cdot A2 = P \cdot A3$$

$$F2 = F3$$

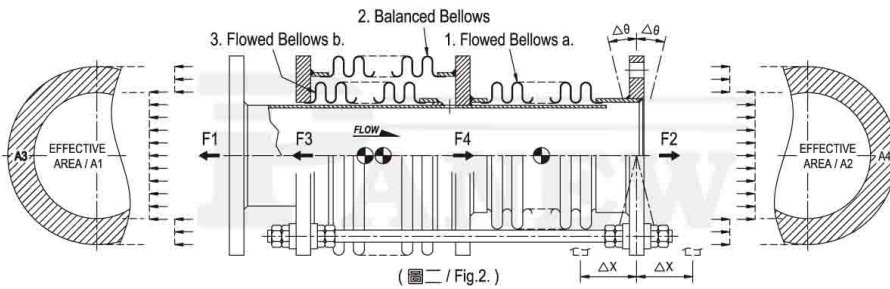
$$\rightarrow F1 = F2$$

彈性係數 / 彈性推力
(Spring Rate / Spring Force)

$$K_{xt} = K_{x1} + K_{x2} + K_{x3}$$

$$F_{xt} = K_{xt} \cdot \Delta X$$

□ P-8200 / 直線型壓力平衡式伸縮接頭 (In-Line Single Pressure Balanced Exp. Joint)



壓力平衡 (Pressure Balance)

$$P \cdot A1 = P \cdot A4$$

$$F1 = F4$$

$$P \cdot A2 = P \cdot A3$$

$$F2 = F3$$

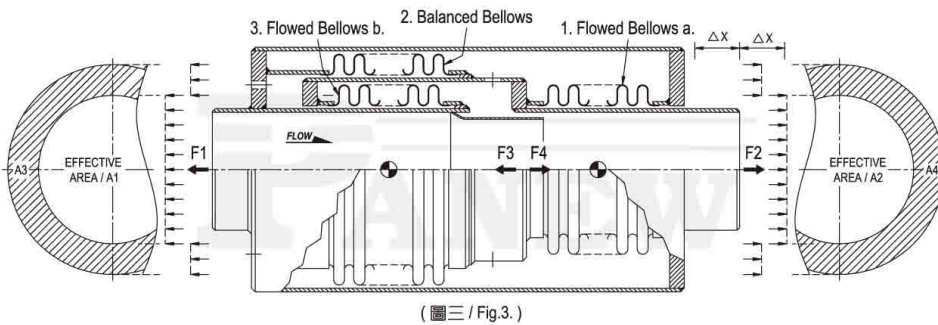
$$\rightarrow F1 = F2$$

彈性係數 / 彈性推力
(Spring Rate / Spring Force)

$$K_{xt} = K_{x1} + K_{x2} + K_{x3}$$

$$F_{xt} = K_{xt} \cdot \Delta X$$

□ P-8400 / 外壓型壓力平衡式伸縮接頭 (Exterior Pressurized Pressure Balanced Exp. Joint)



壓力平衡 (Pressure Balance)

$$P \cdot A1 = P \cdot A4$$

$$F1 = F4$$

$$P \cdot A2 = P \cdot A3$$

$$F2 = F3$$

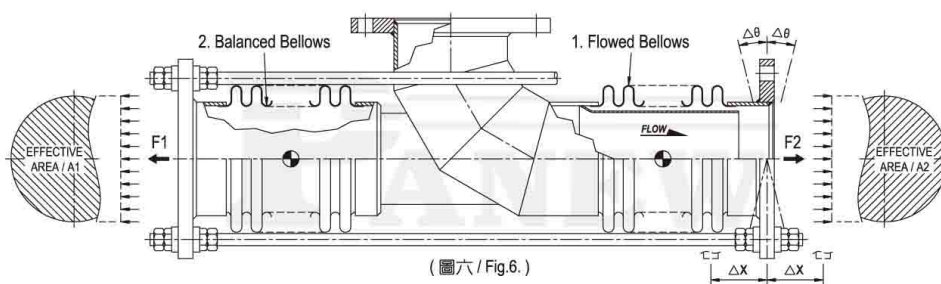
$$\rightarrow F1 = F2$$

彈性係數 / 彈性推力
(Spring Rate / Spring Force)

$$K_{xt} = K_{x1} + K_{x2} + K_{x3}$$

$$F_{xt} = K_{xt} \cdot \Delta X$$

□ P-8500 / L型軸向壓力平衡式伸縮接頭 (L-type Single Pressure Balanced Exp. Joint)



