

# ***Fflexion***<sup>TM</sup>

## ***PNEUMATICS***



***YOUR  
FLUID  
POWER  
SOLUTION***

# **Flexion**<sup>TM</sup>

## PNEUMATICS



### **FLEXION**<sup>TM</sup> DELIVERS CONSISTENT QUALITY, EXPERTISE AND TECHNICAL SUPPORT YOU CAN RELY ON.

**The FLEXION<sup>TM</sup> range offers advanced manufacturing techniques, innovative material technology and a real understanding of the technical and commercial challenges you face across a wide range of applications. We not only provide solutions to your challenges - but also add real value too.**

**FLEXION<sup>TM</sup> delivers pneumatic know-how that really makes a difference.**

**We have developed our expertise over 40 years of practical application engineering and development, the result being increased performance and extended reliability.**

**The range can be used in a wide variety of situations with the confidence of specialist engineering support from FLEXION<sup>TM</sup> and a logistics network that delivers.**

### CONTINUOUS PRODUCT DEVELOPMENT

With a policy of continuous product development, we at FLEXION<sup>TM</sup> are always able to provide our customers with the latest and best solutions.

For example; the FLEXION<sup>TM</sup> range of cylinders have been designed with a cleaner exterior profile to help eliminate unnecessary cavities where contaminants could collect. With fully adjustable cushions, they also incorporate a polymer buffer in the piston providing excellent noise reduction properties.

Our reputation as a key supplier has been built on the ability to provide products that perform beyond expectations with an assurance of quality, value and reliability that makes a difference.



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*All details are valid at the time of print (February 2015)  
and are subject to change.*

**YOUR  
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SOLUTION**

# Flexion™

## CYLINDERS

**FLEXION™ offer a wide range of industry standard actuators in popular bore sizes and strokes. FLEXION™ actuators have magnetic sensing as standard and both styles utilise the same sensors.**

### FLEXION VDMA PROFILE CYLINDERS

The ISO 15552 cylinders have been designed to keep the exterior as free as possible from unnecessary cavities to offer a clean profile. With fully adjustable cushions, they also incorporate a polymer buffer in the piston to provide excellent noise reduction properties.



### FLEXION MINI ISO CYLINDERS

The round Mini, ISO 6432, cylinder range includes single acting units, and the barrel and end caps are double crimped for leak free performance. The range of sensors includes reed and solid state switches, with M8 standard connection options for ease of installation.



**MAGNETIC PISTON ASSEMBLY**  
For precise position monitoring.



**NO UNNECESSARY CAVITIES**  
Reducing potential contamination.



**ADDITIONAL POLYMER CUSHION**  
Extends life and reduces noise levels.



**DOUBLE CRIMPED BARREL**  
Ensures leak free operation.



**SLOTTED PROFILE**  
Square and round slotted profile to accommodate most sensor types.





## FLEXION™ MINI ISO CYLINDERS

### 10 - 25MM BORE

- Conforms to ISO 6432 standards
- Double Roll Crimped for leak-free performance
- Nitrile Rubber cushions for improved life and noise reduction
- Mounting nut and piston rod nut supplied as standard
- Magnetic piston for position sensing

#### Materials:

End Caps	Anodised aluminium
Barrel	Stainless steel AISI 304
Rod	Stainless steel AISI 303
Seals	Polyurethane / NBR

#### TECHNICAL DATA

<b>Fluid</b>	Compressed air, filtered to 50µ or better, with or without lubrication
<b>Pressure</b>	10 Bar (147 psi) max
<b>Temperature</b>	-30°C to +80°C (Non freezing)
<b>Life</b>	>5000km seal travel

## FLEXION™ MINI ISO CYLINDERS

### DOUBLE ACTING - MAGNETIC

Code	Bore Ø mm	Stroke mm
EPC10-10IDA-FX	10	10
EPC10-25IDA-FX	10	25
EPC10-50IDA-FX	10	50
EPC12-10IDA-FX	12	10
EPC12-25IDA-FX	12	25
EPC12-50IDA-FX	12	50
EPC16-10IDA-FX	16	10
EPC16-25IDA-FX	16	25
EPC16-50IDA-FX	16	50
EPC16-80IDA-FX	16	80
EPC16-100IDA-FX	16	100
EPC16-125IDA-FX	16	125
EPC20-10IDA-FX	20	10
EPC20-25IDA-FX	20	25
EPC20-50IDA-FX	20	50
EPC20-80IDA-FX	20	80
EPC20-100IDA-FX	20	100
EPC20-125IDA-FX	20	125
EPC20-160IDA-FX	20	160
EPC20-200IDA-FX	20	200
EPC25-10IDA-FX	25	10
EPC25-25IDA-FX	25	25
EPC25-50IDA-FX	25	50

Code	Bore Ø mm	Stroke mm
EPC25-80IDA-FX	25	80
EPC25-100IDA-FX	25	100
EPC25-125IDA-FX	25	125
EPC25-160IDA-FX	25	160
EPC25-200IDA-FX	25	200
EPC25-250IDA-FX	25	250

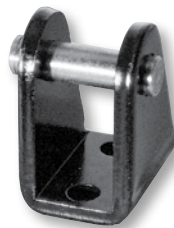
## SINGLE ACTING SPRING RETURN - MAGNETIC

Code	Bore Ø mm	Stroke mm
EPC10-25ISR-FX	10	25
EPC10-50ISR-FX	10	50
EPC12-25ISR-FX	12	25
EPC12-50ISR-FX	12	50
EPC16-25ISR-FX	16	25
EPC16-50ISR-FX	16	50
EPC20-25ISR-FX	20	25
EPC20-50ISR-FX	20	50
EPC25-25ISR-FX	25	25
EPC25-50ISR-FX	25	50

## MOUNTINGS

### REAR CLEVIS

Code	Bore Ø mm
EPC8-10CLI-FX	10
EPC12-16CLI-FX	12/16
EPC20-25CLI-FX	20/25



### FOOT MOUNT

Code	Bore Ø mm
EPC8-10FTI-FX	10
EPC12-16FTI-FX	12/16
EPC20-25FTI-FX	20/25



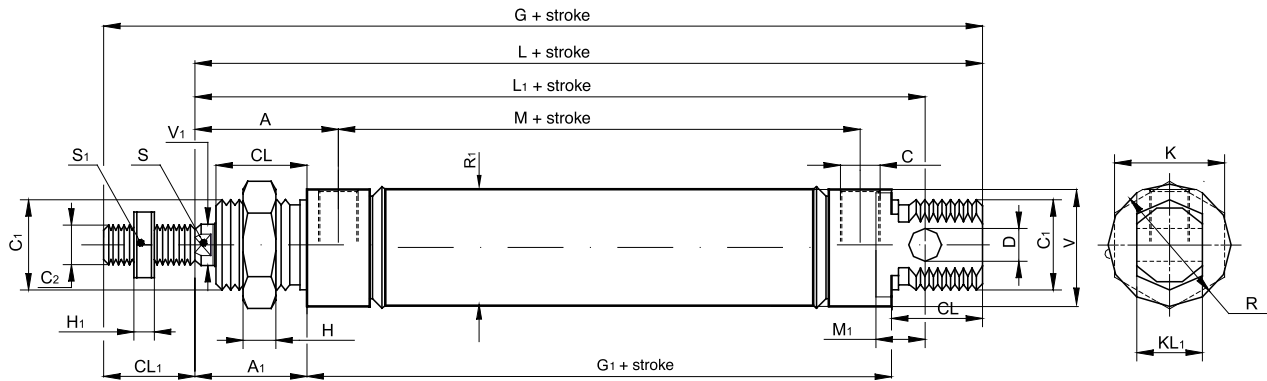
### FLANGE

Code	Bore Ø mm
EPC8-10FLI-FX	10
EPC12-16FLI-FX	12/16
EPC20-25FLI-FX	20/25

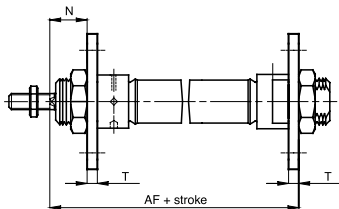


## FLEXION™ MINI ISO CYLINDERS

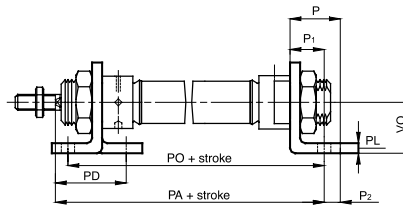
### DOUBLE ACTING



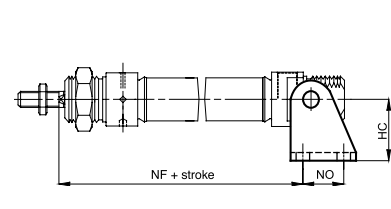
ømm	C2	V1	C1	R	KL1	R1	V	D	CL1	L1	L	M	G1	A1	CL	A	M1	S	C	G	K	H	H1	S1
8	M4	4	M12x1.25	16	8	9.27	15	4	12	64	74	12	46	16	12	21	6	/	M5	86	19	6	2	7
10	M4	4	M12x1.25	16	8	11.27	15	4	12	64	74	12	46	16	12	21	6	/	M5	86	19	6	2	7
12	M6	6	M16x1.5	21	12	13.27	19	6	16	75	89	16	51	22	16	27	2	5	M5	105	19	5	3	12
16	M6	6	M16x1.5	21	12	17.27	19	6	16	82	96	16	58	22	16	27	2	5	M5	112	19	5	3	12
20	M8	8	M22x1.5	30	16	21.27	28.5	8	20	95	105	22	59	24	18	31.5	12	7	1/8"	125	27	8	4	14
25	M10x1.25	10	M22x1.5	30	16	26.5	28.5	8	22	104	114	22	64	28	20	36	12	9	1/8"	136	27	8	6	17



Flange



Foot



Rear Clevis

ø mm	AF	HC	P	P1	P2	PA	PD	PL	PO	T	VO	N	NF	NO
8	65	24	16	11	5	73	24	3	68	3	16	13	62.5	12.5
10	65	24	16	11	5	73	24	3	68	3	16	13	62.5	12.5
12	77	27	20	14	6	87	32	4	79	4	20	18	73	15
16	84	27	20	14	6	94	32	4	86	4	20	18	80	15
20	88	30	25	17	8	100	36	5	93	5	25	19	91	20
25	97	30	25	17	8	109	40	5	98	5	25	23	100	20



## FLEXION™ ISO 1552 PROFILE CYLINDERS DOUBLE ACTING MAGNETIC

- Conforms to ISO 15552, previously ISO 6431 and DIN 24 562 standards
- Square and round slots in profile for increased compatibility
- Adjustable cushions
- Piston rod nut supplied as standard
- Magnetic piston for position sensing

### Materials:

End Caps	Die cast painted aluminium
Barrel	Anodised aluminium
Rod	AISI 304 stainless steel
Seals	Polyurethane / NBR

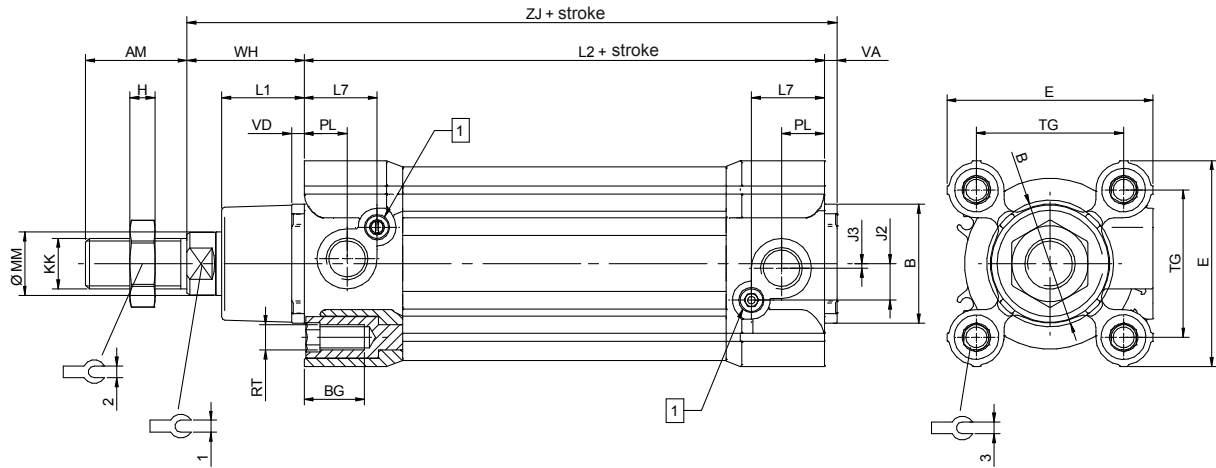
### TECHNICAL DATA

<b>Fluid</b>	Compressed air, filtered to 50µ or better, with or without lubrication
<b>Pressure</b>	10 Bar (147 psi) max
<b>Temperature</b>	-20°C to +80°C (Non freezing)
<b>Life</b>	>5000km seal travel

## ISO 15552 PROFILE CYLINDERS DOUBLE ACTING MAGNETIC

Code	Bore Ø mm	Stroke mm
EPC32-25VDAK-FX	32	25
EPC32-50VDAK-FX	32	50
EPC32-80VDAK-FX	32	80
EPC32-100VDAK-FX	32	100
EPC32-125VDAK-FX	32	125
EPC32-160VDAK-FX	32	160
EPC32-200VDAK-FX	32	200
EPC32-250VDAK-FX	32	250
EPC40-25VDAK-FX	40	25
EPC40-50VDAK-FX	40	50
EPC40-80VDAK-FX	40	80
EPC40-100VDAK-FX	40	100
EPC40-125VDAK-FX	40	125
EPC40-160VDAK-FX	40	160
EPC40-200VDAK-FX	40	200
EPC40-250VDAK-FX	40	250
EPC50-25VDAK-FX	50	25
EPC50-50VDAK-FX	50	50
EPC50-80VDAK-FX	50	80
EPC50-100VDAK-FX	50	100
EPC50-125VDAK-FX	50	125
EPC50-160VDAK-FX	50	160

Code	Bore Ø mm	Stroke mm
EPC50-200VDAK-FX	50	200
EPC50-250VDAK-FX	50	250
EPC63-25VDAK-FX	63	25
EPC63-50VDAK-FX	63	50
EPC63-80VDAK-FX	63	80
EPC63-100VDAK-FX	63	100
EPC63-125VDAK-FX	63	125
EPC63-160VDAK-FX	63	160
EPC63-200VDAK-FX	63	200
EPC80-25VDAK-FX	80	25
EPC80-50VDAK-FX	80	50
EPC80-80VDAK-FX	80	80
EPC80-100VDAK-FX	80	100
EPC80-125VDAK-FX	80	125
EPC80-160VDAK-FX	80	160
EPC80-200VDAK-FX	80	200
EPC100-25VDAK-FX	100	25
EPC100-50VDAK-FX	100	50
EPC100-80VDAK-FX	100	80
EPC100-100VDAK-FX	100	100
EPC100-125VDAK-FX	100	125



1 cushioning adjustment screw

## ISO 15552 CYLINDERS

Ø (mm)	AM	B Ø d11	BG	E	EE	J2	J3	KK	L1	L2
32	22	30	16	47	G1/8	6.0	5.0	M10x1.25	20	94
40	24	35	16	52	G1/4	8.0	6.0	M12x1.25	22	105
50	32	40	16	65	G1/4	10.5	6.0	M16x1.5	26	106
63	32	45	16	75	G3/8	10.5	8.5	M16x1.5	25	121
80	40	45	17	95	G3/8	14.0	9.5	M20x1.5	32	128
100	40	55	17	115	G1/2	15.0	10.0	M20x1.5	38	138

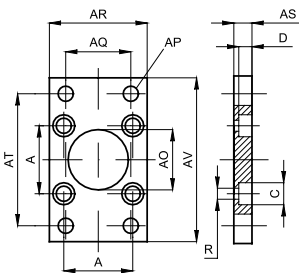
Ø (mm)	L7	MM Ø 17	PL	RT	TG	VA	VD	WH	ZJ	1	2	3
32	18.0	12	14.0	M6	32.5	4	4	26	124	10	17	6
40	20.0	16	15.0	M6	38.0	4	4	30	139	13	19	6
50	20.0	20	15.0	M8	46.5	4	4	37	147	17	24	8
63	10.0	20	16.0	M8	56.5	4	4	37	162	17	24	8
80	13.5	25	20.5	M10	72.0	4	4	46	178	22	30	10
100	13.0	25	20.0	M10	89.0	4	4	51	193	22	30	10



**FLANGE MOUNT FOR ISO 15552  
AND ISO 21287 CYLINDERS 32-100MM BORE**

Code	Bore Ø mm	A	AP	AO	R	AS	AR	AQ	AT	AV	C	D	Weight (g)
EPC32-FL-FX	32	32.5	7	30	6.5	10	45	32	64	80	10.5	6.5	190
EPC40-FL-FX	40	38	9	35	6.5	10	52	36	72	90	10.5	6.5	246
EPC50-FL-FX	50	46.5	9	40	8.5	12	65	45	90	110	13.5	8.5	478
EPC63-FL-FX	63	56.5	9	45	8.5	12	75	50	100	120	13.5	8.5	622
EPC80-FL-FX	80	72	12	45	10.5	16	95	63	126	150	16.5	10.5	1430
EPC100-FL-FX	100	89	14	55	10.5	16	115	75	150	170	16.5	10.5	1986

Material: Steel. Mounting screws included

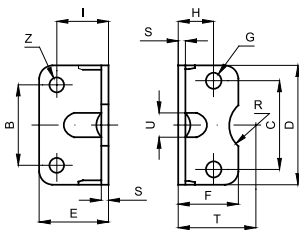


Flange ISO MF1 / MF2

**FOOT MOUNT FOR ISO 15552  
AND ISO 21287 CYLINDERS 32-100MM BORE**

Code	Bore Ø mm	C	B	D	E	F	G	H	I	S	T	R	U	Z	Weight (g) ea
EPC32-FT-FX	32	32.5	32	45	36	30	7	15.75	24	4	32	15	11	7	66
EPC40-FT-FX	40	38	36	52	36	30	7	17	28	4	36	17.5	15	9	78
EPC50-FT-FX	50	46.5	45	65	47	36	9	21.75	32	5	45	20	16	9	168
EPC63-FT-FX	63	56.5	50	75	45	35	9	21.75	32	5	50	22.5	18	9	190
EPC80-FT-FX	80	72	63	95	55	47	11	27	41	6	63	22.5	17	12	382
EPC100-FT-FX	100	89	75	115	57	53	11	26.5	41	6	71	27.5	24	14	452

Material: Steel. Mounting screws included. Supplied in pairs

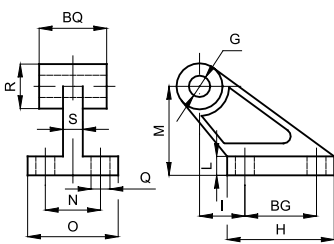


Low foot MS1

**REAR 90° HINGE FOR ISO 15552  
AND ISO 21287 CYLINDERS 32-100MM BORE**

Code	Bore Ø mm	Q	BG	H	I	L	M	N	O	S	R	BQ	G	Weight (g)
EPC32-HG-FX	32	7	20	37	18	8	32	25	41	9	19	26	10	54
EPC40-HG-FX	40	9	32	54	25	10	45	32	52	14	25.5	28	12	136
EPC50-HG-FX	50	9	32	54	25	10	45	32	52	14	25.5	32	12	140
EPC63-HG-FX	63	11	50	75	32	12	63	40	63	14	32	40	16	295
EPC80-HG-FX	80	11	50	75	32	12	63	40	63	14	32	50	16	313
EPC100-HG-FX	100	14	70	103	40	17	90	50	80	22	42	60	20	710

Material: Aluminium



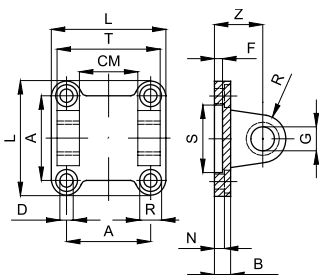
Rear 90° hinge



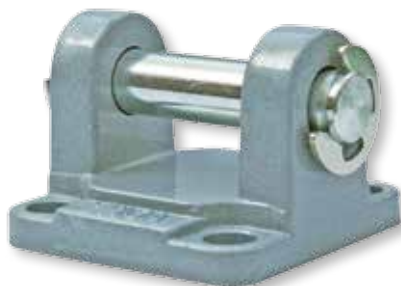
**REAR CLEVIS MP2 FOR ISO 15552  
AND ISO 21287 CYLINDERS 32-100MM BORE**

Code	Bore Ø mm	A	L	D	R	N	B	S	F	Z	G	M	CM	T	Weight (g)
EPC32-CLMP2-FX	32	32.5	45	6.6	11	5.5	9	30	5	22	10	10	26	45	48
EPC40-CLMP2-FX	40	38	52	6.6	11	5.5	9	35	5	25	12	12	28	52	75
EPC50-CLMP2-FX	50	46.5	65	9	15	6.5	11	40	5	27	12	12	32	60	124
EPC63-CLMP2-FX	63	56.5	75	9	15	6.5	11	45	5	32	16	16	40	70	192
EPC80-CLMP2-FX	80	72	95	11	18	10	14	45	5	36	16	16	50	90	380
EPC100-CLMP2-FX	100	89	115	11	18	10	14	55	5	41	20	20	60	110	620

Material: Aluminium



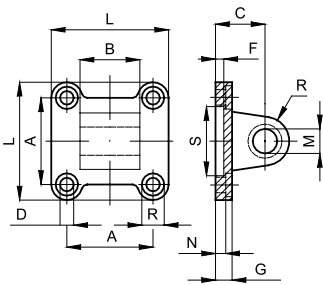
Rear clevis MP2



**REAR EYE MP4 FOR ISO 15552  
AND ISO 21287 CYLINDERS 32-100MM BORE**

Code	Bore Ø mm	A	L	D	R	N	G	S	F	C	M	T	B	Weight (g)
EPC32-REMP4-FX	32	32.5	45	6.6	11	5.5	9	30	5	22	10	10	26	54
EPC40-REMP4-FX	40	38	52	6.6	11	5.5	9	35	5	25	12	12	28	76
EPC50-REMP4-FX	50	46.5	65	9	15	6.5	11	40	5	27	12	12	32	124
EPC63-REMP4-FX	63	56.5	75	9	15	6.5	11	45	5	32	16	16	40	212
EPC80-REMP4-FX	80	72	95	11	18	10	14	45	5	36	16	16	50	420
EPC100-REMP4-FX	100	89	115	11	18	10	14	55	5	41	20	20	60	666

Material: Aluminium. Mounting screws included



Rear eye MP4



**ROD MOUNTINGS**  
PISTON ROD CLEVIS

Code	Thread	For Cylinder Bore Ø mm
EPC8-10RODCL-FX	M4	10
EPC12-16RODCL-FX	M6	12/16
EPC20-RODCL-FX	M8	20
EPC25-32RODCL-FX	M10x1.25	25/32
EPC40-RODCL-FX	M12x1.25	40
EPC50-63RODCL-FX	M16x1.5	50/63
EPC80-100RODCL-FX	M20x1.5	80/100



PISTON ROD EYE

Code	Thread	For Cylinder Bore Ø mm
EPC8-10RODEYE-FX	M4	10
EPC12-16RODEYE-FX	M6	12/16
EPC20-RODEYE-FX	M8	20
EPC25-32RODEYE-FX	M10x1.25	25/32
EPC40-RODEYE-FX	M12x1.25	40
EPC50-63RODEYE-FX	M16x1.5	50/63
EPC80-100RODEYE-FX	M20x1.5	80/100





## FLEXION™ ISO 21287 COMPACT CYLINDERS 16-100MM BORE

- Conforms to ISO 21287 (Unitop for 16mm bore)
- Magnetic piston as standard
- Profile design allows flush fitting of all sensors
- Elastomer end cushioning

### Materials:

Nose Bearing	Sintered bronze, PTFE
End Caps	Anodised aluminium
Barrel	Anodised aluminium
Piston	Stainless steel AISI 303
Wear Ring	PTFE
Rod Seals	Polyurethane
Other Seals	Nitrile rubber (NBR) / polyurethane

### TECHNICAL DATA

<b>Bore (mm)</b>	16 20 32 40 50 63 80 100
<b>Fluid</b>	Compressed air, filtered to 50µ or better, with or without lubrication
<b>Pressure</b>	1 to 10 bar
<b>Temperature</b>	-20°C to +80°C
<b>Life</b>	>10,000km seal travel

## ISO 21287 COMPACT CYLINDERS 16-100MM BORE

Code	Bore Ø mm	Stroke mm
EPC16-5CFDA-FX	16	5
EPC16-10CFDA-FX	16	10
EPC16-15CFDA-FX	16	15
EPC16-20CFDA-FX	16	20
EPC16-25CFDA-FX	16	25
EPC20-5CFDA-FX	20	5
EPC20-10CFDA-FX	20	10
EPC20-15CFDA-FX	20	15
EPC20-20CFDA-FX	20	20
EPC20-25CFDA-FX	20	25
EPC25-5CFDA-FX	25	5
EPC25-10CFDA-FX	25	10
EPC25-15CFDA-FX	25	15
EPC25-20CFDA-FX	25	20
EPC25-25CFDA-FX	25	25
EPC25-30CFDA-FX	25	30
EPC25-40CFDA-FX	25	40
EPC25-50CFDA-FX	25	50
EPC32-10CFDA-FX	32	10
EPC32-20CFDA-FX	32	20
EPC32-25CFDA-FX	32	25
EPC32-30CFDA-FX	32	30
EPC32-40CFDA-FX	32	40

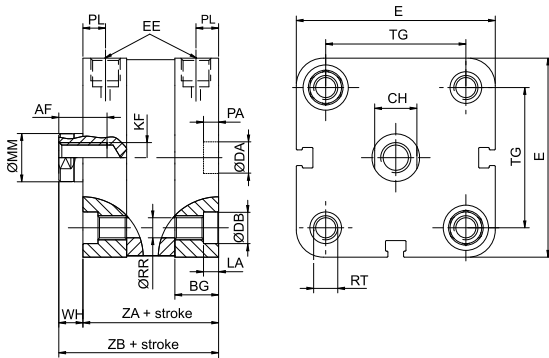
Code	Bore Ø mm	Stroke mm
EPC32-50CFDA-FX	32	50
EPC40-10CFDA-FX	40	10
EPC40-20CFDA-FX	40	20
EPC40-25CFDA-FX	40	25
EPC40-30CFDA-FX	40	30
EPC40-40CFDA-FX	40	40
EPC40-50CFDA-FX	40	50
EPC50-10CFDA-FX	50	10
EPC50-20CFDA-FX	50	20
EPC50-25CFDA-FX	50	25
EPC50-30CFDA-FX	50	30
EPC50-40CFDA-FX	50	40
EPC50-50CFDA-FX	50	50
EPC50-60CFDA-FX	50	60
EPC50-80CFDA-FX	50	80
EPC63-10CFDA-FX	63	10
EPC63-20CFDA-FX	63	20
EPC63-25CFDA-FX	63	25
EPC63-30CFDA-FX	63	30
EPC63-40CFDA-FX	63	40
EPC63-50CFDA-FX	63	50
EPC63-60CFDA-FX	63	60
EPC80-10CFDA-FX	80	10

Code	Bore Ø mm	Stroke mm
EPC80-20CFDA-FX	80	20
EPC80-25CFDA-FX	80	25
EPC80-30CFDA-FX	80	30
EPC80-40CFDA-FX	80	40
EPC80-50CFDA-FX	80	50
EPC80-60CFDA-FX	80	60
EPC80-80CFDA-FX	80	80
EPC80-100CFDA-FX	80	100
EPC100-10CFDA-FX	100	10
EPC100-20CFDA-FX	100	20
EPC100-25CFDA-FX	100	25
EPC100-30CFDA-FX	100	30
EPC100-40CFDA-FX	100	40
EPC100-50CFDA-FX	100	50
EPC100-60CFDA-FX	100	60
EPC100-80CFDA-FX	100	80
EPC100-100CFDA-FX	100	100

**ISO 21287 COMPACT CYLINDERS**

16-25MM BORE

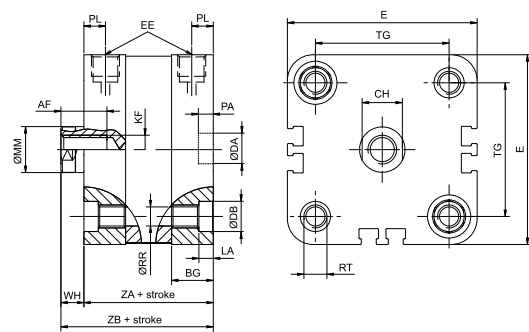
Ø (mm)	Ø MM f7	AF	WH	ZA	ZB	KF	EE	BG	RR	TG	E	RT	LA	Ø DB	PL	CH	Ø DA H9	PA +0.1
16	8	10	4.5	35	39.5	M4	M5	12.7	3.1	18	29	M4	3.5	-	8	7	6	4
20	10	10	6	37	43	M6	M5	15	4.1	22	38	M5	4.1	8.2	6	8	9	2.1
25	10	10	6	39	45	M6	M5	15	4.1	26	41	M5	4.1	8.2	5	8	9	2.1



**ISO 21287 COMPACT CYLINDERS**

32-63MM BORE

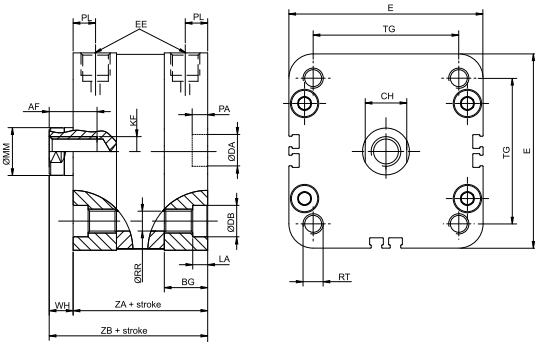
Ø (mm)	Ø MM f7	AF	WH	ZA	ZB	KF	EE	BG	RR	TG	E	RT	LA	Ø DB	PL	CH	Ø DA H9	PA +0.1
32	12	12	7	44	51	M8	G 1/8	16	5.1	32.5	50	M6	5.1	8.5	7	10	9	2.1
40	12	12	7	45	52	M8	G 1/8	16	5.1	38	58	M6	5.1	8.5	7.5	10	9	2.1
50	16	16	8	45	53	M10	G 1/8	16	6.4	46.5	70	M8	6.1	10.5	7.5	14	12	2.6
63	16	16	8	49	57	M10	G 1/8	16	6.4	56.5	80	M8	6.1	10.5	7	14	12	2.6





**ISO 21287 COMPACT CYLINDERS**  
80-100MM BORE

Ø (mm)	Ø MM f7	AF	WH	ZA	ZB	KF	EE	BG	RR	TG	E	RT	LA	Ø DB	PL	CH	Ø DA H9	PA +0.1
80	20	20	10	54	64	M12	G 1/8	17	8.4	72	96	M10	8.5	13	8	17	12	2.6
100	20	20	10	67	77	M12	G 1/8	17	8.4	89	116	M10	8.5	13	8.5	17	12	2.6

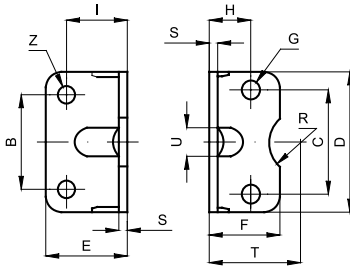


## MOUNTINGS

### FOOT MOUNT

Code	Bore Ø mm	C	B	D	E	F	G	H	I	S	T	R	U	Z	Weight (g) ea
EPC16-FTC-FX	16	18	18	30	17.5	17.5	4.4	13	13	3	15	9	2	5.5	20
EPC20-FTC-FX	20	22	22	36	22	22	5.4	16	16	4	17	10	2	6.6	32
EPC25-FTC-FX	25	26	26	40	22	23	5.4	17	16	4	19	11	2	6.6	38

Material. Steel. Mounting screws included. Supplied in pairs

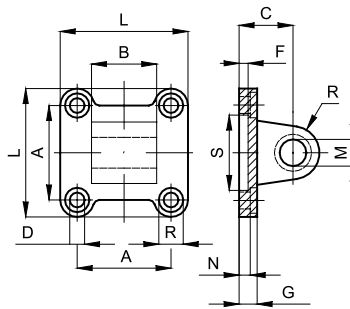


Low foot MS1

### REAR EYE

Code	Bore Ø mm	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	Weight (g)
EPC16-REMP4-FX	16	18	27	10	4.5	2.6	6	16	2	6	4.5	10	8	12	3	6	17
EPC20-REMP4-FX	20	22	34	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8	21
EPC25-REMP4-FX	25	26	38	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8	27

Material. Steel. Mounting screws included. Supplied in pairs



Rear eye MP4

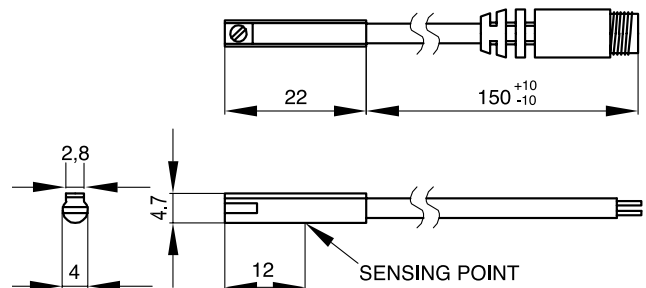
## SENSORS

Code	Description
EPCSWRD2FL-FX	Reed, 2 wire, with flying lead, flexible cable 2.5metre
EPCSWRD3M8-FX	Reed, 3 wire with M8 connector on 300mm flying lead
EPCSWPNP3M8-FX	Solid state, 3 wire, PNP with M8 connector on 300mm flying lead
EPCSWNPN3M8-FX	Solid state, 3 wire, NPN with M8 connector on 300mm flying lead



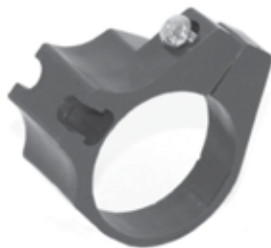
## TECHNICAL DETAILS

Circuit	Reed, 2 poles	Reed-Hall, PNP, 3poles	Reed-Hall, NPN, 3 poles
Switching	Normally open	Normally open, solid state output	
Voltage	5 - 120 V DC/AC	4.5 - 28 V DC	
Switching current	50 mA max		
Contact rating	6 W	1.5 W max	
Voltage drop	3 V max	0.5 V max	
LED	Red	Green	Red
Temperature range	-10°C to +70°C		
Protection class	IEC 529 IP67		



## SENSOR MOUNTINGS

Code	Bore Ø mm
EPCSWB10-FX	10
EPCSWB12-FX	12
EPCSWB16-FX	16
EPCSWB20-FX	20
EPCSWB25-FX	25

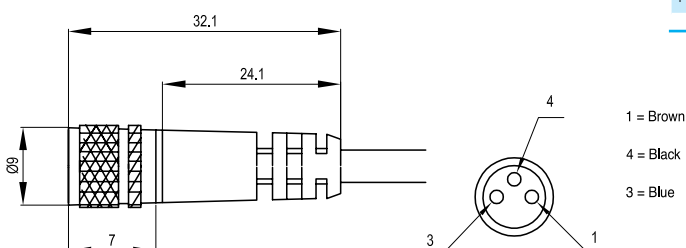


## EXTENSION CABLE

Code	Description
EPCSWEXTCBL2M-FX	Extension cable 2 metres with M8 connector
EPCSWEXTCBL5M-FX	Extension cable 5 metres, with M8 connector
EPCSWEXTCBL10M-FX	Extension cable 10 metres with M8 connector

## TECHNICAL DETAILS

Circuit	Reed, 2 poles
Cable Material	PVC Black
Connector Material	Body: polypropylene Contacts: Gilded Brass Nut: Nickel Brass Plated
Cable Data	3 x 24 AWG / 0.22mm <sup>2</sup> flexible, spatter resistant, oil resistant, insulation 300V
Temperature	-20°C to +80°C
Protection	IP67



# Flexion™

## VALVES

The range of FLEXION™ pneumatics valves incorporates solenoid, pilot and manually actuated units with port sizes 1/8", 1/4" and 1/2".

With 3 port normally closed, and 5 port valves with all the popular spool options the FLEXION™ range of valves will meet most of your application requirements.

Flow rates up to 2900 litres per minute giving excellent flow performance for their body sizes for optimum actuator speeds and performance.

Using a static seal design gives improved life expectancy of over 20 million cycles, and all the valves are pre-lubricated ensuring thousands of trouble free operating hours for typical valve applications.

Body ported valves have through holes for direct mounting and manifolds available for the solenoid and pilot versions - the FLEXION™ range offers great versatility for your automation control needs.



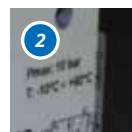
**EXCELLENT FLOW PERFORMANCE**

With flow rates up to 2900 litres/min providing optimum speed and performance.



**FLEXIBLE MOUNTING OPTIONS**

Through holes for direct mounting and manifold mount options.



**ALL SPOOL OPTIONS AVAILABLE**

3/2 normally closed, 5/2 single and double solenoid, 5/3 closed, pressured.



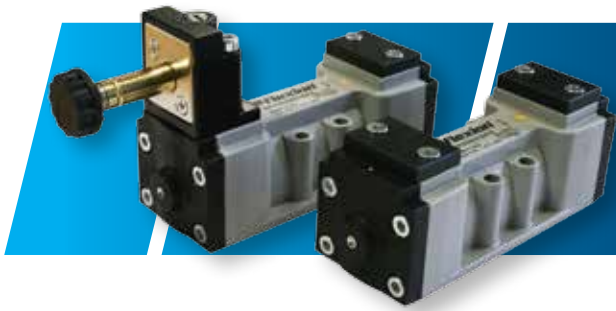
**LOW POWER COIL**

Low power coils for 24V DC versions, 110V AC and 230V AC coils also available.



**STATIC SEAL DESIGN**

Allowing life expectancy beyond 20 million cycles.



## FLEXION™ ISO VALVES

### Materials:

Body	Aluminium
Heads	Plastic
Spool	Aluminium
Distancers	Plastic
Seals	NBR

### TECHNICAL DATA

<b>Fluid</b>	Compressed filtered air with or without lubrication. Lubrication, if used, must be continuous
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<b>Pressure</b>	0 ÷ 10 bar
<b>Temperature</b>	-10°C ÷ +60°C
<b>Flow</b>	1100 NI/min at 6 bar Δ ISO1 1100NI/min ISO2 2900 NI/min
<b>Min operating pressure</b>	Monostable: 2 bar Bisstable: 1 bar 3 Positions: 2 bar
<b>Mounting</b>	In any position
<b>Solenoid</b>	Conforming to CNOMO
<b>Manual override</b>	Bistable on solenoid pilot - Monostable on valve body

## SOLENOID VALVES - ISO 5599/1

Code	Description
<b>ISO 1</b>	
EPVS-5/2-ISO1-SS-FX	5/2 Single Sol ISO1
EPVS-5/2-ISO1-DS-FX	5/2 Double Sol ISO1
EPVS-5/3-ISO1-CC-FX	5/3 Sol Centre Closed ISO1
EPVS-5/3-ISO1-CE-FX	5/3 Sol Centre Exh ISO1
EPVS-5/3-ISO1-CP-FX	5/3 Sol Centre Press ISO1
<b>ISO 2</b>	
EPVS-5/2-ISO2-SS-FX	5/2 Single Sol ISO2
EPVS-5/2-ISO2-DS-FX	5/2 Double Sol ISO2
EPVS-5/3-ISO2-CC-FX	5/3 Sol Centre Closed ISO2
EPVS-5/3-ISO2-CE-FX	5/3 Sol Centre Exh ISO2
EPVS-5/3-ISO2-CP-FX	5/3 Sol Centre Press ISO2

## PILOT VALVES - ISO 5599/1

Code	Description
EPVP-5/2-ISO1-SP-FX	5/2 Single Pilot ISO1
EPVP-5/2-ISO1-DP-FX	5/2 Double Pilot ISO1
EPVP-5/3-ISO1-CC-FX	5/3 Pilot Centre Closed ISO1
EPVP-5/3-ISO1-CE-FX	5/3 Pilot Centre Exh ISO1
EPVP-5/3-ISO1-CP-FX	5/3 Pilot Centre Press ISO1
EPVP-5/2-ISO2-SP-FX	5/2 Single Pilot ISO2
EPVP-5/2-ISO2-DP-FX	5/2 Double Pilot ISO2
EPVP-5/3-ISO2-CC-FX	5/3 Pilot Centre Closed ISO2
EPVP-5/3-ISO2-CE-FX	5/3 Pilot Centre Exh ISO2
EPVP-5/3-ISO2-CP-FX	5/3 Pilot Centre Press ISO2

## MANIFOLDS

Code	Description
<b>ISO 1</b>	
EPV-SBA1S-FX	Single sub-base ISO1
EPV-SBA1M-FX	Manifold sub-base ISO1
EPV-SBA1A-FX	Ported Manifold end plate ISO1
EPV-SBA1C-FX	Blank Manifold end plate ISO1
EPV-SBA1T-FX	Manifold blanking plate ISO1
EPV-SBA1A2-FX	Interface sub-base ISO1 to ISO2
<b>ISO 2</b>	
EPV-SBA2S-FX	Single sub-base ISO2
EPV-SBA2M-FX	Manifold sub-base ISO2
EPV-SBA2A-FX	Ported Manifold end plate ISO2
EPV-SBA2C-FX	Blank Manifold end plate ISO2
EPV-SBA2T-FX	Manifold blanking plate ISO2

## SOLENOID COILS & CONNECTORS

Code	Bore Ø mm
EPV-C-30MM-24VDC-FX	24VDC Coil 30mm ISO
EPV-C-30MM-24VAC-FX	24VAC Coil 30mm ISO
EPV-C-30MM-110VAC-FX	110VAC Coil 30mm ISO
EPV-C-30MM-230VAC-FX	230VAC Coil 30mm ISO
EPV-CSTD-30MM-FX	30mm Din Conn, standard
EPV-CNL24V-30MM-FX	30mm Din Conn with LED+VDR, 24 V
EPV-CNL110V-30MM-FX	30mm Din Conn with LED+VDR, 115 V
EPV-CNL230V-30MM-FX	30mm Din Conn with LED+VDR, 230 V





## FLEXION™ SOLENOID VALVES

### BODY PORTED

- Series of solenoid spool valves
- 3 body sizes, 1/8", 1/4" and 1/2" BSPP
- 3/2 normally closed, 5/2 and 5/3 spool options
- Flow rates from 650 NI/min to 2900 NI/min
- Static seal design to give prolonged life > 20 million cycles
- Through holes for direct mounting
- Manifolds available for 1/8" and 1/4" models
- 24vdc, 2 watt coils, 110vac and 230vac 4.2VA
- IP65 connectors, standard or with LED indication

#### Materials:

Body	Aluminium
End caps	Polymer, aluminium on 1/2" models
Spool	Chemically nickel plated aluminium
Seals	Nitrile rubber (NBR)
Life	>20 million operations

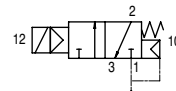
TECHNICAL DATA	1/8"	1/4"	1/2"
<b>Fluid</b>	Compressed air, filtered to 50µ or better, with or without lubrication		
	3/2 & 5/2	5/3	
<b>Pressure Range</b>	1 to 10 Bar	2.5 to 10 Bar	
<b>Temperature</b>	-10°C to +60°C		
<b>Orifice</b>	6.5mm <sup>2</sup>	8mm <sup>2</sup>	15mm <sup>2</sup>