壓力平衡 (Pressure Balance)

$$P \cdot A1 = P \cdot A2$$

$$\rightarrow F1 = F2$$

彈性係數 / 彈性推力
(Spring Rate / Spring Force)

$$K_{xt} = K_{x1} + K_{x2}$$

$$F_{xt} = K_{xt} \cdot \Delta X$$

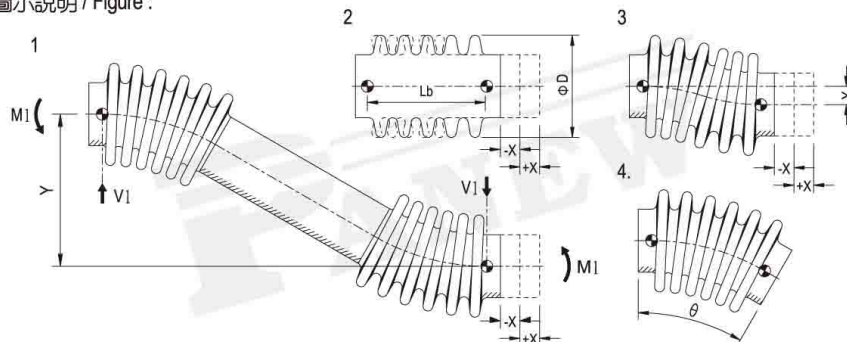
伸縮接頭規格澄清表 / Specification Sheet



P-3000 系列 / series
 P-5000 系列 / series
 P-6000 系列 / series
 P-8000 系列 / series

客戶名稱 / Customer :		日期 / Date :		單號 / Inquiry No. :		
工程名稱 / Project :		業務員 / Sales :				
項次 No.	產品性能規格說明 Specification of the Product	客戶欄 / By Buyer		製造商專用欄 / By Manufacturer		客戶欄 / By Buyer
		需求條件 Condition	<input checked="" type="checkbox"/> Yes/No Y N	澄清變更說明 Clarification		附加檢驗項目 Quality Assurance Requirement
1	品號 / Item No.					21. 噴漆膜厚檢測
*2	數量 / Quantity					/ Paint thickness check
*3	口徑 / Nominal Size					<input type="checkbox"/> 第一道 / 1st layer _____ μm
*4a	尺寸限制 全長 / Overall length					<input type="checkbox"/> 第二道 / 2nd layer _____ μm
4b	Dim. Limitations 最大外徑 / Max. O.D.					<input type="checkbox"/> 第三道 / 3rd layer _____ μm
5	型號規格 / Type specification					<input type="checkbox"/> 第四道 / 4th layer _____ μm
*6	接頭規格 / Connection specification					<input type="checkbox"/> 總膜厚 / Total thick. _____ μm
*7a	流體說明 Fluid information	介質 / Medium				22. 非破壞性檢測 / NDE
7b		流速 / Velocity (m/s)				
7c		流向 / Flow direction				
8a	壓力 (kg/cm ²) Pressure	設計 / Design				<input type="checkbox"/> RT / Bellows Long-Seam
*8b		操作 / Operating				<input type="checkbox"/> RT / Pipe Long-Seam
8c		測試 / Testing				<input type="checkbox"/> PT / Bellows Long Seam
9a	溫度 (°C) Temperature	設計 / Design				<input type="checkbox"/> PT / Bellows Attached-Seam
*9b		操作 / Operating				<input type="checkbox"/> PT / Pipe Long-Seam
9c		最高/最低 (max./min.)				<input type="checkbox"/> PT / Pipe Attached-Seam
10a	作動量 (mm) Movement	軸向壓縮 / Axial Comp.				23. 彈性係數檢測 / Spring Rate check
10b		軸向伸長 / Axial Ext.				
10c		側向 / Lateral				
10d		角度 / Angular				
11	疲勞壽命 / Fatigue Life (cycles)					<input type="checkbox"/> Axial (kg/mm)
12a	彈性係數 Spring Rate	軸向 / Axial (kg/mm)				<input type="checkbox"/> Lateral (kg/mm)
12b		側向 / Lateral (kg/mm)				<input type="checkbox"/> Angular (kg*m/deg.)
12c		角度 / Angular (kg*m/deg.)				
13a	端口容許負載	Bending Moment (kg*m)				24. 作動量檢測 / Movement check
13b	Allowable	Axial Force (kg)				
13c	End Loading	Lateral Force (kg)				
*14a	結構材質 Materials of Construction	波紋管 / Bellows				25. 疲勞檢測 / Fatigue life check
14b		內套管 / Sleeve				
14c		外套管 / Cover				
*14d		端管 / End Pipe				
*14e		接頭 / Connection				
15a	螺桿需求 Rods	束縛螺桿 / Tie Rod				附註說明 / Remarks :
15b		設限螺桿 / Limit Rod				
15c		運送螺桿 / Shipping Rod				
16	水平/垂直安裝 (Horiz. / Vert. installed)					#1 :
17	波紋管固溶化處理 / Bellows annealing					#2 :
18	拋光處理 / Polishment process					#3 :
19	潔淨處理 / Cleanness process					
20	名牌標示 / Name Plate					

圖示說明 / Figure :



符號說明 / Nomenclature :

1. "*" : 必要條件 / necessary conditions
2. "-", "No", "NA" : 無需求 / not required
3. "Yes", "✓" : 需要 / required
4. "#1", "#2" : 詳如附註說明 / as Remarks
5. Lb : 波紋管有效長 / Effective Length
6. V1 : 側向力 / Lateral Force
7. M1 : 彎曲力矩 / Bending Moment