\*Coils and connectors to be ordered separately

## SOLENOID OPERATED VALVE

### 3/2NC SINGLE SOLENOID

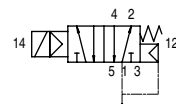
Code	Body Size
EPVS3/2NCSS1/8-FX	1/8"
EPVS3/2NCSS1/4-FX	1/4"
EPVS3/2NCSS1/2-FX	1/2"



## SOLENOID OPERATED VALVE

### 5/2 SINGLE SOLENOID

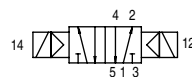
Code	Body Size
EPVS5/2SS1/8-FX	1/8"
EPVS5/2SS1/4-FX	1/4"
EPVS5/2SS1/2-FX	1/2"



## SOLENOID OPERATED VALVE

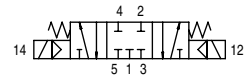
### 5/2 DOUBLE SOLENOID

Code	Body Size
EPVS5/2DS1/8-FX	1/8"
EPVS5/2DS1/4-FX	1/4"
EPVS5/2DS1/2-FX	1/2"



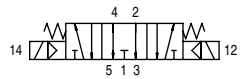
**SOLENOID OPERATED VALVE**  
5/3 CENTRE CLOSED

Code	Body Size
EPVS5/3CC1/8-FX	1/8"
EPVS5/3CC1/4-FX	1/4"
EPVS5/3CC1/2-FX	1/2"



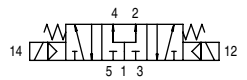
**SOLENOID OPERATED VALVE**  
5/3 CENTRE EXHAUST

Code	Body Size
EPVS5/3CE1/8-FX	1/8"
EPVS5/3CE1/4-FX	1/4"
EPVS5/3CE1/2-FX	1/2"



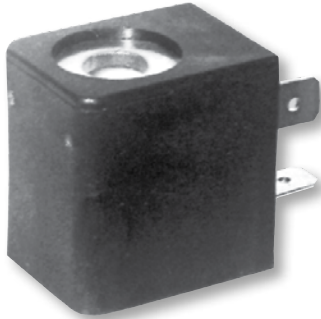
**SOLENOID OPERATED VALVE**  
5/3 CENTRE PRESSURE

Code	Body Size
EPVS5/3CP1/8-FX	1/8"
EPVS5/3CP1/4-FX	1/4"
EPVS5/3CP1/2-FX	1/2"



## COILS

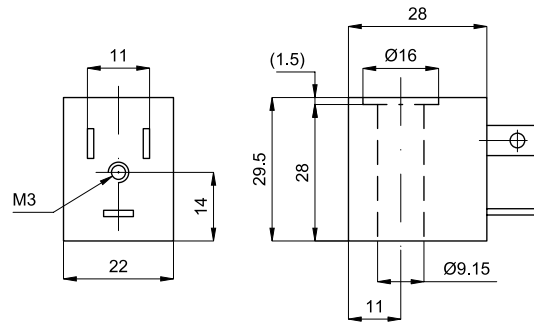
1/8", 1/4" AND 1/2"



Code	Voltage
EPV-C-3W-24VDC-FX	24 v dc
EPV-C-110VAC-FX	110 v ac
EPV-C-230VAC-FX	230 v ac

TECHNICAL DATA	DIRECT CURRENT	ALTERNATING CURRENT
<b>Voltage tolerance</b>	± 10%	± 10%
<b>Frequency tolerance</b>	-	± 5%
<b>Electrical consumption</b>	3W	4,2 VA
<b>Voltage</b>	24 V	110, 230 V 50/60HZ
<b>Duty cycle</b>	100% ED	
<b>Class protection</b>	IP65 (with connector already mounted)	
<b>Temperature range</b>	-20°C to +50°C	
<b>Response time</b>	10 ms	

\*Coils and connectors to be ordered separately



## CONNECTORS



Code	Voltage
EPV-CSTD-FX	n/a
EPV-CNL24V-FX	24 v dc
EPV-CNL110V-FX	110 v ac
EPV-CNL230V-FX	230 v ac

TECHNICAL DATA	DIRECT CURRENT
<b>Contact distance</b>	11mm
<b>Nominal voltage</b>	AC max 250 V; DC max 300 V
<b>Nominal current</b>	10 A
<b>Maximum current on contacts</b>	16 A
<b>Contact resistance</b>	≤ 4 m Ohm
<b>Maximum conductor section</b>	1.5mm <sup>2</sup>
<b>Gland size option</b>	Pg 09
<b>Protection class</b>	IP65 EN 60529
<b>Insulation class</b>	VDE 0110 - 1/89
<b>Temperature range</b>	-40°C to +90°C



## FLEXION™ PILOT VALVES BODY PORTED

- Series of pilot operated spool valves.
- 3 body sizes, 1/8", 1/4" and 1/2" BSPP
- 3/2 normally closed, 5/2 and 5/3 spool options
- Flow rates from 650 NI/min to 2900NI/min
- Static seal design to give prolonged life > 20million cycles
- Through holes for direct mounting.
- Manifolds available for 1/8" and 1/4" models

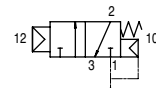
### Materials:

Body	Aluminium
End caps	Polymer, aluminium on 1/2" models
Spool	Chemically nickel plated aluminium
Seals	Nitrile rubber (NBR)
Life	>20 million operations

TECHNICAL DATA	1/8"	1/4"	1/2"
<b>Fluid</b>	Compressed air, filtered to 50µ or better, with or without lubrication		
<b>Pressure Range</b>	0 to 10 Bar		
<b>Temperature</b>	-10°C to +60°C		
<b>Orifice</b>	6.5mm	8mm	15mm
<b>Flow</b>	650 NI/min @ 6 Bar with Δ P 1 Bar	1100 NI/min @ 6 Bar with Δ P 1 Bar	2900 NI/min @ 6 Bar with Δ P 1 Bar
<b>Min Pilot Pressure</b>	1.5 Bar	1.5 Bar	2.5 Bar

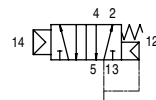
## PILOT OPERATED VALVE 3/2NC SINGLE PILOT

Code	Body Size
EPVP3/2NCSP1/8-FX	1/8"
EPVP3/2NCSP1/4-FX	1/4"
EPVP3/2NCSP1/2-FX	1/2"



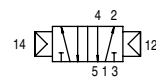
## PILOT OPERATED VALVE 5/2 SINGLE PILOT

Code	Body Size
EPVP5/2SP1/8-FX	1/8"
EPVP5/2SP1/4-FX	1/4"
EPVP5/2SP1/2-FX	1/2"



## PILOT OPERATED VALVE 5/2 DOUBLE PILOT

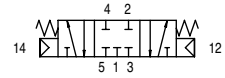
Code	Body Size
EPVP5/2DP1/8-FX	1/8"
EPVP5/2DP1/4-FX	1/4"
EPVP5/2DP1/2-FX	1/2"



## PILOT OPERATED VALVE

### 5/3 CENTRE CLOSED

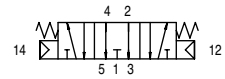
Code	Body Size
EPVP5/3CC1/8-FX	1/8"
EPVP5/3CC1/4-FX	1/4"
EPVP5/3CC1/2-FX	1/2"



## PILOT OPERATED VALVE

### 5/3 CENTRE EXHAUST

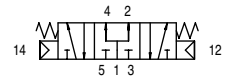
Code	Body Size
EPVP5/3CE1/8-FX	1/8"
EPVP5/3CE1/4-FX	1/4"
EPVP5/3CE1/2-FX	1/2"



## PILOT OPERATED VALVE

### 5/3 CENTRE PRESSURE

Code	Body Size
EPVP5/3CP1/8-FX	1/8"
EPVP5/3CP1/4-FX	1/4"



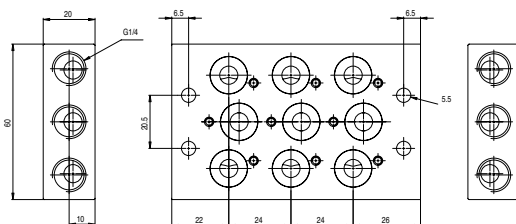
## MANIFOLDS

Code	No of Stations
<b>Manifold 1/8"</b>	
EPVMFLD1/82-FX	2 station
EPVMFLD1/84-FX	4 station
EPVMFLD1/86-FX	6 station
EPVMFLD1/88-FX	8 station
EPVMFLD1/8BP-FX	Blanking Plate
<b>Manifold 1/4"</b>	
EPVMFLD1/42-FX	2 station
EPVMFLD1/44-FX	4 station
EPVMFLD1/46-FX	6 station
EPVMFLD1/48-FX	8 station
EPVMFLD1/4BP-FX	Blanking Plate

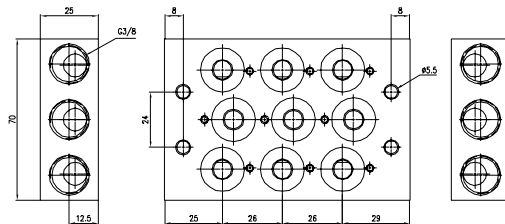


- Compact and convenient method of installing up to 8 directional control valves
- Mounting screws and seals included
- 2, 4, 6, 8 station sub bases for 5/2 & 5/3 solenoid or pilot valves
- Material: Anodised aluminium

### 1/8" Valve Manifold Bases



### 1/4" Valve Manifold Bases







## FLEXION™ NAMUR VALVES

- Static seal spool valves with high flow rates, for mounting on NAMUR interface
- Single and Double solenoid options
- Valves are supplied with blanking disc to enable use as 5/2 or 3/2 normally closed or 3/2 normally open
- Coils and connectors are to be ordered separately

### Materials:

Body	Aluminium
End Caps	Plastic
Barrel	Chemical nickel plated aluminium
Piston	Plastic
Wear Ring	Nitrile rubber (NBR)

### TECHNICAL DATA

<b>Fluid</b>	Compressed filtered air with or without lubrication. Lubrication if used must be continuous
<b>Pressure</b>	1 to 10 bar
<b>Temperature</b>	-10°C to +60°C
<b>Flow</b>	1,000 N/min at 6 Bar with Δ P 1 Bar
<b>Min plotting pressure</b>	1.5 Bar
<b>Min external air pressure</b>	1.5 Bar
<b>Mounting</b>	In any position
<b>Manual Override</b>	Two stable positions
<b>Response Time</b>	Energising De-Energising

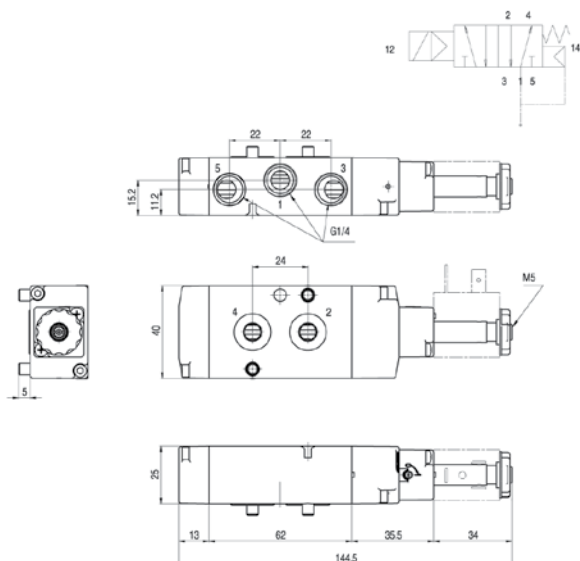
## NAMUR VALVES

Code	Body Size
EPV55/2-NAM1/4-SS-FX	5/2 Solenoid/Spring, Namur Valve
EPV55/2-NAM1/4-DS-FX	5/2 Solenoid/Solenoid, Namur Valve

- Valves are supplied with blanking disc to enable configuring as 3/2 normally closed or open
- For Coils and Connectors See Page xx

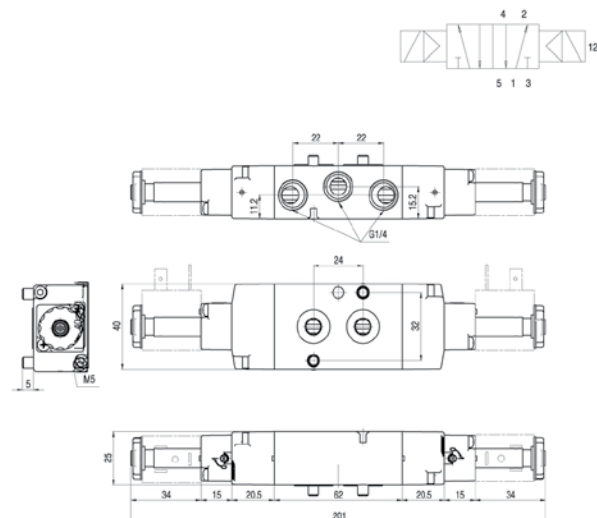
### 1/4", Single Solenoid

EPV55/2-NAM1/4-SS-FX



### 1/4", Double Solenoid

EPV55/2-NAM1/4-DS-FX





## FLEXION™ MANUAL VALVES 1/8" & 1/4" PORTED

- Series of manually operated valves
- 1/8" and 1/4" body sizes
- 3/2 normally closed, 5/2 and 5/3 spool options
- Flow rates from 650 NI/min to 1100 NI/min
- Through holes for direct mounting

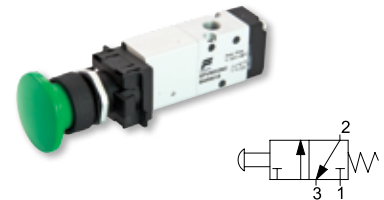
### Materials:

Body	Aluminium
Cover	Aluminium
Spool	Chemically Nickel plated aluminium
Bottom plates	Plastic
Distancers	Plastic
Seals	Nitrile rubber (NBR)
Lever	Steel

TECHNICAL DATA	1/8"	1/4"
<b>Fluid</b>	Compressed filtered air with or without lubrication	
<b>Pressure Range</b>	0 to 10 Bar	
<b>Temperature</b>	-10°C to +80°C	
<b>Orifice</b>	6.5mm	8mm
<b>Flow</b>	650 NI/min at 6 Bar with Δ P 1 Bar	1100 NI/min at 6 Bar with Δ P 1 Bar
<b>Mounting</b>	In any position	

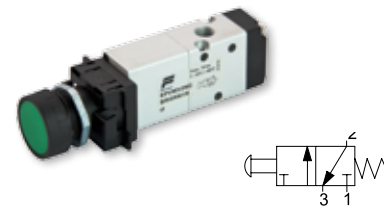
## BUTTON PUSH SPRING 3/2NC

Code	Function	Port Size
EPVM3/2NCBBLK1/8-FX	3/2 NC Black Button Push Spring	1/8"
EPVM3/2NCBGRN1/8-FX	3/2 NC Green Button Push Spring	1/8"
EPVM3/2NCBRED1/8-FX	3/2 NC Red Button Push Spring	1/8"



## RECESSED BUTTON 3/2NC

Code	Function	Port Size
EPVM3/2NCBRBLK1/8-FX	3/2 NC Black Button Recessed Push Spring	1/8"
EPVM3/2NCBRGRN1/8-FX	3/2 NC Green Button Recessed Push Spring	1/8"
EPVM3/2NCBRRED1/8-FX	3/2 NC Red Button Recessed Push Spring	1/8"



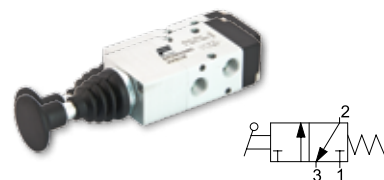
## PUSH PULL KNOB 3/2NC

Code	Function	Port Size
EPVM3/2NCKPP1/8-FX	3/2 NC Push Pull Knob 3/2 NC	1/8"



## PUSH SPRING KNOB 3/2NC

Code	Function	Port Size
EPVM3/2NCKPS1/8-FX	Push Spring Knob 3/2NC	1/8"



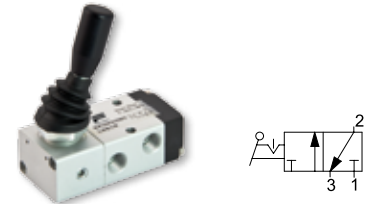
### LEVER LEVER END 3/2NC

Code	Function	Port Size
EPVM3/2NCLLE1/8-FX	1/8" 3/2 NC Lever Lever End	1/8"



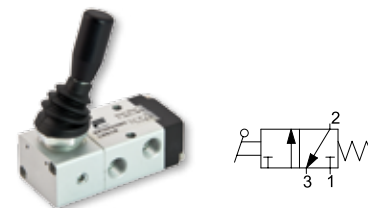
### LEVER LEVER SIDE 3/2NC

Code	Function	Port Size
EPVM3/2NCLS1/8-FX	1/8" 3/2 NC Lever Lever Side	1/8"



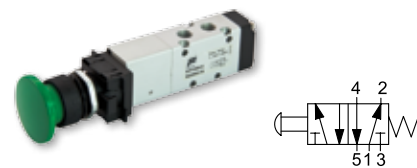
### LEVER SPRING SIDE 3/2NC

Code	Function	Port Size
EPVM3/2NCLSS1/8-FX	3/2 NC Lever Spring Side	1/8"



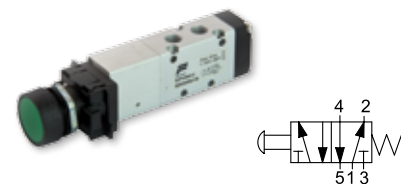
### BUTTON PUSH SPRING 5/2

Code	Function	Port Size
EPVM5/2BBLK1/8-FX	5/2 Black Push Spring Button	1/8"
EPVM5/2BGRN1/8-FX	5/2 Green Push Spring Button	1/8"
EPVM5/2BRED1/8-FX	5/2 Red Push Spring Button	1/8"



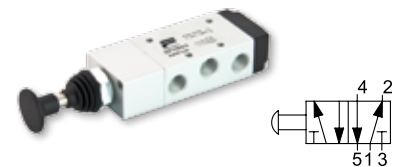
### RECESSED BUTTON 5/2

Code	Function	Port Size
EPVM5/2BRBLK1/8-FX	5/2 Black Recessed Button	1/8"
EPVM5/2BRGRN1/8-FX	5/2 Green Recessed Button	1/8"
EPVM5/2BRRED1/8-FX	5/2 Red Recessed Button	1/8"



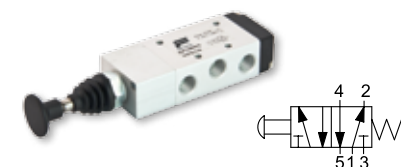
### PUSH PULL KNOB 5/2

Code	Function	Port Size
EPVM5/2KPP1/8-FX	5/2 Push Pull Knob	1/8"
EPVM5/2KPP1/4-FX	5/2 Push Pull Knob	1/4"



### KNOB PUSH SPRING 5/2

Code	Function	Port Size
EPVM5/2KPS1/8-FX	5/2 Knob Push Spring	1/8"
EPVM5/2KPS1/4-FX	5/2 Knob Push Spring	1/4"



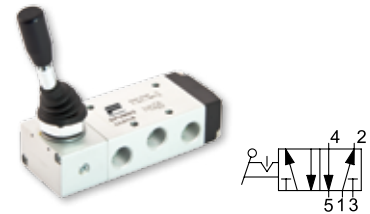
### LEVER LEVER END 5/2

Code	Function	Port Size
EPVM5/2LLE1/8-FX	5/2 Lever Lever End	1/8"



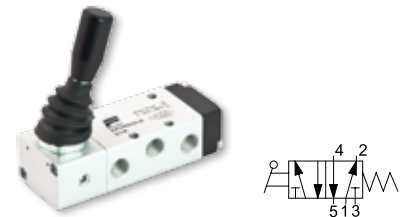
### LEVER LEVER SIDE 5/2

Code	Function	Port Size
EPVM5/2LLS1/8-FX	5/2 Lever Lever Side	1/8"
EPVM5/2LLS1/4-FX	5/2 Lever Lever Side	1/4"



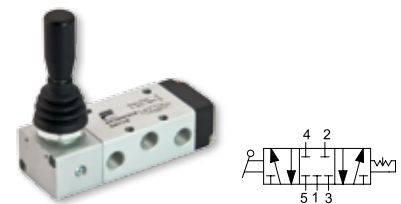
### LEVER SPRING SIDE 5/2

Code	Function	Port Size
EPVM5/2LSS1/8-FX	5/2 Lever Spring Side - 5/2	1/8"
EPVM5/2LSS1/4-FX	5/2 Lever Spring Side - 5/2	1/4"



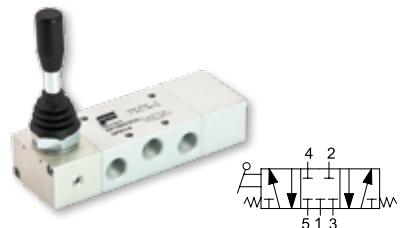
### CENTRE CLOSED, LEVER LEVER SIDE 5/3

Code	Function	Port Size
EPVM5/3CCDET1/8-FX	5/3 Centre Closed, Lever Lever Side, Detended	1/8"
EPVM5/3CCDET1/4-FX	5/3 Centre Closed, Lever Lever Side, Detended	1/4"



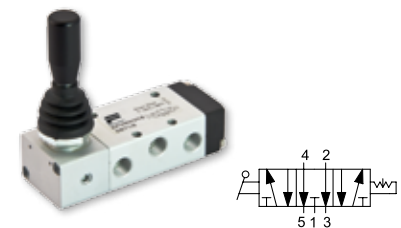
### CENTRE CLOSED LEVER LEVER SIDE SPRUNG TO CENTRE 5/3

Code	Function	Port Size
EPVM5/3CCSPR1/8-FX	5/3 Centre Closed Lever Lever Side Sprung to Centre	1/8"
EPVM5/3CCSPR1/4-FX	5/3 Centre Closed Lever Lever Side Sprung to Centre	1/4"



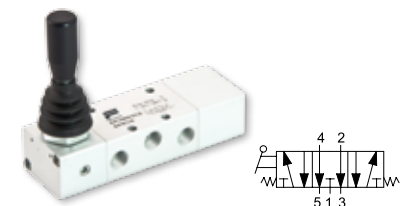
### CENTRE EXHAUST LEVER LEVER SIDE 5/3

Code	Function	Port Size
EPVM5/3CEDET1/8-FX	Centre Exhaust Lever Lever Side, Detended - 5/3	1/8"
EPVM5/3CEDET1/4-FX	Centre Exhaust Lever Lever Side, Detended - 5/3	1/4"



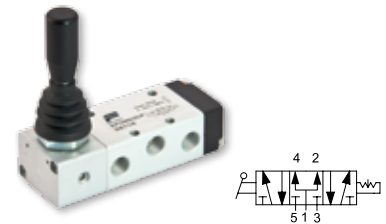
### CENTRE EXHAUST, LEVER LEVER SIDE, SPRUNG TO CENTRE 5/3

Code	Function	Port Size
EPVM5/2LLE1/8-FX	5/2 Lever Lever End	1/8"



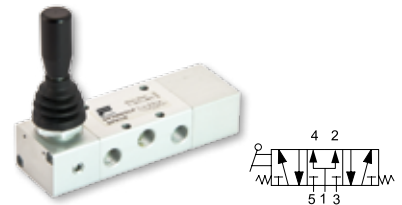
**CENTRE PRESSURE, LEVER LEVER SIDE, DETENTED 5/3**

Code	Function	Port Size
EPVM5/3CPDET1/8-FX	5/3 Centre Pressure, Lever Lever Side, Detented	1/8"



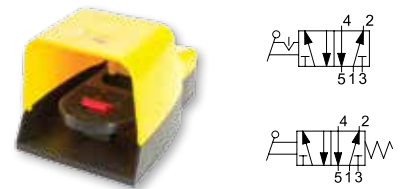
**CENTRE PRESSURE, LEVER LEVER SIDE, SPRUNG TO CENTRE 5/3**

Code	Function	Port Size
EPVM5/3CPSPR1/8-FX	5/3 Centre Pressure, Lever Lever Side, Sprung to Centre	1/8"



**FOOT 5/2**

Code	Function	Port Size
EPVM5/2FTDET1/4-FX	Foot, Detented - 5/2	1/4"
EPVM5/2FTSPR1/4-FX	Foot Spring - 5/2	1/4"





## FLEXION™ MECHANICAL VALVES

- Series of spool valves mechanically operated (plunger, bi-directional and uni-directional lever).
- 1/8" ports
- 3/2 and 5/2 spool options
- Flow rate 600 NI/min

**Materials:**

Body: Painted die-cast aluminium  
 Heads: Plastic  
 Seals: Nitrile rubber (NBR)

**TECHNICAL DATA**

<b>Fluid</b>	Compressed filtered air without lubrication
<b>Pressure Range</b>	0 to 10 Bar
<b>Temperature</b>	-10 ° to +60°C
<b>Orifice</b>	6mm
<b>Flow</b>	900 N/min
<b>Connections</b>	1/8"
<b>Fixing</b>	Through holes on the body
<b>Mounting</b>	In any position

### MECHANICAL VALVE

Code	Function	Port Size
EPVM3/2NCPLG-FX	3/2 Valve, with Plunger, N.C.	1/8"
EPVM5/2NCPLG-FX	5/2 Valve, with Plunger	1/8"



### MECHANICAL VALVE

Code	Function	Port Size
EPVM3/2NCRLB-FX	3/2 Valve, with Bi-Directional Roller Lever, N.C.	1/8"
EPVM5/2NCRLB-FX	5/2 Valve, with Bi-Directional Roller Lever, 1 Position	1/8"



### MECHANICAL VALVE

Code	Function	Port Size
EPVM3/2NCRLU-FX	3/2 Valve, with Uni-Directional Roller Lever N.C.	1/8"
EPVM5/2NCRLU-FX	5/2 Valve, with Uni-Directional Roller Lever, 1 Position	1/8"





## FLEXION™ ANCILLARY VALVES

### FLOW CONTROLLERS

Code	Tube Size
EPVFLWCTL1/8-FX	In-line flow restrictors, Unidirectional, 1/8"
EPVFLWCTL1/4-FX	In-line flow restrictors, Unidirectional, 1/4"
EPVFLWCTL3/8-FX	In-line flow restrictors, Unidirectional, 3/8"
EPVFLWCTL1/2-FX	In-line flow restrictors, Unidirectional, 1/2"



### CHECK VALVES



Code	Description
EPVCHK-1/8-FX	Check Valve 1/8"
EPVCHK-1/4-FX	Check Valve 1/4"
EPVCHK-3/8-FX	Check Valve 3/8"
EPVCHK-1/2-FX	Check Valve 1/2"

### PILOT OPERATED CHECK VALVES



Code	Description
EPVPOC-1/8-FX	Pilot Operated Check Valve 1/8"
EPVPOC-1/4-FX	Pilot Operated Check Valve 1/4"
EPVPOC-3/8-FX	Pilot Operated Check Valve 3/8"
EPVPOC-1/2-FX	Pilot Operated Check Valve 1/2"

For suitable banjo rings - see the fittings section.

### QUICK EXHAUST VALVES



Code	Description
EPVQEV-1/4-FX	Quick Exhaust Valve 1/4"
EPVQEV-3/8-FX	Quick Exhaust Valve 3/8"
EPVQEV-1/2-FX	Quick Exhaust Valve 1/2"

### THRESHOLD SENSORS



Code	Description
EPVTHS-1/8-FX	Threshold Sensor 1/8"
EPVTHS-1/4-FX	Threshold Sensor 1/4"
EPVTHS-3/8-FX	Threshold Sensor 3/8"

### SHUTTLE VALVES



Code	Description
EPVSHTL-1/8-FX	Shuttle Valve 1/8"
EPVSHTL-1/4-FX	Shuttle Valve 1/4"

### STOP FITTINGS



Code	Description
EPVSTF6-1/8-FX	Stop Fittings 6mm, 1/8"
EPVSTF6-1/4-FX	Stop Fittings 6mm, 1/4"
EPVSTF8-1/8-FX	Stop Fittings 8mm, 1/8"
EPVSTF8-1/4-FX	Stop Fittings 8mm, 1/4"

# Flexion<sup>TM</sup>

## FRL (AIR PREPARATION)

The FLEXION<sup>TM</sup> range of FRL equipment has been selected to give the optimum price versus performance ratio.

With the bodies manufactured from technopolymers, these units are extremely light, but still offer rugged, robust performance. As standard, all the bowls have an outer protection, and the bowls themselves are manufactured from polyamide, giving significantly better resistance to crazing than the more commonly used polycarbonate type.

The FLEXION<sup>TM</sup> ranges also have the automatic filling lubricator option, refilling the lubricator quickly and easily "on-line" saving time and money.



**DRAINAGE OPTIONS**  
Available in both manual and auto drain options.



**POLYMER CONSTRUCTION**  
Provides strength in a lightweight construction, typically 2/3rds the weight of other air preparation units.



**SUPERIOR BOWL MATERIAL**  
Polyamide bowl provides excellent resistance to crazing



**AUTOMATIC REFILLING OPTION**  
Refilling the lubricator quickly and easily "on-line" saving time and money.



**THROUGH HOLES**  
For direct mounting, mounting bracket also available providing flexible, compact installation.



## 1" RANGE FILTER / REGULATOR

Code	Bar	Filtration Microns	Description
EPA-FR-1M-M-FX	12 Bar	20µ	Modular, Manual Drain
EPA-FR-1M-A-FX	12 Bar	20µ	Modular, Auto Drain

Suitable Gauge: PG63-20-CB-FX

## LUBRICATOR

Code	Description
EPA-L-1M-M-FX	Modular, Standard Fill

## MODULAR ASSEMBLY UNIT

Code	Description
EPA-CK-1M-FX	Modular Assembly Unit

## T BRACKET

Code	Description
EPA-TBKT-1M-FX	T Bracket

## T BRACKET MOUNT

Code	Description
EPA-TBKM-1M-FX	T Bracket Mount

## 1/2" RANGE REGULATOR

Code	Bar	Description
EPA-R-1/2M-08-FX	8 Bar	Modular
EPA-FR-1M-A-FX	12 Bar	Modular, Auto Drain

## FILTER

Code	Filtration Microns	Description
EPA-F-1/2M-M-FX	20µ Drain	Modular, Manual Drain
EPA-F-1/2M-A-FX	20µ Drain	Modular, Auto Drain



## 1/2" RANGE MICROFILTER

Code	Filtration Microns	Description
EPA-MF-1/2M-A-FX	0.01μ	Modular, Auto Drain
EPA-MF-1/2M-M-FX	0.01μ	Modular, Manual Drain

## LUBRICATOR

Code	Description
EPA-L-1/2M-M-FX	Modular, Standard Fill
EPA-L-1/2M-A-FX	Modular, Automatic Fill

## FILTER/REGULATOR

Code	Bar	Filtration Microns	Description
EPA-FR-1/2M-M-FX	8 Bar	20μ	Modular, Manual Drain
EPA-FR-1/2M-A-FX	8 Bar	20μ	Modular, Auto Drain

## FILTER / REGULATOR / LUBRICATOR

Code	Bar	Filtration Microns	Description
EPA-FRL-1/2M-M-FX	8 Bar	20μ	Modular, Manual Drain
EPA-FRL-1/2M-A-FX	8 Bar	20μ	Modular, Auto Drain

## FILTER / REGULATOR / LUBRICATOR WITH SHUT OFF VALVE

Code	Bar	Filtration Microns	Description
EPA-FRL-1/2M-M-FX	8 Bar	20μ	Modular, Manual Drain
EPA-FRL-1/2M-A-FX	8 Bar	20μ	Modular, Auto Drain

For suitable silencer for shut off valve use SLNCR-B-STD-1/4-FX

## MANUAL SHUT OFF VALVE

Code	Description
EPA-SV-1/2M-FX	Lockable, Modular

For suitable silencer use SLNCR-B-STD-1/4-FX



## 1/2" RANGE ELECTRICAL SHUT OFF VALVE

Code	Description
EPA-SVE-1/2M-FX	Modular
EPA-SVE-SOL-24VDC-FX	Solenoid Operator, 24V DC
EPA-SVE-SOL-110VAC-FX	Solenoid Operator, 110V AC
EPA-SVE-SOL-230VAC-FX	Solenoid Operator, 230V AC

For suitable silencer use SLNCR-B-STD-1/4-FX



## REPLACEMENT ELEMENTS

Code	Description
EPA-F-1/2M-20-FX	For Filter Unit 20µ
EPA-F-1/2M-5-FX	For Filter Unit 5µ
EPA-FR-1/2M-20-FX	For Filter / Regulator Unit 20µ
EPA-FR-1/2M-5-FX	For Filter / Regulator Unit 5µ
EPA-MF-1/2M-0.01-FX	For Microfilter 0.01µ



## SOFT START

Code	Description
EPA-SS-1/2M-FX	Soft Start



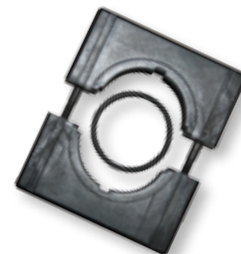
## NECK MOUNTING RING

Code	Description
EPA-MTGRING-1/2-RX	Neck Mounting Ring



## MODULAR ASSEMBLY UNIT

Code	Description
EPA-CK-1/2M-FX	Modular Assembly Unit



## INTERMEDIATE TAKE-OFF BLOCK

Code	Description
EPA-TO-1/2M-FX	Intermediate Take Off Block



## 1/4" RANGE MICROFILTER

Code	Filtration Microns	Description
EPA-MF-1/4M-A-FX	0.01μ	Modular, Auto Drain
EPA-MF-1/4M-M-FX	0.01μ	Modular, Manual Drain

## FILTER

Code	Filtration Microns	Description
EPA-F-1/4M-M-FX	20μ	Modular, Manual Drain
EPA-F-1/4M-A-FX	20μ	Modular, Auto Drain

## REGULATOR

Code	Bar	Description
EPA-R-1/4M-08-FX	8 Bar	Modular

## LUBRICATOR

Code	Description
EPA-L-1/4M-M-FX	Modular, Standard Fill
EPA-L-1/4M-A-FX	Modular, Automatic Fill

## FILTER / REGULATOR

Code	Bar	Filtration Microns	Description
EPA-FR-1/4M-M-FX	8 Bar	20μ	Modular, Manual Drain
EPA-FR-1/4M-A-FX	8 Bar	20μ	Modular, Auto Drain

## FILTER REGULATOR LUBRICATOR

Code	Bar	Filtration Microns	Description
EPA-FRL-1/4M-M-FX	8 Bar	20μ	Modular, Manual Drain
EPA-FRL-1/4M-A-FX	8 Bar	20μ	Modular, Auto Drain



## 1/4" RANGE

### FILTER REGULATOR LUBRICATOR WITH SHUT OFF VALVE

Code	Bar	Filtration Microns	Description
EPA-FRLSV-1/4M-M-FX	8 Bar	20µ	Modular, Manual Drain
EPA-FRLSV-1/4M-A-FX	8 Bar	20µ	Modular, Auto Drain

For suitable silencer for shut off valve use SLNCR-B-STD-1/8-FX



### MANUAL SHUT OFF VALVE

Code	Description
EPA-SVM-1/4M-FX	Lockable, Modular

For suitable silencer use SLNCR-B-STD-1/8-FX



### ELECTRICAL SHUT OFF VALVE

Code	Description
EPA-SVE-1/4M-FX	Modular
EPA-SVE-SOL-24VDC-FX	Solenoid Operator, 24V DC
EPA-SVE-SOL-110VAC-FX	Solenoid Operator, 110V AC
EPA-SVE-SOL-230VAC-FX	Solenoid Operator, 230V AC

For suitable silencer for shut off valve use SLNCR-B-STD-1/8-FX



### REPLACEMENT ELEMENTS

Code	Description
EPA-F-1/4M-20-FX	For Filter Unit 20µ
EPA-F-1/4M-5-FX	For Filter Unit 5µ
EPA-FR-1/4M-20-FX	For Filter / Regulator Unit 20µ
EPA-FR-1/4M-5-FX	For Filter / Regulator Unit 5µ
EPA-MF-1/4M-0.01-FX	For Microfilter 0.01µ



### SOFT START

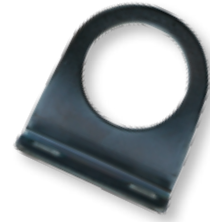
Code	Description
EPA-SS-1/4M-FX	Soft Start



## 1/4" RANGE

### NECK MOUNTING RING

Code	Description
EPA-MTGRING-1/8-1/4	Neck Mounting Ring



### MODULAR ASSEMBLY UNIT

Code	Description
EPA-CK-1/4M-FX	Modular Assembly Unit



### MODULAR ASSEMBLY KITS

Code	Description
EPA-AK2-1/4M-FX	2 unit 1/4" Modular FRL System
EPA-AK3-1/4M-FX	3 unit 1/4" Modular FRL System



### INTERMEDIATE TAKE OFF BLOCK

Code	Description
EPA-TO-1/4M-FX	Intermediate Take Off Block



### T BRACKET

Code	Description
EPA-TBKT-1/4M-FX	T Bracket

## MICROREGULATORS RELIEVING REGULATORS

Code	Bar	Description
EPA-R-1/8-04-FX	4 Bar	Microregulator
EPA-R-1/8-08-FX	8 Bar	Microregulator
EPA-R-1/4-04-FX	4 Bar	Microregulator
EPA-R-1/4-08-FX	8 Bar	Microregulator



## NON-RELIEVING REGULATOR

Code	Bar	Description
EPA-RN-1/4-08-FX	8 Bar	Non Relieving Microregulator

Suitable for use with non potable water



## FIXED REGULATOR

Code	Bar	Description
EPA-R-1/4-02F-FX	2	Fixed regulator

It is strongly recommended that blow guns are supplied with compressed air at no greater than 2 Bar pressure

## PRECISION REGULATORS

Code	Bar	Description
EPA-PR-1/4-02-FX	2	Precision Regulator 1/4
EPA-PR-1/4-04-FX	4	Precision Regulator 1/4
EPA-PR-1/4-08-FX	8	Precision Regulator 1/4
EPA-PR-1/4-12-FX	12	Precision Regulator 1/4



## NECK MOUNTING RING

Code	Description
EPA-MTGRING-1/8-1/4-FX	Neck Mounting Ring
PG40-04-CB-FX	Centre Back Gauge (page 79) Suitable for use with EPA-R-1/8-04-FX & EPA-R-1/4-04-FX
PG40-10-CB-FX	Centre Back Gauge (page 79) Suitable for use with all 8 Bar regulators and filter regulators



## COALESCING SILENCERS

Code	Description
EPA-EXHFILT-1/2-FX	1/2"
EPA-EXHFILT-1-FX	1"



# Flexion<sup>TM</sup>

## PUSH IN FITTINGS

**High quality Push In Fittings in composite materials, nickel plated brass or stainless steel. 100% leak tested during production, these fittings are suitable for both pneumatic and vacuum applications.**

The composite fittings incorporate a wide range of sizes: All the popular variants, with an extended range of combinations of tube to thread size that reduce the requirement for adaptors, keeping cost and installation time down.

All the straight fittings have an internal hex, allowing fitting into ports with limited access.

### The premier one-touch tube joint system

- Simple and quick to install
- Flexible space-saving design
- Wide range to suit all applications
- Compatible with all other leading systems
- Tubing can be freely rotated, even after installation
- All taper threads are pre-coated with PTFE

#### SPECIFICATIONS

<b>Fluid</b>	Air
<b>Pressure</b>	-1 to 10 Bar (-0.1 to 1.0MPa)
<b>Max Pressure</b>	15 Bar (1.5MPa)
<b>Temperature</b>	-20°C to +70°C (150° for Stainless steel - FPM)
<b>Tubing</b>	Nylon 12 to Din 73378 Polyurethane metric tubing



**QUICK RELEASE COLLET**  
Tubing can be easily removed by pressing down the release collet. Tubing diameter is marked on the collet.



**NICKEL PLATED BRASS COMPONENTS**  
Quality plated brass parts to give high corrosion resistance.



**STAINLESS GRAB RING (INTERNAL)**  
Grips nylon or PU tubing without damaging its surface. Safely absorbs vibration and pressure surges.



**'O' RING SEAL**  
For parallel threads. Taper threads are pre-coated with PTFE sealant.





## POLYMER PUSH IN FITTINGS RANGE

### Materials:

Body:	PBT/Nickel Plated Brass
Seal:	Nitrile Rubber (NBR)
Grab Ring:	Stainless Steel
Release Sleeve:	POM

### TECHNICAL DATA

<b>Tube sizes</b>	4 - 16mm
<b>Threads</b>	M5 - 1/2", both taper and parallel versions (BSPT / BSPP)
<b>Taper treads</b>	PTFE sealant pre-applied
<b>Range includes</b>	Hand valves and Flow Controllers



## METAL PUSH IN FITTINGS RANGE

### Materials:

Body	Nickel Plated Brass
Seal	Nitrile Rubber (NBR)
Grab Ring	Stainless Steel
Release Sleeve	POM

### TECHNICAL DATA

<b>Tube sizes</b>	4 - 12mm
<b>Threads</b>	M5, 1/2", BSPT / BSPP



## STAINLESS STEEL PUSH IN FITTINGS RANGE

### Materials:

Body:	Stainless Steel AISI 316
Seal:	Viton (FPM)
Grab Ring:	Stainless Steel
Release Collet:	Stainless Steel AISI 316

### TECHNICAL DATA

<b>Tube sizes</b>	4 - 12mm
<b>Threads</b>	1/8" - 1/2", BSPT

**PUSH IN FITTINGS**

STRAIGHT PARALLEL - MALE

Code	Tube Size	Thread Size
EPC4-M5-FX	4	M5
EPC4-G01-FX	4	1/8"
EPC4-G02-FX	4	1/4"
EPC6-M5-FX	6	M5
EPC6-G01-FX	6	1/8"
EPC6-G02-FX	6	1/4"
EPC6-G03-FX	6	3/8"
EPC6-G04-FX	6	1/2"
EPC8-G01-FX	8	1/8"
EPC8-G02-FX	8	1/4"

Code	Tube Size	Thread Size
EPC8-G03-FX	8	3/8"
EPC8-G04-FX	8	1/2"
EPC10-G02-FX	10	1/4"
EPC10-G03-FX	10	3/8"
EPC10-G04-FX	10	1/2"
EPC12-G02-FX	12	1/4"
EPC12-G03-FX	12	3/8"
EPC12-G04-FX	12	1/2"
EPC16-G03-FX	16	3/8"
EPC16-G04-FX	16	1/2"



STRAIGHT TAPER - MALE

Code	Tube Size	Thread Size
EPC4-01-FX	4	1/8"
EPC4-02-FX	4	1/4"
EPC6-01-FX	6	1/8"
EPC6-02-FX	6	1/4"
EPC6-03-FX	6	3/8"
EPC6-04-FX	6	1/2"
EPC8-01-FX	8	1/8"
EPC8-02-FX	8	1/4"
EPC8-03-FX	8	3/8"

Code	Tube Size	Thread Size
EPC8-04-FX	8	1/2"
EPC10-02-FX	10	1/4"
EPC10-03-FX	10	3/8"
EPC10-04-FX	10	1/2"
EPC12-02-FX	12	1/4"
EPC12-03-FX	12	3/8"
EPC12-04-FX	12	1/2"
EPC16-03-FX	16	3/8"
EPC16-04-FX	16	1/2"



ELBOW PARALLEL - MALE

Code	Tube Size	Thread Size
EPL4-M5-FX	4	M5
EPL4-G01-FX	4	1/8"
EPL4-G02-FX	4	1/4"
EPL6-M5-FX	6	M5
EPL6-G01-FX	6	1/8"
EPL6-G02-FX	6	1/4"
EPL6-G03-FX	6	3/8"
EPL6-G04-FX	6	1/2"
EPL8-G01-FX	8	1/8"
EPL8-G02-FX	8	1/4"

Code	Tube Size	Thread Size
EPL8-G03-FX	8	3/8"
EPL8-G04-FX	8	1/2"
EPL10-G02-FX	10	1/4"
EPL10-G03-FX	10	3/8"
EPL10-G04-FX	10	1/2"
EPL12-G02-FX	12	1/4"
EPL12-G03-FX	12	3/8"
EPL12-G04-FX	12	1/2"
EPL16-G03-FX	16	3/8"
EPL16-G04-FX	16	1/2"



## PUSH IN FITTINGS ELBOW TAPER - MALE

Code	Tube Size	Thread Size
EPL4-01-FX	4	1/8"
EPL4-02-FX	4	1/4"
EPL6-01-FX	6	1/8"
EPL6-02-FX	6	1/4"
EPL6-03-FX	6	3/8"
EPL6-04-FX	6	1/2"
EPL8-01-FX	8	1/8"
EPL8-02-FX	8	1/4"
EPL8-03-FX	8	3/8"

Code	Tube Size	Thread Size
EPL8-04-FX	8	1/2"
EPL10-02-FX	10	1/4"
EPL10-03-FX	10	3/8"
EPL10-04-FX	10	1/2"
EPL12-02-FX	12	1/4"
EPL12-03-FX	12	3/8"
EPL12-04-FX	12	1/2"
EPL16-03-FX	16	3/8"
EPL16-04-FX	16	1/2"



## TEE PARALLEL - MALE

Code	Tube Size	Thread Size
EPB4-M5-FX	4	M5
EPB4-G01-FX	4	1/8"
EPB4-G02-FX	4	1/4"
EPB6-M5-FX	6	M5
EPB6-G01-FX	6	1/8"
EPB6-G02-FX	6	1/4"
EPB6-G03-FX	6	3/8"
EPB6-G04-FX	6	1/2"
EPB8-G01-FX	8	1/8"

Code	Tube Size	Thread Size
EPB8-G02-FX	8	1/4"
EPB8-G03-FX	8	3/8"
EPB8-G04-FX	8	1/2"
EPB10-G02-FX	10	1/4"
EPB10-G03-FX	10	3/8"
EPB10-G04-FX	10	1/2"
EPB12-G02-FX	12	1/4"
EPB12-G03-FX	12	3/8"
EPB12-G04-FX	12	1/2"



## TEE TAPER - MALE

Code	Tube Size	Thread Size
EPB4-01-FX	4	1/8"
EPB4-02-FX	4	1/4"
EPB6-01-FX	6	1/8"
EPB6-02-FX	6	1/4"
EPB6-03-FX	6	3/8"
EPB6-04-FX	6	1/2"
EPB8-01-FX	8	1/8"
EPB8-02-FX	8	1/4"

Code	Tube Size	Thread Size
EPB8-03-FX	8	3/8"
EPB8-04-FX	8	1/2"
EPB10-02-FX	10	1/4"
EPB10-03-FX	10	3/8"
EPB10-04-FX	10	1/2"
EPB12-02-FX	12	1/4"
EPB12-03-FX	12	3/8"
EPB12-04-FX	12	1/2"



## PUSH IN FITTINGS

### Y PARALLEL - MALE

Code	Tube Size	Thread Size
EPX4-M5-FX	4	M5
EPX4-G01-FX	4	1/8"
EPX4-G02-FX	4	1/4"
EPX6-M5-FX	6	M5
EPX6-G01-FX	6	1/8"
EPX6-G02-FX	6	1/4"
EPX6-G03-FX	6	3/8"
EPX6-G04-FX	6	1/2"
EPX8-G01-FX	8	1/8"

Code	Tube Size	Thread Size
EPX8-G02-FX	8	1/4"
EPX8-G03-FX	8	3/8"
EPX8-G04-FX	8	1/2"
EPX10-G02-FX	10	1/4"
EPX10-G03-FX	10	3/8"
EPX10-G04-FX	10	1/2"
EPX12-G02-FX	12	1/4"
EPX12-G03-FX	12	3/8"
EPX12-G04-FX	12	1/2"



### Y TAPER - MALE

Code	Tube Size	Thread Size
EPX4-01-FX	4	1/8"
EPX4-02-FX	4	1/4"
EPX6-01-FX	6	1/8"
EPX6-02-FX	6	1/4"
EPX6-03-FX	6	3/8"
EPX6-04-FX	6	1/2"
EPX8-01-FX	8	1/8"
EPX8-02-FX	8	1/4"

Code	Tube Size	Thread Size
EPX8-03-FX	8	3/8"
EPX8-04-FX	8	1/2"
EPX10-02-FX	10	1/4"
EPX10-03-FX	10	3/8"
EPX10-04-FX	10	1/2"
EPX12-02-FX	12	1/4"
EPX12-03-FX	12	3/8"
EPX12-04-FX	12	1/2"



### UNION

Code	Tube Size
EPU4-FX	4
EPU6-FX	6
EPU8-FX	8
EPU10-FX	10
EPU12-FX	12
EPU16-FX	16



### UNION REDUCER

Code	Tube Size 1	Tube Size 2
EPG6-4-FX	6	4
EPG8-6-FX	8	6
EPG10-8-FX	10	8
EPG12-10-FX	12	10
EPG16-12-FX	16	12



## PUSH IN FITTINGS ELBOW UNION

Code	Tube Size
EPV4-FX	4
EPV6-FX	6
EPV8-FX	8
EPV10-FX	10
EPV12-FX	12
EPV16-FX	16



## TEE UNION

Code	Tube Size
EPE4-FX	4
EPE6-FX	6
EPE8-FX	8
EPE10-FX	10
EPE12-FX	12



## TEE UNION - DIFFERENT DIAMETER

Code	Tube Size 1	Tube Size 2
EPEW6-4-FX	4	6
EPEG6-4-FX	6	4
EPEW8-6-FX	6	8
EPEG8-6-FX	8	6
EPEW10-8-FX	8	10
EPEG10-8-FX	10	8
EPEW12-10-FX	10	12
EPEG12-10-FX	12	10
EPEG16-12-FX	16	12



## CROSS UNION

Code	Tube Size
EPZA4-FX	4
EPZA6-FX	6
EPZA8-FX	8
EPZA10-FX	10
EPZA12-FX	12



## PUSH IN FITTINGS

### Y UNION

Code	Tube Size
EPY4-FX	4
EPY6-FX	6
EPY8-FX	8
EPY10-FX	10
EPY12-FX	12
EPY16-FX	16



### Y UNION - DIFFERENT DIAMETER

Code	Tube Size 1	Tube Size 2
EPW6-4-FX	6	4
EPW8-6-FX	8	6
EPW10-8-FX	10	8
EPW12-10-FX	12	10



### Y SOCKET UNION

Code	Tube Size
EPYJ04-FX	4
EPYJ06-FX	6
EPYJ08-FX	8
EPYJ10-FX	10
EPYJ12-FX	12



### G THREAD PUSH IN - FEMALE STRAIGHT

Code	Tube Size	Thread Size
EPCF4-G01-FX	4	1/8"
EPCF4-G02-FX	4	1/8"
EPCF6-G01-FX	6	1/8"
EPCF6-G02-FX	6	1/8"
EPCF6-G03-FX	6	3/8"
EPCF6-G04-FX	6	1/2"
EPCF8-G01-FX	8	1/8"
EPCF8-G02-FX	8	1/8"

Code	Tube Size	Thread Size
EPCF8-G03-FX	8	3/8"
EPCF8-G04-FX	8	1/2"
EPCF10-G02-FX	10	1/8"
EPCF10-G03-FX	10	3/8"
EPCF10-G04-FX	10	1/2"
EPCF12-G02-FX	12	1/8"
EPCF12-G03-FX	12	3/8"
EPCF12-G04-FX	12	1/2"



## PUSH IN FITTINGS

### BULKHEAD - FEMALE STRAIGHT

Code	Tube Size	Thread Size
EPMF4-01-FX	4	1/8"
EPMF6-01-FX	6	1/8"
EPMF6-02-FX	6	1/4"
EPMF8-01-FX	8	1/8"
EPMF8-02-FX	8	1/4"

Code	Tube Size	Thread Size
EPMF10-02-FX	10	1/4"
EPMF10-03-FX	10	3/8"
EPMF12-02-FX	12	1/4"
EPMF12-03-FX	12	3/8"
EPMF12-04-FX	12	1/2"



### 90° STEM ELBOW

Code	Tube Size
EPLJ4-FX	4
EPLJ6-FX	6
EPLJ8-FX	8
EPLJ10-FX	10
EPLJ12-FX	12



### STEM REDUCER

Code	Stem Ø	Tube Size
EPGJ6-4-FX	6	4
EPGJ8-4-FX	8	4
EPGJ8-6-FX	8	6
EPGJ10-6-FX	10	6
EPGJ12-6-FX	12	6
EPGJ10-8-FX	10	8
EPGJ12-8-FX	12	8
EPGJ12-10-FX	12	10



### PLUG

Code	Tube Size
EPP4-FX	4
EPP6-FX	6
EPP8-FX	8
EPP10-FX	10
EPP12-FX	12



**PUSH IN FITTINGS**

UNIVERSAL ELBOW - PARALLEL

Code	Tube Size	Thread Size
EPH4-M5-FX	4	M5
EPH4-G01-FX	4	1/8"
EPH4-G02-FX	4	1/8"
EPH6-M5-FX	6	M5
EPH6-G01-FX	6	1/8"
EPH6-G02-FX	6	1/8"
EPH6-G04-FX	6	1/2"
EPH6-G03-FX	6	3/8"
EPH8-G01-FX	8	1/8"

Code	Tube Size	Thread Size
EPH8-G02-FX	8	1/8"
EPH8-G03-FX	8	3/8"
EPH8-G04-FX	8	1/2"
EPH10-G02-FX	10	1/8"
EPH10-G03-FX	10	3/8"
EPH10-G04-FX	10	1/2"
EPH12-G02-FX	12	1/8"
EPH12-G03-FX	12	3/8"
EPH12-G04-FX	12	1/2"



BULKHEAD UNION

Code	Tube Size
EPM4-FX	4
EPM6-FX	6
EPM8-FX	8
EPM10-FX	10
EPM12-FX	12
EPM16-FX	16



SPEED CONTROL IN LINE - UNI-DIRECTIONAL

Code	Tube Size
ESA4-FX	4
ESA6-FX	6
ESA8-FX	8
ESA10-FX	10
ESA12-FX	12
EPM16-FX	16



SPEED CONTROL ELBOW - METER OUT TAPER

Code	Tube Size	Thread Size
ESL4-01-FX	4	1/8"
ESL6-01-FX	6	1/8"
ESL6-02-FX	6	1/4"
ESL8-01-FX	8	1/8"
ESL8-02-FX	8	1/4"
ESL8-03-FX	8	3/8"
ESL8-04-FX	8	1/2"

Code	Tube Size	Thread Size
ESL10-02-FX	10	1/4"
ESL10-03-FX	10	3/8"
ESL10-04-FX	10	1/2"
ESL12-02-FX	12	1/4"
ESL12-03-FX	12	3/8"
ESL12-04-FX	12	1/2"





## PUSH IN FITTINGS

### SPEED CONTROL ELBOW - METER OUT PARALLEL

Code	Tube Size	Thread Size
ESL4-M5-FX	4	M5
ESL4-G01-FX	4	1/8"
ESL6-M5-FX	6	M5
ESL6-G01-FX	6	1/8"
ESL6-G02-FX	6	1/4"
ESL8-G01-FX	8	1/8"
ESL8-G02-FX	8	1/4"
ESL8-G03-FX	8	3/8"

Code	Tube Size	Thread Size
ESL8-G04-FX	8	1/2"
ESL10-G02-FX	10	1/4"
ESL10-G03-FX	10	3/8"
ESL10-G04-FX	10	1/2"
ESL12-G02-FX	12	1/4"
ESL12-G03-FX	12	3/8"
ESL12-G04-FX	12	1/2"



### HAND VALVE 2/2

Code	Tube Size
EHVFF06-06B-FX	6
EHVFF08-08B-FX	8
EHVFF10-10B-FX	10
EHVFF12-12B-FX	12



### HAND VALVE 2/2

Code	Tube Size
EHVSS01-01B-FX	1/8"
EHVSS02-02B-FX	1/4"
EHVSS03-03B-FX	3/8"
EHVSS04-04B-FX	1/2"



### HAND VALVE 2/2 - TAPER THREADED/PUSH IN

Code	Tube Size	Thread Size
EHVFS06-01B-FX	6	1/8"
EHVFS06-02B-FX	6	1/4"
EHVFS08-02B-FX	8	1/4"
EHVFS08-03B-FX	8	3/8"
EHVFS10-02B-FX	10	1/4"
EHVFS10-03B-FX	10	3/8"
EHVFS10-04B-FX	10	1/2"
EHVFS12-04B-FX	12	1/2"



## METAL - NICKEL PLATED BRASS FITTINGS

### STRAIGHT MALE - PARALLEL

Code	Tube Size	Thread Size
MPC4-M5-FX	4	M5
MPC4-G01-FX	4	1/8"
MPC4-G02-FX	4	1/4"
MPC6-M5-FX	6	M5
MPC6-G01-FX	6	1/8"
MPC6-G02-FX	6	1/4"
MPC8-G01-FX	8	1/8"
MPC8-G02-FX	8	1/4"

Code	Tube Size	Thread Size
MPC8-G03-FX	8	3/8"
MPC10-G02-FX	10	1/8"
MPC10-G03-FX	10	3/8"
MPC10-G04-FX	10	1/2"
MPC12-G02-FX	12	1/8"
MPC12-G03-FX	12	3/8"
MPC12-G04-FX	12	1/2"



### STRAIGHT MALE - TAPER

Code	Tube Size	Thread Size
MPC4-01-FX	4	1/8"
MPC4-02-FX	4	1/4"
MPC6-01-FX	6	1/8"
MPC6-02-FX	6	1/4"
MPC8-01-FX	8	1/8"
MPC8-02-FX	8	1/4"
MPC8-03-FX	8	3/8"

Code	Tube Size	Thread Size
MPC10-02-FX	10	1/4"
MPC10-03-FX	10	3/8"
MPC10-04-FX	10	1/8"
MPC12-02-FX	12	1/4"
MPC12-03-FX	12	3/8"
MPC12-04-FX	12	1/8"



### STRAIGHT FEMALE - PARALLEL

Code	Tube Size	Thread Size
MPCF4-G01-FX	4	1/8"
MPCF6-G01-FX	6	1/8"
MPCF6-G02-FX	6	1/4"
MPCF8-G01-FX	8	1/8"
MPCF8-G02-FX	8	1/4"
MPCF10-G02-FX	10	1/4"
MPCF10-G03-FX	10	3/8"



### STRAIGHT UNION

Code	Tube Size
MPU4-FX	4
MPU6-FX	6
MPU8-FX	8
MPU10-FX	10
MPU12-FX	12



## PUSH IN FITTINGS ELBOW MALE - TAPER

Code	Tube Size	Thread Size
MPL4-01-FX	4	1/8"
MPL4-02-FX	4	1/4"
MPL6-01-FX	6	1/8"
MPL6-02-FX	6	1/4"
MPL8-01-FX	8	1/8"

Code	Tube Size	Thread Size
MPL8-02-FX	8	1/4"
MPL10-02-FX	10	1/4"
MPL10-03-FX	10	3/8"
MPL12-03-FX	12	3/8"
MPL12-04-FX	12	1/2"



## ELBOW MALE - PARALLEL

Code	Tube Size	Thread Size
MPL4-M5-FX	4	M5
MPL4-G01-FX	4	1/8"
MPL4-G02-FX	4	1/4"
MPL6-M5-FX	6	M5
MPL6-G01-FX	6	1/8"
MPL6-G02-FX	6	1/4"
MPL8-G01-FX	8	1/8"
MPL8-G02-FX	8	1/4"

Code	Tube Size	Thread Size
MPL8-G03-FX	8	3/8"
MPL10-G02-FX	10	1/4"
MPL10-G03-FX	10	3/8"
MPL10-G04-FX	10	1/2"
MPL12-G02-FX	12	1/4"
MPL12-G03-FX	12	3/8"
MPL12-G04-FX	12	1/2"



## BRANCH TEE - PARALLEL

Code	Tube Size	Thread Size
MPD4-G01-FX	4	1/8"
MPD4-G02-FX	4	1/4"
MPD6-G01-FX	6	1/8"
MPD6-G02-FX	6	1/4"
MPD8-G01-FX	8	1/8"

Code	Tube Size	Thread Size
MPD8-G02-FX	8	1/4"
MPD10-G02-FX	10	1/4"
MPD10-G03-FX	10	3/8"
MPD12-G03-FX	12	3/8"
MPD12-G04-FX	12	1/2"



## TEE MALE

Code	Tube Size	Thread Size
MPB4-G01-FX	4	1/8"
MPB4-G02-FX	4	1/4"
MPB6-G01-FX	6	1/8"
MPB6-G02-FX	6	1/4"
MPB8-G01-FX	8	1/8"
MPB8-G02-FX	8	1/4"

Code	Tube Size	Thread Size
MPB8-G03-FX	8	3/8"
MPB10-G02-FX	10	1/4"
MPB10-G03-FX	10	3/8"
MPB12-G03-FX	12	3/8"
MPB12-G04-FX	12	1/2"



## METAL - NICKEL PLATED BRASS FITTINGS

### TEE UNION

Code	Tube Size
MPE4-FX	4
MPE6-FX	6
MPE8-FX	8
MPE10-FX	10
MPE12-FX	12



### ELBOW UNION

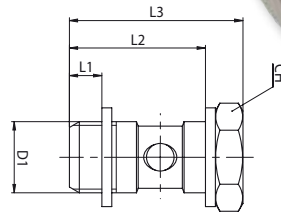
Code	Tube Size
MPV4-FX	4
MPV6-FX	6
MPV8-FX	8
MPV10-FX	10
MPV12-FX	12



## METAL NPB FITTINGS

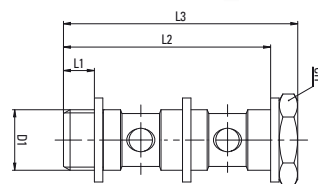
### BANJO BOLT - SINGLE

Code	D1	L1	L2	L3	CH	g
EPBBS-G01-FX	G1/8	5	23	27	14	14.0
EPBBS-G02-FX	G1/4	65	265	315	17	27.0
EPBBS-G03-FX	G3/8	7	30	36	20	43.0
EPBBS-G04-FX	G1/2	85	355	415	26	80.5



### BANJO BOLT - DOUBLE

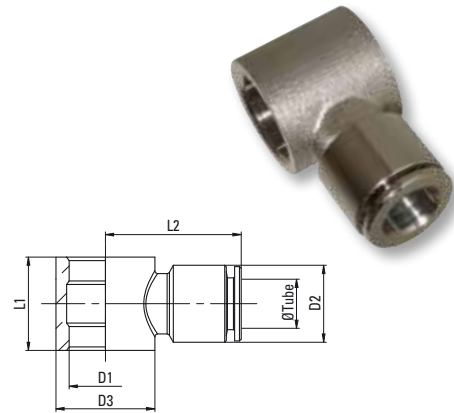
Code	D1	L1	L2	L3	CH	g
EPBBD-G01-RX	G1/8	5	395	425	14	19.5
EPBBD-G02-RX	G1/4	65	45	50	17	38.5
EPBBD-G03-RX	G3/8	7	515	575	20	63.5
EPBBD-G04-RX	G1/2	85	61	67	26	117.0



## METAL NPB FITTINGS

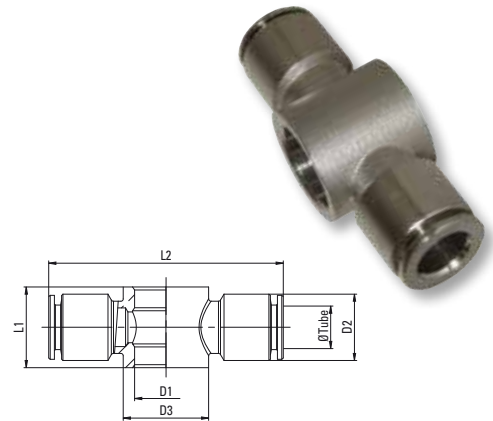
### BANJO RING - SINGLE

Code	Tube Ø	D1	L1	L2	L3	CH	g
EPBRS6-G01-RX	6	1/8"	12	14	15.2	2.5	15.5
EPBRS6-G02-RX	6	1/4"	12	18	17	2.4	21.6
EPBRS8-G01-RX	8	1/8"	14	14	15	23.5	16.7
EPBRS8-G02-RX	8	1/4"	14	18	17	24.5	22.8
EPBRS8-G03-RX	8	3/8"	14	22	20	26.5	32.7
EPBRS10-G02-RX	10	1/4"	16	18	17	2.7	27.2
EPBRS10-G03-RX	10	3/8"	16	22	20	2.9	39.5
EPBRS12-G03-RX	12	3/8"	19	22	20	29.5	38.8
EPBRS12-G04-RX	12	1/2"	19	27	24	31.5	56.9



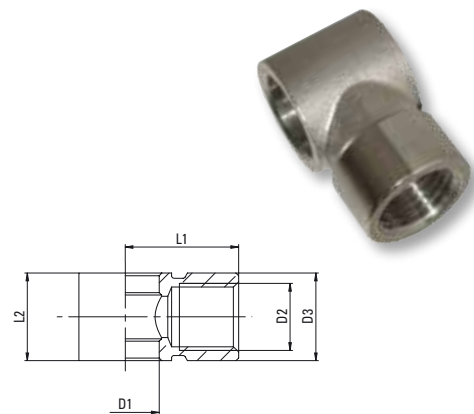
### BANJO RING - DOUBLE

Code	Tube Ø	D1	L1	L2	L3	CH	g
EPBRD6-G01-RX	6	1/8"	12	14	15	45	23.0
EPBRD6-G02-RX	6	1/4"	12	18	17	48	28.7
EPBRD8-G01-RX	8	1/8"	14	14	15	47	25.3
EPBRD8-G02-RX	8	1/4"	14	18	17	49	29.7
EPBRD8-G03-RX	8	3/8"	14	22	20	53	42.5
EPBRD10-G02-RX	10	1/4"	16	18	17	54	37.9
EPBRD10-G03-RX	10	3/8"	16	22	20	58	44.5
EPBRD12-G03-RX	12	3/8"	19	22	20	59	51.3
EPBRD12-G04-RX	12	1/2"	19	27	24	63	67.2



### BANJO RING - SINGLE

Code	D1	L1	L2	L3	CH	g
EPBRS-1/8-RX	10.0	G1/8	14	16	15	15
EPBRS-1/4-RX	13.2	G1/4	17	22	17	25
EPBRS-3/8-RX	17.0	G3/8	20	26	20	40
EPBRS-1/2-RX	21.0	G1/2	26	32	24	66



## STAINLESS STEEL FITTINGS

### STRAIGHT MALE - TAPER

Code	Tube Size	Thread Size
SSPC4-01-FX	4	1/8"
SSPC4-02-FX	4	1/4"
SSPC6-01-FX	6	1/8"
SSPC6-02-FX	6	1/4"
SSPC8-01-FX	8	1/8"

Code	Tube Size	Thread Size
SSPC8-02-FX	8	1/4"
SSPC10-02-FX	10	1/4"
SSPC10-03-FX	10	3/8"
SSPC12-03-FX	12	3/8"
SSPC12-04-FX	12	1/2"



### ELBOW MALE - TAPER

Code	Tube Size	Thread Size
SSPL4-01-FX	4	1/8"
SSPL6-01-FX	6	1/8"
SSPL6-02-FX	6	1/4"
SSPL8-01-FX	8	1/8"
SSPL8-02-FX	8	1/4"

Code	Tube Size	Thread Size
SSPL10-02-FX	10	1/4"
SSPL10-03-FX	10	3/8"
SSPL12-03-FX	12	3/8"
SSPL12-04-FX	12	1/2"



### TEE MALE

Code	Tube Size	Thread Size
SSPB4-01-FX	4	1/8"
SSPB6-01-FX	6	1/8"
SSPB6-02-FX	6	1/4"
SSPB8-01-FX	8	1/8"

Code	Tube Size	Thread Size
SSPB8-02-FX	8	1/4"
SSPB10-02-FX	10	1/4"
SSPB10-03-FX	10	3/8"



### STRAIGHT UNION

Code	Tube Size
SSPU4-FX	4
SSPU6-FX	6
SSPU8-FX	8
SSPU10-FX	10
SSPU12-FX	12



## STAINLESS STEEL FITTINGS

### ELBOW UNION

Code	Tube Size
SSPV4-FX	4
SSPV6-FX	6
SSPV8-FX	8
SSPV10-FX	10
SSPV12-FX	12



### EQUAL TEE

Code	Tube Size
SSPE4-FX	4
SSPE6-FX	6
SSPE8-FX	8
SSPE10-FX	10
SSPE12-FX	12





## FLEXION QUICK RELEASE COUPLINGS

- The series 46 safety coupling complies with ISO 4414, with a flow rate of 1800 nL/min
- The series 26 coupling has a flow rate of 2280 nL/min

### TECHNICAL DATA

**Compatible with** Rectus 25, Cejn 320

**Threads** 1/4", 3/8", 1/2"

#### Materials:

##### 26 series

Body: Brass UNI EN 12164 CW614N Nickel plated  
 Valve: Brass UNI EN 12164 CW614N Nickel plated  
 Springs: Stainless Steel AISI 302  
 Seals: NBR  
 Balls: Stainless Steel AISI 420  
 Plugs: Brass UNI EN 12164 CW614N Nickel plated

#### Materials:

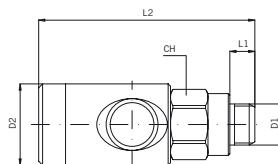
##### 46 Series

Body: Anodised Aluminium  
 Button, Valve and Venting ring: Hardened, zinc plated steel  
 Thread: Brass nickel plated UNI EN 12164 CW614N  
 Springs: Stainless Steel AISI 302  
 Balls: Stainless Steel AISI 420  
 Seals: NBR

## COUPLINGS

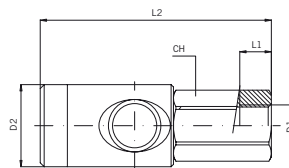
### 46 SERIES SAFETY COUPLING - MALE THREAD

Code	D1	L1	L2	L3	CH	g
QRC-46-C-1/4M-FX	G1/4	26	8	68.5	20	107.9
QRC-46-C-3/8M-FX	G3/8	26	9	69.5	20	110.7
QRC-46-C-1/2M-FX	G1/2	26	10	69.5	24	136.3



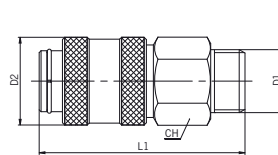
### 46 SERIES SAFETY COUPLING - FEMALE THREAD

Code	D1	D2	L1	L2	CH	g
QRC-46-C-1/4F-FX	G1/4	26	10	69	20	120.2
QRC-46-C-3/8F-FX	G3/8	26	11	72.5	20	119.3
QRC-46-C-1/2F-FX	G1/2	26	11	73	24	141.7



### 26 SERIES COUPLING - MALE THREAD

Code	D1	D2	L1	CH	g
QRC-26-C-1/4M-FX	G1/4	23	54	19	82
QRC-26-C-3/8M-FX	G3/8	23	54	20	89
QRC-26-C-1/2M-FX	G1/2	23	54	24	107

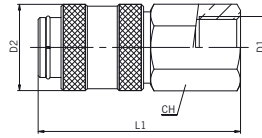




## COUPLINGS

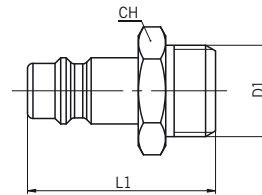
### 26 SERIES COUPLING - FEMALE THREAD

Code	D1	D2	L1	CH	g
QRC-26-C-1/4F-FX	G1/4	23	54	19	91
QRC-26-C-3/8F-FX	G3/8	23	54	20	90.5
QRC-26-C-1/2F-FX	G1/2	23	54	24	105



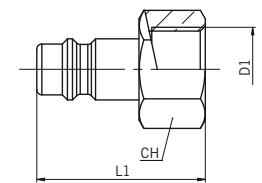
### 26 SERIES PROBE - MALE THREAD

Code	D1	L1	CH	g
QRC-26-P-1/4M-FX	G1/4	33	17	22.0
QRC-26-P-3/8M-FX	G3/8	34	20	30.0
QRC-26-P-1/2M-FX	G1/2	37	24	50.0



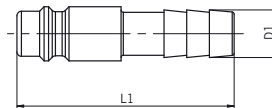
### 26 SERIES PROBE - FEMALE THREAD

Code	D1	L1	CH	g
QRC-26-P-1/4F-FX	G1/4	33	17	22.0
QRC-26-P-3/8F-FX	G3/8	34	20	30.0
QRC-26-P-1/2F-FX	G1/2	37	24	50.0



### 26 SERIES PROBE - HOSETAIL

Code	D1	L1	CH	g
QRC-26-P-HT6-FX	6	75	48	15
QRC-26-P-HT6-FX	8	95	48	16



Note: 26 Series probes are suitable for use with 26 and 46 Service Couplings



## MALLEABLE IRON PIPEWORK

**Materials:**

Malleable Cast Iron, grade W40-05, conforming to ISO5922 / DIN 1692.  
Hot Dip galvanised finish to ISO 1460 standard

**TECHNICAL DATA**

**Sizes** 1/4" - 2"

### MALLEABLE IRON PIPEWORK

#### EQUAL ELBOW - FEMALE 90°

Code	Thread Size
90-14-FX	1/4"
90-38-FX	3/8"
90-12-FX	1/2"
90-34-FX	3/4"

Code	Thread Size
90-1-FX	1"
90-114-FX	1 1/4"
90-112-FX	1 1/2"
90-2-FX	2"



#### EQUAL ELBOW - MALE / FEMALE 90°

Code	Female Thread Size BSPP	Male Thread Size BSPT
92-14-FX	1/4"	1/4"
92-38-FX	3/8"	3/8"
92-12-FX	1/2"	1/2"
92-34-FX	3/4"	3/4"
92-1-FX	1"	1"
92-114-FX	1 1/4"	1 1/4"
92-112-FX	1 1/2"	1 1/2"
92-2-FX	2"	2"



#### EQUAL TEE - FEMALE

Code	Thread Size
130-14-FX	1/4"
130-38-FX	3/8"
130-12-FX	1/2"
130-34-FX	3/4"

Code	Thread Size
130-1-FX	1"
130-114-FX	1 1/4"
130-112-FX	1 1/2"
130-2-FX	2"



## MALLEABLE IRON PIPEWORK REDUCING SOCKET

Code	Thread Size BSPP	Thread Size BSPP
240-38-14-FX	3/8"	1/4"
240-12-14-FX	1/2"	1/4"
240-12-38-FX	1/2"	3/8"
240-34-38-FX	3/4"	3/8"
240-34-12-FX	3/4"	1/2"
240-1-38-FX	1"	3/8"
240-1-12-FX	1"	1/2"
240-1-34-FX	1"	3/4"
240-114-12-FX	1 1/4"	1/2"
240-114-34-FX	1 1/4"	3/4"

Code	Thread Size BSPP	Thread Size BSPP
240-114-1-FX	1 1/4"	1"
240-112-12-FX	1 1/2"	1/2"
240-112-34-FX	1 1/2"	3/4"
240-112-1-FX	1 1/2"	1"
240-112-114-FX	1 1/2"	1 1/4"
240-2-34-FX	2"	3/4"
240-2-1-FX	2"	1"
240-2-114-FX	2"	1 1/4"
240-2-112-FX	2"	1 1/2"



## REDUCING BUSH

Code	Thread Size BSPP	Thread Size BSPP
241-38-14-FX	3/8"	1/4"
241-12-14-FX	1/2"	1/4"
241-12-38-FX	1/2"	3/8"
241-34-38-FX	3/4"	3/8"
241-34-12-FX	3/4"	1/2"
241-1-38-FX	1"	3/8"
241-1-12-FX	1"	1/2"
241-1-34-FX	1"	3/4"
241-114-12-FX	1 1/4"	1/2"
241-114-34-FX	1 1/4"	3/4"

Code	Thread Size BSPP	Thread Size BSPP
241-114-1-FX	1 1/4"	1"
241-112-12-FX	1 1/2"	1/2"
241-112-34-FX	1 1/2"	3/4"
241-112-1-FX	1 1/2"	1"
241-112-114-FX	1 1/2"	1 1/4"
241-2-12-FX	2"	1/2"
241-2-34-FX	2"	3/4"
241-2-1-FX	2"	1"
241-2-114-FX	2"	1 1/4"
241-2-112-FX	2"	1 1/2"



## REDUCING NIPPLE WITH HEXAGON

Code	Female Thread Size BSPP	Male Thread Size BSPT
245-38-14-FX	3/8"	1/4"
245-12-14-FX	1/2"	1/4"
245-12-38-FX	1/2"	3/8"
245-34-38-FX	3/4"	3/8"
245-34-12-FX	3/4"	1/2"
245-1-12-FX	1"	1/2"
245-1-34-FX	1"	3/4"
245-114-34-FX	1 1/4"	3/4"
245-114-1-FX	1 1/4"	1"
245-112-1-FX	1 1/2"	1"
245-112-114-FX	1 1/2"	1 1/4"
245-2-1-FX	2"	1"



**MALLEABLE IRON PIPEWORK**  
REDUCING SOCKET - MALE / FEMALE

Code	Female Thread Size BSPP	Male Thread Size BSPT
246-34-12-FX	3/4"	1/2"
246-1-34-FX	1"	3/4"
246-114-1-FX	1 1/4"	1"



EQUAL SOCKET - FEMALE

Code	Female Thread
270-14-FX	1/4"
270-38-FX	3/8"
270-12-FX	1/2"
270-34-FX	3/4"

Code	Female Thread
270-1-FX	1"
270-114-FX	1 1/4"
270-112-FX	1 1/2"
270-2-FX	2"



EQUAL NIPPLE WITH HEXAGON

Code	Male Thread Size BSPT
280-14-FX	1/4"
280-38-FX	3/8"
280-12-FX	1/2"
200-34-FX	3/4"

Code	Male Thread Size BSPT
280-1-FX	1"
280-114-FX	1 1/4"
280-112-FX	1 1/2"
280-2-FX	2"



HOLLOW PLUG BEADED

Code	Male Thread Size BSPT
290-14-FX	1/4"
290-38-FX	3/8"
290-12-FX	1/2"
290-34-FX	3/4"

Code	Male Thread Size BSPT
290-1-FX	1"
290-114-FX	1 1/4"
290-112-FX	1 1/2"
290-2-FX	2"



EQUAL UNION - FEMALE, TAPERSEAT

Code	Male Thread Size BSPT
340-38-FX	3/8"
340-12-FX	1/2"
340-34-FX	3/4"
340-1-FX	1"

Code	Male Thread Size BSPT
340-114-FX	1 1/4"
340-112-FX	1 1/2"
340-2-FX	2"



## MALLEABLE IRON PIPEWORK

### EQUAL BARREL NIPPLE

Code	Female Thread Size BSPP	Length
BN-18X80-FX	1/8"	80mm
BN-14X40-FX	1/4"	40mm
BN-12X50-FX	1/2"	50mm
BN-34X60-FX	3/4"	50mm
BN-1X60-FX	1"	60mm



## SCHOOL BOARD BRACKET

Code	For Pipe Diameter
SBB-14-FX	1/4"
SBB-38-FX	3/8"
SBB-12-FX	1/2"
SBB-34-FX	3/4"

Code	For Pipe Diameter
SBB-1-FX	1"
SBB-114-FX	1 1/4"
SBB-112-FX	1 1/2"
SBB-2-FX	2"



## GALVANISED TUBING

Code	Diameter	Length
GALV-TUBE12-FX	1/2"	3.25 metres
GALV-TUBE34-FX	3/4"	3.25 metres
GALV-TUBE1-FX	1"	3.25 metres
GALV-TUBE114-FX	1 1/4"	3.25 metres
GALV-TUBE112-FX	1 1/2"	3.25 metres
GALV-TUBE2-FX	2"	3.25 metres



Delivery for tubing will be 2-3 days, an additional delivery charge of £12.75 per order will be applied.

# Flexion<sup>TM</sup>

## ADAPTORS

**FLEXION<sup>TM</sup> offer a wide variety of Nickel Plated Brass adaptors to complement the range of push in fittings.**

With threads from 1/8" to 1" in over 30 different forms, the optimum connection solution can be found in this range.

Suitable for all fluids compatible with the materials, these fittings can be used in harsh environments.



### ADAPTORS RANGE

#### SPECIFICATIONS

**Max Pressure** 60 Bar



#### Application:

Pneumatic and hydraulic systems.  
Standard Fittings: elbows, tees, y pieces, cross, hose connections.  
1/8" - 1" nipples, reducers, sleeves, caps, crossover fittings

#### Threads:

Tapered Gas - ISO7- Din 2999 - BS21  
Cylindrical (Parallel) Gas - ISO 228

#### Materials:

Brass UNI EN 12164 CW 614N  
Brass UNI EN 12165 CW 617N  
Surface Treatment: Nickel-plating

### ALUMINIUM DISTRIBUTORS



#### Threads:

Tapered Gas - ISO7- Din 2999 - BS21  
Cylindrical (Parallel) Gas - ISO 228  
Metric - ISO R/262

#### Materials:

Anodised Aluminium Alloy 2011 T3-Uni En 573-3

## ADAPTORS

### ELBOW ADAPTOR - MALE / MALE

Code	Thread Size
ADPT-B-L-1/8MM-FX	1/8"
ADPT-B-L-1/4MM-FX	1/4"
ADPT-B-L-1/4M1/8M-FX	1/4" - 1/8"
ADPT-B-L-3/8MM-FX	3/8"

Code	Thread Size
ADPT-B-L-1/2MM-FX	1/2"
ADPT-B-L-3/4MM-FX	3/4"
ADPT-B-L-1MM-FX	1"



### ELBOW ADAPTOR - MALE / FEMALE

Code	Thread Size
ADPT-B-L-1/8MF-FX	1/8"
ADPT-B-L-1/4MF-FX	1/4"
ADPT-B-L-1/4M1/8F-FX	1/4" - 1/8"
ADPT-B-L-3/8MF-FX	3/8"

Code	Thread Size
ADPT-B-L-1/2MF-FX	1/2"
ADPT-B-L-3/4MF-FX	3/4"
ADPT-B-L-1MF-FX	1"



### ELBOW ADAPTOR - FEMALE / FEMALE

Code	Thread Size
ADPT-B-L-1/8FF-FX	1/8"
ADPT-B-L-1/4FF-FX	1/4"
ADPT-B-L-3/8FF-FX	3/8"

Code	Thread Size
ADPT-B-L-1/2FF-FX	1/2"
ADPT-B-L-3/4FF-FX	3/4"



### TEE ADAPTOR - MALE / MALE / MALE

Code	Thread Size
ADPT-B-T-1/8MMM-FX	1/8"
ADPT-B-T-1/4MMM-FX	1/4"
ADPT-B-T-3/8MMM-FX	3/8"

Code	Thread Size
ADPT-B-T-1/2MMM-FX	1/2"
ADPT-B-T-3/4MMM-FX	3/4"
ADPT-B-T-1MMM-FX	1"



### TEE ADAPTOR - MALE / FEMALE / MALE

Code	Thread Size
ADPT-B-T-1/8MFM-FX	1/8"
ADPT-B-T-1/4MFM-FX	1/4"
ADPT-B-T-3/8MFM-FX	3/8"

Code	Thread Size
ADPT-B-T-1/2MFM-FX	1/2"
ADPT-B-T-3/4MFM-FX	3/4"
ADPT-B-T-1MFM-FX	1"



**ADAPTORS**

TEE ADAPTOR - MALE / FEMALE / FEMALE

Code	Thread Size
ADPT-B-T-1/8MFF-FX	1/8"
ADPT-B-T-1/4MFF-FX	1/4"
ADPT-B-T-3/8MFF-FX	3/8"

Code	Thread Size
ADPT-B-T-1/2MFF-FX	1/2"
ADPT-B-T-3/4MFF-FX	3/4"
ADPT-B-T-1MFF-FX	1"



TEE ADAPTOR - FEMALE / FEMALE / FEMALE

Code	Thread Size
ADPT-B-T-1/8FFF-FX	1/8"
ADPT-B-T-1/4FFF-FX	1/4"
ADPT-B-T-3/8FFF-FX	3/8"

Code	Thread Size
ADPT-B-T-1/2FFF-FX	1/2"
ADPT-B-T-3/4FFF-FX	3/4"
ADPT-B-T-1FFF-FX	1"



TEE ADAPTOR - FEMALE / MALE / FEMALE

Code	Thread Size
ADPT-B-T-1/8FMF-FX	1/8"
ADPT-B-T-1/4FMF-FX	1/4"
ADPT-B-T-3/8FMF-FX	3/8"

Code	Thread Size
ADPT-B-T-1/2FMF-FX	1/2"
ADPT-B-T-3/4FMF-FX	3/4"
ADPT-B-T-1FMF-FX	1"



TEE ADAPTOR - MALE / MALE / FEMALE

Code	Thread Size
ADPT-B-T-1/8MMF-FX	1/8"
ADPT-B-T-1/4MMF-FX	1/4"
ADPT-B-T-3/8MMF-FX	3/8"

Code	Thread Size
ADPT-B-T-1/2MMF-FX	1/2"
ADPT-B-T-3/4MMF-FX	3/4"
ADPT-B-T-1MMF-FX	1"



Y ADAPTOR - FEMALE / MALE / FEMALE

Code	Thread Size
ADPT-B-Y-1/8FMF-FX	1/8"
ADPT-B-Y-1/4FMF-FX	1/4"
ADPT-B-Y-3/8FMF-FX	3/8"
ADPT-B-Y-1/2FMF-FX	1/2"



Y ADAPTOR - FEMALE / FEMALE / FEMALE

Code	Thread Size
ADPT-B-Y-1/8FFF-FX	1/8"
ADPT-B-Y-1/4FFF-FX	1/4"
ADPT-B-Y-3/8FFF-FX	3/8"
ADPT-B-Y-1/2FFF-FX	1/2"





## ADAPTORS

### CROSS ADAPTOR - MALE / FEMALE / FEMALE / FEMALE

Code	Thread Size
ADPT-B-X-1/8MFFF-FX	1/8"
ADPT-B-X-1/4MFFF-FX	1/4"
ADPT-B-X-3/8MFFF-FX	3/8"
ADPT-B-X-1/2MFFF-FX	1/2"



### CROSS ADAPTOR - FEMALE / FEMALE / FEMALE / FEMALE

Code	Thread Size
ADPT-B-X-1/8FFFF-FX	1/8"
ADPT-B-X-1/4FFFF-FX	1/4"
ADPT-B-X-3/8FFFF-FX	3/8"
ADPT-B-X-1/2FFFF-FX	1/2"



### LOCKING NUT

Code	Thread Size
LCKNUT-1/8-FX	1/8"
LCKNUT-1/4-FX	1/4"
LCKNUT-3/8-FX	3/8"

Code	Thread Size
LCKNUT-1/2-FX	1/2"
LCKNUT-3/4-FX	3/4"
LCKNUT-1-FX	1"



### ALUMINIUM MANIFOLD

Code	Thread Size
MFLD-AL-1/8AN-FX	1/8"
MFLD-AL-1/4AN-FX	1/4"
MFLD-AL-3/8AN-FX	3/8"
MFLD-AL-1/2AN-FX	1/2"



### ALUMINIUM MANIFOLD - SINGLE SIDED

Code	Thread Size	Ports
MFLD-AL-1/4-1/8-2-FX	1/4" - 1/8"	2
MFLD-AL-1/4-1/8-4-FX	1/4" - 1/8"	4



## ADAPTORS

### ALUMINIUM MANIFOLD - DOUBLE SIDED

Code	Thread Size	Ports
MFLD-AL-1/4-1/8-2+2-FX	1/4" - 1/8"	2+2
MFLD-AL-1/4-1/8-4+4-FX	1/4" - 1/8"	4+4



### NIPPLE TAPER

Code	Thread Size
NIP-B-T-1/8-FX	1/8"
NIP-B-T-1/4-FX	1/4"
NIP-B-T-3/8-FX	3/8"

Code	Thread Size
NIP-B-T-1/2-FX	1/2"
NIP-B-T-3/4-FX	3/4"
NIP-B-T-1-FX	1"



### NIPPLE PARALLEL

Code	Thread Size
NIP-B-RED-T-1/8-1/4-FX	1/8" - 1/4"
NIP-B-RED-T-1/8-3/8-FX	1/8" - 3/8"
NIP-B-RED-T-1/4-3/8-FX	1/4" - 3/8"
NIP-B-RED-T-1/4-1/2-FX	1/4" - 1/2"

Code	Thread Size
NIP-B-RED-T-3/8-1/2-FX	3/8" - 1/2"
NIP-B-RED-T-1/2-3/4-FX	1/2" - 3/4"
NIP-B-RED-T-3/4-1-FX	3/4" - 1"



### NIPPLE REDUCER TAPER

Code	Thread Size
NIP-B-RED-T-1/8-1/4-FX	1/8" - 1/4"
NIP-B-RED-T-1/8-3/8-FX	1/8" - 3/8"
NIP-B-RED-T-1/4-3/8-FX	1/4" - 3/8"
NIP-B-RED-T-1/4-1/2-FX	1/4" - 1/2"

Code	Thread Size
NIP-B-RED-T-3/8-1/2-FX	3/8" - 1/2"
NIP-B-RED-T-1/2-3/4-FX	1/2" - 3/4"
NIP-B-RED-T-3/4-1-FX	3/4" - 1"



### NIPPLE REDUCER PARALLEL

Code	Thread Size
NIP-B-RED-P-1/8-1/4-FX	1/8" - 1/4"
NIP-B-RED-P-1/8-3/8-FX	1/8" - 3/8"
NIP-B-RED-P-1/4-3/8-FX	1/4" - 3/8"
NIP-B-RED-P-1/4-1/2-FX	1/4" - 1/2"

Code	Thread Size
NIP-B-RED-P-3/8-1/2-FX	3/8" - 1/2"
NIP-B-RED-P-1/2-3/4-FX	1/2" - 3/4"
NIP-B-RED-P-3/4-1-FX	3/4" - 1"



## ADAPTORS

### REDUCER TAPER - MALE / FEMALE

Code	Thread Size
RED-B-T-1/8M1/4F-FX	1/8M - 1/4F
RED-B-T-1/8M3/8F-FX	1/8M - 3/8F
RED-B-T-1/4M1/4F-FX	1/4M - 1/4F
RED-B-T-1/4M3/8F-FX	1/4M - 3/8F
RED-B-T-1/4M1/2F-FX	1/4M - 1/2F

Code	Thread Size
RED-B-T-3/8M3/8F-FX	3/8M - 3/8F
RED-B-T-3/8M1/2F-FX	3/8M - 1/2F
RED-B-T-1/2M1/2F-FX	1/2M - 1/2F
RED-B-T-1/2M3/4F-FX	1/2M - 3/4F
RED-B-T-1/2M1F-FX	1/2M - 1F



### REDUCER PARALLEL - MALE / FEMALE

Code	Thread Size
RED-B-P-M5M1/8F-FX	M5M - 1/8F
RED-B-P-1/8M1/8F-FX	1/8M - 1/8F
RED-B-P-1/8M1/4F-FX	1/8M - 1/4F
RED-B-P-1/8M3/8F-FX	1/8M - 3/8F
RED-B-P-1/4M1/4F-FX	1/4M - 1/4F
RED-B-P-1/4M3/8F-FX	1/4M - 3/8F

Code	Thread Size
RED-B-P-1/4M1/2F-FX	1/4M - 1/2F
RED-B-P-3/8M3/8F-FX	3/8M - 3/8F
RED-B-P-3/8M1/2F-FX	3/8M - 1/2F
RED-B-P-1/2M1/2F-FX	1/2M - 1/2F
RED-B-P-1/2M1F-FX	1/2M - 1F



### BULKHEAD - FEMALE / FEMALE

Code	Thread Size
BULK-B-FF1/8-M16X1.5-FX	1/8" - M16 X 1.5
BULK-B-FF1/4-M20X1.5-FX	1/4" - M20 X 1.5
BULK-B-FF3/8-M26X1.5-FX	3/8" - M26 X 1.5
BULK-B-FF1/2-M28X1.5-FX	1/2" - M28 X 1.5



### REDUCER TAPER - MALE / FEMALE

Code	Thread Size
RED-B-T-1/4M1/8F-FX	1/4M - 1/8F
RED-B-T-3/8M1/8F-FX	3/8M - 1/8F
RED-B-T-3/8M1/4F-FX	3/8M - 1/4F
RED-B-T-1/2M1/8F-FX	1/2M - 1/8F
RED-B-T-1/2M1/4F-FX	1/2M - 1/4F

Code	Thread Size
RED-B-T-1/2M3/8F-FX	1/2M - 3/8F
RED-B-T-3/4M3/8F-FX	3/4M - 3/8F
RED-B-T-3/4M1/2F-FX	3/4M - 1/2F
RED-B-T-1M1/2F-FX	1M - 1/2F



### REDUCER PARALLEL - MALE / FEMALE

Code	Thread Size
RED-B-P-1/4M1/8F-FX	1/4M - 1/8F
RED-B-P-3/8M1/8F-FX	3/8M - 1/8F
RED-B-P-3/8M1/4F-FX	3/8M - 1/4F
RED-B-P-1/2M1/8F-FX	1/2M - 1/8F
RED-B-P-1/2M1/4F-FX	1/2M - 1/4F

Code	Thread Size
RED-B-P-1/2M3/8F-FX	1/2M - 3/8F
RED-B-P-3/4M3/8F-FX	3/4M - 3/8F
RED-B-P-3/4M1/2F-FX	3/4M - 1/2F
RED-B-P-1M1/2F-FX	1M - 1/2F



## ADAPTORS SLEEVE

Code	Thread Size
SLV-B-M5-FX	M5
SLV-B-1/8-FX	1/8"
SLV-B-1/4-FX	1/4"
SLV-B-3/8-FX	3/8"

Code	Thread Size
SLV-B-1/2-FX	1/2"
SLV-B-3/4-FX	3/4"
SLV-B-1-FX	1"



## SLEEVE REDUCER

Code	Thread Size
SLV-RED-B-M5-1/8-FX	M5-1/8"
SLV-RED-B-1/8-1/4-FX	1/8" - 1/4"
SLV-RED-B-1/8-3/8-FX	1/8" - 3/8"
SLV-RED-B-1/8-1/2-FX	1/8" - 1/2"

Code	Thread Size
SLV-RED-B-1/4-3/8-FX	1/4" - 3/8"
SLV-RED-B-1/4-1/2-FX	1/4" - 1/2"
SLV-RED-B-3/8-1/2-FX	3/8" - 1/2"
SLV-RED-B-1/2-3/4-FX	1/2" - 3/4"



## PLUG PARALLEL - MALE

Code	Thread Size
PLG-B-P-M1/8-FX	1/8"
PLG-B-P-M1/4-FX	1/4"
PLG-B-P-M3/8-FX	3/8"

Code	Thread Size
PLG-B-P-M1/2-FX	1/2"
PLG-B-P-M3/4-FX	3/4"
PLG-B-P-M1-FX	1"



## PLUG WITH HEX - C/W WITH 'O' RING

Code	Thread Size
PLG-B-HEX-OR-1/8-FX	1/8"
PLG-B-HEX-OR-1/4-FX	1/4"
PLG-B-HEX-OR-3/8-FX	3/8"
PLG-B-HEX-OR-1/2-FX	1/2"



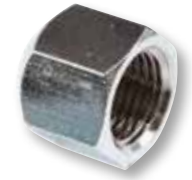
## PLUG TAPER A - MALE

Code	Thread Size
PLG-B-T-M1/8-FX	1/8"
PLG-B-T-M1/4-FX	1/4"
PLG-B-T-M3/8-FX	3/8"
PLG-B-T-M1/2-FX	1/2"



## ADAPTORS PLUG - FEMALE

Code	Thread Size
PLG-B-F1/8-FX	1/8"
PLG-B-F1/4-FX	1/4"
PLG-B-F3/8-FX	3/8"
PLG-B-F1/2-FX	1/2"



## HOSETAIL PARALLEL - MALE C/W 'O' RING

Code	Thread Size
HTAIL-B-P-OR4.5-M5-FX	4.5 - M5
HTAIL-B-P-OR6-1/8-FX	6 - 1/8"
HTAIL-B-P-OR6-1/4-FX	6 - 1/4"
HTAIL-B-P-OR7-1/8-FX	7 - 1/8"
HTAIL-B-P-OR7-1/4-FX	7 - 1/4"
HTAIL-B-P-OR8-1/8-FX	8 - 1/8"
HTAIL-B-P-OR8-1/4-FX	8 - 1/4"
HTAIL-B-P-OR9-1/8-FX	9 - 1/8"

Code	Thread Size
HTAIL-B-P-OR9-1/4-FX	9 - 1/4"
HTAIL-B-P-OR9-3/8-FX	9 - 3/8"
HTAIL-B-P-OR12-1/4-FX	12 - 1/4"
HTAIL-B-P-OR12-3/8-FX	12 - 3/8"
HTAIL-B-P-OR12-1/2-FX	12 - 1/2"
HTAIL-B-P-OR17-3/8-FX	17 - 3/8"
HTAIL-B-P-OR17-1/2-FX	17 - 1/2"



# **Flexion**<sup>TM</sup>

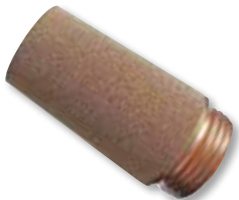
## ACCESSORIES

**Any system is only as good as its weakest link. FLEXION<sup>TM</sup> have brought together a range of supporting products used to connect and enhance the performance of the complete system.**

Quality and performance are just as critical when you consider that these form the main connection between the operating units. As a leading pneumatics supplier we have developed ranges based on our many years experience manufacturing specialist systems.



### SILENCERS



### AIRLINE COILS & BLOW GUNS



### GAUGES



### TUBE CUTTER



### NYLON & PU TUBING



### BALL VALVES



### BLOW GUNS



## SILENCERS

### SINTERED BRONZE - MALE

Code	Thread Size
SLNCR-B-STD-1/8-FX	1/8"
SLNCR-B-STD-1/4-FX	1/4"

Code	Thread Size
SLNCR-B-STD-3/8-FX	3/8"
SLNCR-B-STD-1/2-FX	1/2"



### FLAT SINTERED BRONZE WASHERS - MALE

Code	Thread Size
SLNCR-B-PLUG-1/8-FX	1/8"
SLNCR-B-PLUG-1/4-FX	1/4"

Code	Thread Size
SLNCR-B-PLUG-3/8-FX	3/8"
SLNCR-B-PLUG-1/2-FX	1/2"



### FLAT SINTERED BRONZE - MALE

Code	Thread Size
SLNCR-B-FLAT-1/8-FX	1/8"
SLNCR-B-FLAT-1/4-FX	1/4"

Code	Thread Size
SLNCR-B-FLAT-3/8-FX	3/8"
SLNCR-B-FLAT-1/2-FX	1/2"



### POLYETHYLENE - MALE

Code	Thread Size
SLNCR-P-STD-1/8-FX	1/8"
SLNCR-P-STD-1/4-FX	1/4"

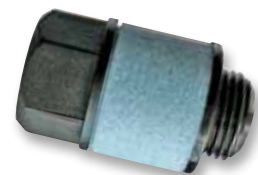
Code	Thread Size
SLNCR-P-STD-3/8-FX	3/8"
SLNCR-P-STD-1/2-FX	1/2"



### POLYETHYLENE REGULATOR - MALE

Code	Thread Size
SLNCR-P-FLWCT-1/8-FX	1/8"
SLNCR-P-FLWCT-1/4-FX	1/4"

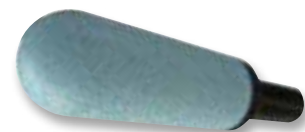
Code	Thread Size
SLNCR-P-FLWCT-3/8-FX	3/8"
SLNCR-P-FLWCT-1/2-FX	1/2"



### METRIC POLYETHYLENE PUSH IN - MALE

Code	Thread Size
SLNCR-P-STEM-6MM-FX	6
SLNCR-P-STEM-8MM-FX	8

Code	Thread Size
SLNCR-P-STEM-10MM-FX	10
SLNCR-P-STEM-12MM-FX	12





## FLEXION<sup>TM</sup> PA12 NYLON TUBE

### SPECIFICATIONS

<b>Temperature</b>	-40°C to +80°C
<b>Tolerances</b>	ID +/- 0.1mm OD + 0.0/-0.1mm

Temp	20°C	30°C	50°C	60°C	80°C
<b>Pressure %</b>	100	83	62	56	50

Pressure ratings are for use in ambient temperatures of 20°C.  
% Pressure rating with temperature increase

### TECHNICAL DATA

O.D / I.D Wall Thickness (mm)	Working Pressure Bar	Burst Pressure Bar	Bend Radius mm
<b>4 x 2.5 x 0.75</b>	38	152	8
<b>6 x 4 x 1</b>	31	127	13
<b>8 x 6 x 1</b>	21	84	32
<b>10 x 7 x 1.5</b>	27	109	32
<b>10 x 8 x 1</b>	15	63	50
<b>12 x 9 x 1.5</b>	21	84	45
<b>16 x 12 x 2</b>	21	84	85

### PA12 NYLON TUBE (SUPPLIED IN 30M COILS)

Code	Size (O/D I/D)	Colour
TU-NY-425-BLK-30M-FX	4 x 2.5	Black
TU-NY-425-BLU-30M-FX	4 x 2.5	Blue
TU-NY-425-GRN-30M-FX	4 x 2.5	Green
TU-NY-425-NAT-30M-FX	4 x 2.5	Natural
TU-NY-425-RED-30M-FX	4 x 2.5	Red
TU-NY-425-YEL-30M-FX	4 x 2.5	Yellow
TU-NY-640-BLK-30M-FX	6 x 4	Black
TU-NY-640-BLU-30M-FX	6 x 4	Blue
TU-NY-640-GRN-30M-FX	6 x 4	Green
TU-NY-640-NAT-30M-FX	6 x 4	Natural
TU-NY-640-RED-30M-FX	6 x 4	Red
TU-NY-640-YEL-30M-FX	6 x 4	Yellow
TU-NY-860-BLK-30M-FX	8 x 6	Black
TU-NY-860-BLU-30M-FX	8 x 6	Blue
TU-NY-860-GRN-30M-FX	8 x 6	Green
TU-NY-860-NAT-30M-FX	8 x 6	Natural
TU-NY-860-RED-30M-FX	8 x 6	Red
TU-NY-860-YEL-30M-FX	8 x 6	Yellow

Code	Size (O/D I/D)	Colour
TU-NY-107-BLK-30M-FX	10 x 7	Black
TU-NY-107-BLU-30M-FX	10 x 7	Blue
TU-NY-107-GRN-30M-FX	10 x 7	Green
TU-NY-107-NAT-30M-FX	10 x 7	Natural
TU-NY-107-RED-30M-FX	10 x 7	Red
TU-NY-107-YEL-30M-FX	10 x 7	Yellow
TU-NY-108-BLK-30M-FX	10 x 8	Black
TU-NY-108-BLU-30M-FX	10 x 8	Blue
TU-NY-108-GRN-30M-FX	10 x 8	Green
TU-NY-108-NAT-30M-FX	10 x 8	Natural
TU-NY-108-RED-30M-FX	10 x 8	Red
TU-NY-108-YEL-30M-FX	10 x 8	Yellow
TU-NY-129-BLK-30M-FX	12 x 9	Black
TU-NY-129-BLU-30M-FX	12 x 9	Blue
TU-NY-129-GRN-30M-FX	12 x 9	Green
TU-NY-129-NAT-30M-FX	12 x 9	Natural
TU-NY-129-RED-30M-FX	12 x 9	Red
TU-NY-129-YEL-30M-FX	12 x 9	Yellow
TU-NY-129-BLK-30M-FX	12 x 9	Black
TU-NY-129-BLU-30M-FX	12 x 9	Blue





## FLEXION™ SH98 POLYURETHANE TUBE

### SPECIFICATIONS

<b>Temperature</b>	-40°C to +80°C
<b>Tolerances</b>	ID +/- 0.1mm OD + 0.0/-0.1mm

### TECHNICAL DATA

Fluid	Working Pressure Bar	Burst Pressure Bar	Bend Radius mm
<b>4 x 2.5 x 0.75</b>	11	35	15
<b>6 x 4 x 1</b>	10	30	25
<b>8 x 5.5 x 1.25</b>	8	26	40
<b>10 x 6.5 x 1.75</b>	15	45	35
<b>12 x 8 x 2</b>	8	25	55

### SH19 POLYURETHANE TUBE (SUPPLIED IN 25M COILS)

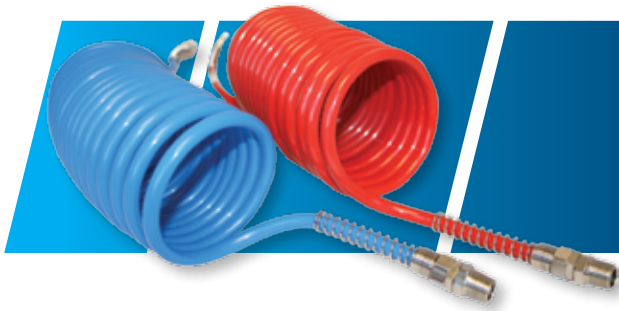
Code	Size (O/D I/D)	Colour
TU-PU-4/25-BLK-25M-FX	4 x 2.5	Black
TU-PU-4/25-BLU-25M-FX	4 x 2.5	Blue
TU-PU-4/25-GRN-25M-FX	4 x 2.5	Green
TU-PU-4/25-NAT-25M-FX	4 x 2.5	Natural
TU-PU-4/25-RED-25M-FX	4 x 2.5	Red
TU-PU-4/25-YEL-25M-FX	4 x 2.5	Yellow
TU-PU-6/4-BLK-25M-FX	6 x 4	Black
TU-PU-6/4-BLU-25M-FX	6 x 4	Blue
TU-PU-6/4-GRN-25M-FX	6 x 4	Green
TU-PU-6/4-NAT-25M-FX	6 x 4	Natural
TU-PU-6/4-RED-25M-FX	6 x 4	Red
TU-PU-6/4-YEL-25M-FX	6 x 4	Yellow
TU-PU-8/55-BLK-25M-FX	8 x 5.5	Black
TU-PU-8/55-BLU-25M-FX	8 x 5.5	Blue
TU-PU-8/55-GRN-25M-FX	8 x 5.5	Green
TU-PU-8/55-NAT-25M-FX	8 x 5.5	Natural
TU-PU-8/55-RED-25M-FX	8 x 5.5	Red
TU-PU-8/55-YEL-25M-FX	8 x 5.5	Yellow

Code	Size (O/D I/D)	Colour
TU-PU-10/65-BLK-25M-FX	10 x 6.5	Black
TU-PU-10/65-BLU-25M-FX	10 x 6.5	Blue
TU-PU-10/65-GRN-25M-FX	10 x 6.5	Green
TU-PU-10/65-NAT-25M-FX	10 x 6.5	Natural
TU-PU-10/65-RED-25M-FX	10 x 6.5	Red
TU-PU-10/65-YEL-25M-FX	10 x 6.5	Yellow
TU-PU-12/8-BLK-25M-FX	12 x 8	Black
TU-PU-12/8-BLU-25M-FX	12 x 8	Blue
TU-PU-12/8-GRN-25M-FX	12 x 8	Green
TU-PU-12/8-NAT-25M-FX	12 x 8	Natural
TU-PU-12/8-RED-25M-FX	12 x 8	Red
TU-PU-12/8-YEL-25M-FX	12 x 8	Yellow

### TUBE CUTTER

<b>Code</b>
TBCUT-FX





## FLEXION<sup>TM</sup> NYLON AND POLYURETHANE COMPACT PRE-FORMED AIRLINE COILS

- Fitted with BSPT Press-in-swivel couplings - complete with springs
- Excellent flexibility
- High resistance to oil, petrol, organic and inorganic media
- Lightweight
- Temperature range -40°C to +80°C
- Maximum working pressure 15 Bar

### NYLON AND POLYURETHANE COMPACT PRE-FORMED AIRLINE COILS

Part No	Tube O/D (mm)	Tube I/D (mm)	BSPT Male Thread	Working Length (m)
<b>Nylon</b>				
TU-NY-COIL-8/2-RED-FX	8	6	1/4"	2.5
TU-NY-COIL-8/2-BLUE-FX	8	6	1/4"	2.5
TU-NY-COIL-8/5-RED-FX	8	6	1/4"	5
TU-NY-COIL-8/5-BLUE-FX	8	6	1/4"	5
TU-NY-COIL-10/2-RED-FX	10	8	1/4"	2.5
TU-NY-COIL-10/2-BLUE-FX	10	8	1/4"	2.5
TU-NY-COIL-10/5-RED-FX	10	8	1/4"	5
TU-NY-COIL-10/5-BLUE-FX	10	8	1/4"	5
<b>Polyurethane</b>				
TU-PU-COIL-8/2-RED-FX	8	5	1/4"	2
TU-PU-COIL-8/2-BLUE-FX	8	5	1/4"	2
TU-PU-COIL-8/6-RED-FX	8	5	1/4"	6
TU-PU-COIL-8/6-BLUE-FX	8	5	1/4"	6
TU-PU-COIL-10/2-RED-FX	10	6.5	1/4"	2
TU-PU-COIL-10/2-BLUE-FX	10	6.5	1/4"	2
TU-PU-COIL-10/6-RED-FX	10	6.5	1/4"	6
TU-PU-COIL-10/6-BLUE-FX	10	6.5	1/4"	6

### BLOW GUNS

FX PNEUMATIC BLOW GUN - PLASTIC BODY

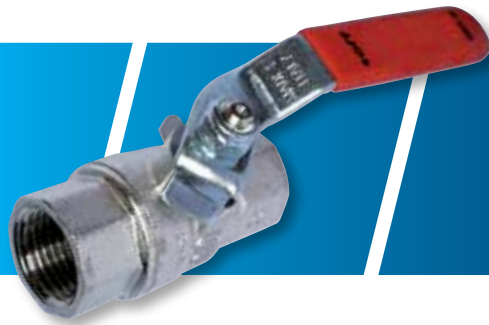
Code	Inlet
EAG-A-FX	1/4" BSP

FX PNEUMATIC BLOW GUN - METAL PISTOL GRIP

Code	Inlet
EAG-M-FX	1/4" BSP



NOTE: It is strongly recommended that blow guns are supplied with compressed air at no greater than 2 bar pressure



## FLEXION™ FULL BORE BALL VALVE

FEMALE / FEMALE

### SPECIFICATIONS

**Working Pressure** See chart below.

**Temperature** -20°C to +150°C

#### Materials:

Body	CW 617 N UNI EN 12165 Nickel plated forged brass
End Adapter	CW 617 N UNI EN 12165 Nickel-plated forged brass
Ball	CW 614 N UNI EN 12164 Machined brass bar, chrome-plated
Ball Gaskets	P.T.F.E. - Pure Teflon
Stem	CW 614 N UNI EN 12164 Machined brass bar, nickel-plated
Thrust Washer	P.T.F.E. - Pure Teflon
Stem Packing	P.T.F.E. - Pure Teflon
Gland	CW 614 N UNI EN 12164 Machined brass bar
Handle	Steel Fe P02 zinc-plated, red P.V.C. insulated
Self-Locking Nut	8G Steel, zinc-plated

### TECHNICAL DATA

#### Full Bore Series Application:

The full bore ball valves are suitable for hot and cold water, compressed air, oils, non-corrosive fluids and hydrocarbons in general

Standard line, full bore, short threads

Perfect seal at low and high pressure

Wear resistant, solid and long lasting materials

Rapid on/off 90° turn operation

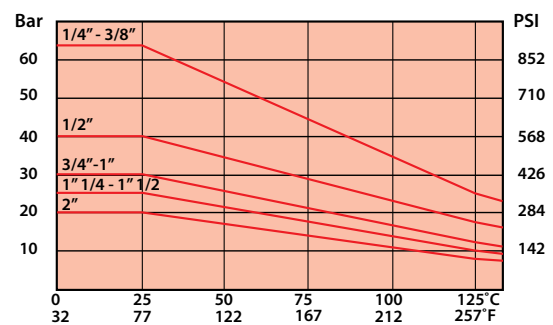
Easy visual control of open/closed position

100% Leak Tested after final assembly - Zero Leak

Threadform to ISO 228/1 standard

### FULL BORE - FEMALE / FEMALE SH

Code	Threaded Size (BSPP)
BV-FB-FF-1/4-FX	1/4"
BV-FB-FF-3/8-FX	3/8"
BV-FB-FF-1/2-FX	1/2"
BV-FB-FF-3/4-FX	3/4"
BV-FB-FF-1-FX	1"
BV-FB-FF-1.1/4-FX	1 1/4"
BV-FB-FF-1.1/2-FX	1 1/2"
BV-FB-FF-2-FX	2"





## FLEXION<sup>TM</sup> GAS APPROVED BALL VALVE

FEMALE / FEMALE

### SPECIFICATIONS

- Working Pressure** For gas max 5 Bar. For other uses from PN 40 (size 1/2") to PN 20 (size 2"). See chart below.
- Temperature** For gas -20°C to +60°C. For other uses -20°C to +140°C

#### Materials:

Body	CW 617 N UNI EN 12165 Nickel-plated forged brass
End Adapter	CW 617 N UNI EN 12165 Nickel-plated forged brass
Ball	CW 614 N UNI EN 12164 Machined brass bar, chrome-plated
Ball Gaskets	P.T.F.E. - Pure Teflon
Stem	CW 614 N UNI EN 12164 Machined brass bar, nickel-plated
Handle	Steel Fe P02 zinc-plated, yellow P.V.C. insulated
Self-Locking Nut	8G Steel, zinc-plated

### TECHNICAL DATA

#### Gas Series Application:

The gas ball valves are suitable for all types of gas in systems using low and medium pressure. The TOP GAS ball valves are suitable for hot and cold water, compressed air, oils, non-corrosive fluids and hydrocarbons in general.

Standard line, full bore, long threads

Perfect seal at low and high pressure

Wear resistant, solid and long lasting materials

Rapid on/off 90° turn operation

Easy visual control of open/closed position

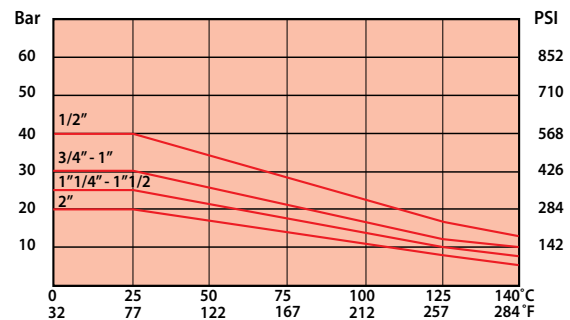
Threadform to ISO 7/1 Rp parallel standard

#### Double Seal Blow-out Proof Stem

(Full bore and gas series) These ball valves are bottom loaded stem designed. This "anti-blow-out" stem also prevents from tampering with the internals of the valve when in the line. The double seal is performed by an anti-friction teflon thrust washer, working as a high pressure gasket.

### GAS APPROVED - FEMALE / FEMALE SH

Code	Threaded Size (BSPP)
BV-GAS-FF-1/4-FX	1/4"
BV-GAS-FF-3/8-FX	3/8"
BV-GAS-FF-1/2-FX	1/2"
BV-GAS-FF-3/4-FX	3/4"
BV-GAS-FF-1-FX	1"
BV-GAS-FF-1.1/4-FX	1 1/4"
BV-GAS-FF-1.1/2-FX	1 1/2"
BV-GAS-FF-2-FX	2"





## FLEXION™ CHROME PLATED BALL VALVE WITH LEVER

FEMALE / FEMALE

### SPECIFICATIONS

**Working Pressure** 10 Bar (1.0MPa) max

**Temperature** -10°C to +90°C

#### Materials:

Body	CW 617 N UNI EN 12165 Chrome-plated forged brass
Ring Nut	CW 614 N UNI EN 12164 Machined brass bar
Ball	CW 614 N UNI EN 12164 Machined brass bar, chrome-plated
Ball Gaskets	P.T.F.E. - Pure Teflon
Stem	CW 614 N UNI EN 12164 Machined brass bar, nickel-plated
Stem O Ring	NBR black rubber
Lever Handle	Glass-filled nylon, black coloured
Screw	8G Steel, zinc-plated

### TECHNICAL DATA

#### Mini Ball Valve Application:

The mini ball valves are suitable for hot and cold water, compressed air, oils, non-corrosive fluids and hydrocarbons in general

Since the mini ball valves only have one 'O' Ring, their use for gas applications is not advisable

Compact line design, reduced bore

Rapid on/off 90° turn operation

Easy visual control of open/closed position

Threadform to ISO 228/1 standard

#### Blow-out Proof Stem

The mini ball valves have a bottom loaded stem designed. This "anti-blow-out" stem also prevents from tampering with the internals of the valve when in the line. The tightness is obtained by means of a rubber 'O' Ring.

### MINI BALL VALVE - FEMALE / FEMALE SH

Code	Threaded Size (BSPP)
BV-MINI-FF-1/8-FX	1/8"
BV-MINI-FF-1/4-FX	1/4"
BV-MINI-FF-3/8-FX	3/8"
BV-MINI-FF-1/2-FX	1/2"
BV-MINI-FF-3/4-FX	3/4"



## FLEXION<sup>TM</sup> GAUGES

### SPECIFICATIONS

**Temperature** -25°C to +60°C

#### Materials:

Case Black Painted Steel  
 Window Polycarbonate  
 Internal Parts Brass, Bourdon tube  
 Mounting Threads BSPT (unless otherwise stated)

### TECHNICAL DATA

#### General Purpose

Pressure gauges for use in non-corrosive environments, typically used for pneumatic applications

Ranges 40mm to 100mm

Dial -1 to 20 Bar

Dual Scale - Bar / p.s.i.

40, 50 & 63mm Snap on window

100mm and all panel mount sizes chromed bezel

Accuracy 40/50/63mm ASME B40.1-1991 B GRADE (+/- 3% of span)

100 ASME B40.1-1991 A GRADE (+/- 1% of span)

### CENTRE BACK

Code	Threaded Size	Dia	Range Bar
PG40-0/-1-CB-FX	1/8"	40	-1 - 0
PG40-02-CB-FX	1/8"	40	0 - 2
PG40-04-CB-FX	1/8"	40	0 - 4
PG40-06-CB-FX	1/8"	40	0 - 6
PG40-10-CB-FX	1/8"	40	0 - 10
PG40-16-CB-FX	1/8"	40	0 - 16
PG40-20-CB-FX	1/8"	40	0 - 20

Code	Threaded Size	Dia	Range Bar
PG50-0/-1-CB-FX	1/8"	50	-1 - 0
PG50-02-CB-FX	1/8"	50	0 - 2
PG50-04-CB-FX	1/8"	50	0 - 4
PG50-06-CB-FX	1/8"	50	0 - 6
PG50-10-CB-FX	1/8"	50	0 - 10
PG50-20-CB-FX	1/8"	50	0 - 20
PG63-02-CB-FX	1/4"	63	0 - 2
PG63-04-CB-FX	1/4"	63	0 - 4
PG63-06-CB-FX	1/4"	63	0 - 6
PG63-10-CB-FX	1/4"	63	0 - 10
PG63-20-CB-FX	1/4"	63	0 - 20



### CENTRE BACK PANEL MOUNT

Code	Threaded Size	Dia	Range Bar
PG40-02-PM-FX	1/8"	40	0 - 2
PG40-04-PM-FX	1/8"	40	0 - 4
PG40-06-PM-FX	1/8"	40	0 - 6
PG40-10-PM-FX	1/8"	40	0 - 10

Code	Threaded Size	Dia	Range Bar
PG50-02-PM-FX	1/8"	50	0 - 2
PG50-04-PM-FX	1/8"	50	0 - 4
PG50-06-PM-FX	1/8"	50	0 - 6
PG50-10-PM-FX	1/8"	50	0 - 10



## GAUGES

### BOTTOM ENTRY

Code	Threaded Size	Dia	Range Bar
PG50-0/-1-BE-FX	1/8"	50	-1 - 0
PG50-02-BE-FX	1/8"	50	0 - 2
PG50-06-BE-FX	1/8"	50	0 - 6
PG50-10-BE-FX	1/8"	50	0 - 10
PG50-16-BE-FX	1/8"	50	0 - 16
PG50-20-BE-FX	1/8"	50	0 - 20
PG63-0/-1-BE-FX	1/4"	63	-1 - 0
PG63-02-BE-FX	1/4"	63	0 - 2
PG63-06-BE-FX	1/4"	63	0 - 6
PG63-10-BE-FX	1/4"	63	0 - 10
PG63-16-BE-FX	1/4"	63	0 - 16
PG63-20-BE-FX	1/4"	63	0 - 20

Code	Threaded Size	Dia	Range Bar
PG100-0/-1-BE-FX	3/8"	100	-1 - 0
PG100-02-BE-FX	3/8"	100	0 - 2
PG100-06-BE-FX	3/8"	100	0 - 6
PG100-10-BE-FX	3/8"	100	0 - 10
PG100-16-BE-FX	3/8"	100	0 - 16
PG100-20-BE-FX	3/8"	100	0 - 20



## FLEXION™ ALL STAINLESS STEEL PROCESS GAUGE

### SPECIFICATIONS

<b>Pressure Limitation</b>	Constant Pressure 100%. Cyclic Pressure 90%. Over Pressure 130%
<b>Temperature</b>	-25°C to +60°C

#### Materials:

Case	Black Painted Steel
Window	Polycarbonate
Internal Parts	Brass, Bourdon tube
Mounting Threads	BSPT (unless otherwise stated)

### TECHNICAL DATA

#### Process Gauges

Stainless steel gauges for fluid and gaseous media, compatible to the wetted parts (SUS 316)

Ranges 100mm

Dial -1 to 10 Bar

Gauges are supplied dry, but have a fillable case

Suitable glycerine is available in single fill bottles

Dual Scale - Bar / p.s.i.

Protection ratings IP65

Accuracy EN 873-1 (1% of scale)

### BOTTOM ENTRY

Code	Threaded Size	Dia	Range Bar
PG100-SS-0/-1-BE-FX	1/2 BSPP	100	-1 - 0
PG100-SS-02-BE-FX	1/2 BSPP	100	0 - 2
PG100-SS-06-BE-FX	1/2 BSPP	100	0 - 6
PG100-SS-10-BE-FX	1/2 BSPP	100	0 - 10

### GLYCERINE BOTTLE

Code	Thread Size
GLY-BTL-100MM-FX	Single fill 100m

## FORCE CHART FOR PNEUMATIC CYLINDERS

### FORCE IN KGF

Cylinder Bore (mm)	Piston Rod Ø	Direction	Operating Pressure (Bar)								
			2	3	4	5	6	7	8	9	10
8	4	Extend	1	1.5	2	2.5	3	3.5	4	4	5.5
		Retract	0.8	1.1	1.5	1.9	2.3	2.6	3	3.4	3.8
10	4	Extend	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9
		Retract	1.3	2	2.6	3.3	4	4.6	5.3	5.9	6.6
12	6	Extend	2.3	3.4	4.5	5.7	6.8	7.9	9.1	10.2	11.3
		Retract	1.7	2.5	3.4	4.2	5.1	5.9	6.8	7.6	8.5
16	6	Extend	4	6	8.1	10.1	12.1	14.1	16.1	18.1	20.1
		Retract	3.5	5.2	6.9	8.7	10.4	12.1	13.8	15.6	17.3
20	8	Extend	6.3	9.4	12.6	15.7	18.9	22	25.1	28.3	31.4
		Retract	5.3	7.9	10.6	13.2	15.9	18.5	21.1	23.8	26.4
25	10	Extend	9.8	14.7	19.6	24.5	29.4	34.4	39.3	44.2	49.1
		Retract	8.3	12.4	16.5	20.7	24.8	28.9	33	37.2	41.3
32	12	Extend	14	21	28	35	42	50	57	64	71
		Retract	12	18	24	30	36	42	48	53	59
40	16	Extend	25	38	50	63	75	88	101	113	126
		Retract	21	32	42	53	63	74	85	95	106
50	20	Extend	39	59	79	98	118	137	157	177	196
		Retract	33	50	66	83	99	116	132	148	165
63	20	Extend	62	94	125	156	187	218	249	281	312
		Retract	56	84	112	140	168	196	224	252	280
80	25	Extend	101	151	201	251	302	352	402	452	503
		Retract	91	136	181	227	272	317	363	408	454
100	25	Extend	157	236	315	393	472	551	629	708	787
		Retract	148	221.2	95	369	443	516	590	664	738
125	32	Extend	245	368	491	615	736	859	982	1104	1227
		Retract	229	345	459	574	689	804	919	1034	1149
160	40	Extend	410	615	820	1025	1230	1435	1640	1845	2050
		Retract	384	577	769	961	1153	1345	1538	1730	1922
200	40	Extend	640	960	1280	1600	1920	2240	2560	2880	3200
		Retract	614	922	1229	1536	1843	2150	2458	2765	2072



## BSP THREAD DIAMETERS

### BSP THREAD DIAMETERS

Thread	mm
G 1/8"	9.73
G 1/4"	13.16
G 3/8"	16.66
G 1/2"	20.95
G 3/4"	26.44
G 1"	33.25
G 1 1/4"	41.91
G 1 1/2"	47.8
G 2"	59.61

Did you know that BSP thread actual diameters are different from the thread size?

## AIR CONSUMPTION

### AIR CONSUMPTION

Cylinder Bore mm	Cylinder Extend NI
8	0.035
10	0.055
12	0.08
16	0.14
20	0.22
25	0.34
32	0.56
40	0.88
50	1.37
63	2.18
80	3.52
100	5.5
125	8.59
160	14.07
200	21.99
250	34.36
320	56.3

Air consumption (normal litres) at 6 bar operating pressure, per 100 mm stroke.

**1. INTERPRETATION**

1.1 In these Terms, "the Company" means trading divisions of EWMS Industrial Services Ltd (registered in England and Wales).  
 "Contract" means the contract for the sale and purchase of the Goods and the supply and acquisition of the Services.  
 "Delivery Address" means the address stated on the Order.  
 "Goods" means the goods (including any instalment of the goods or any part of them and any replacement parts supplied as part of the Services) described in the Order.  
 "Order" means the Customer's purchase order.  
 "Price" means the price of the Goods and/or the charge for the Services.  
 "Quotation" means the invitation to treat delivered to the Customer in response to an inquiry.  
 "Customer" means the person so described in the Order.  
 "Services" means the services (if any) described in the Order.  
 "Specification" includes any plans, drawings, data or other information relating to the Goods or Services.  
 "Terms" means the standard terms and conditions of sale set out in this document and (unless the context otherwise requires) includes any special terms agreed in Writing between the Company and the Customer.  
 "Writing" and any similar expression, includes facsimile transmission and comparable means of communication, but not electronic mail.  
 1.2 Any reference in these Terms to a statute or a provision of statute will be construed as a reference to that statute or provision as amended, re-enacted or extended at the relevant time.

**2. QUOTATIONS**

2.1 The Quotation issued by the Company, if any, will not be valid unless it is signed by an authorised representative of the Company. The Quotation will be valid for the period stated and may be amended, withdrawn or cancelled by the Company at any time by written or oral notice.  
 2.2 The Quotation is for all of the Goods and/or Services for which quotations are given by the Company. Any order for only part of the Goods and/or Services forming the subject of the Quotation may, at the Company's discretion, be subject to a revised quotation.

**3. FORMATION OF CONTRACT**

3.1 All Goods and Services are offered and all contracts are entered into subject to these Terms. All other terms, conditions or warranties whatsoever excluded from the Contract or any variation thereof are not accepted by the Company in writing.  
 3.2 These Terms will be incorporated into any contract between the Company and the Customer to the exclusion of any terms or conditions stipulated or referred to by the Customer. Any dealings with the Company following receipt by the Customer of a copy of these Terms will automatically be deemed acceptance thereof and the basis for all future contracts unless expressly otherwise stated in writing. The Order constitutes an offer to purchase the Goods and/or Services from the Company subject to the Terms and incorporation of the Quotation, if any.  
 3.4 The Order cannot be cancelled or varied after being accepted by the Company except with its written consent and the agreement of the Customer to pay all the costs incurred by the Company in connection with the cancellation or variation.

**4. PERFORMANCE AND DELIVERY**

4.1 The Company will perform the Services using reasonable skill and care.  
 4.2 Delivery of the Goods will be made by the Customer collecting them at the Company's premises or, if some other place for delivery is agreed by the Company, by the Company delivering to the same to the extent that  
 4.3 All times quoted for performance of delivery will not be of the essence and are not guaranteed. The Customer will have no right to damages or to cancel the Order for failure to deliver by the Company or to meet any performance or delivery time stated.  
 4.4 Performance of the Contract will proceed upon acceptance by the Company but will in every case be dependent upon prompt delivery of all necessary information, drawings, final instructions and approvals by the Customer to the Company.  
 4.5 Subject to safe and adequate access, the Company will deliver as near as possible to the place of delivery agreed in writing by the Company. Unless agreed in writing, the Customer is responsible for providing suitable facilities for the delivery of the Goods and will be responsible for all loss of or damage to the Goods during the course of such unloading as a result of unsuitable facilities.  
 4.6 Where the Customer collects or arranges collection of the Goods from the Company's premises, entry of any vehicle of the Customer or its agent on to the Company's premises will be at the sole risk of the Customer or its agent save to the extent that any claim arises from the Company's negligence resulting in personal injury or death.  
 4.7 Where delivery or performance is postponed otherwise than due to default by the Company or if the Customer fails to take delivery on the agreed delivery date or, if no specific delivery date has been agreed, when the Goods are ready for despatch, the Customer will pay all costs and expenses including a reasonable charge for storage, insurance and transportation costs and all necessary work undertaken by the Company on the Goods incurred in connection with the delay. Payment for the Goods and/or the Services will be made in accordance with these Terms.  
 4.8 The Company may postpone or cancel any delivery or performance either in whole or in part pending payment of any sum not paid in accordance with these Terms and due from the Customer to the Company either under the Contract or any other contract between the Company and the Customer, but without prejudice to any other rights or remedies which the Company may have against the Customer.  
 4.9 Failure by the Customer to take delivery of or to make payment by the due date in respect of any one or more instalments of Goods will entitle the Company to treat the Contract as repudiated by the Customer.

**5. PRICE**

5.1 The Price of the Goods and the Services shall be as stated in the Quotation unless otherwise stated and is subject to fluctuation at the Company's sole discretion in the event of any increase in the cost of labour, materials, overheads, transport, taxes, duties or any other costs whatsoever affecting the manufacture or delivery of the Goods or the performance of the Services and any fluctuations in exchange rates affecting the cost of imported goods or prices quoted other than in sterling. Any increase in such costs during the period of the Contract will be added to the Price.  
 5.2 In the event of any variation to the Order being requested by the Customer and agreed by the Company, the Company will be entitled to make an

adjustment of the Price corresponding to such variation.  
 5.3 The Company will be entitled to make an adjustment to the Price in the event that:  
 5.3.1 the Order is not accompanied by sufficient information or drawings to enable work to commence forthwith;  
 5.3.2 the information accompanying the Order does not provide a full and accurate description of the work involved; or  
 5.3.3 delay is caused by the Customer's instructions or lack of instructions.  
 5.4 The cost of delivery, carriage and packaging will unless otherwise stated be charged extra and is not refundable.  
 5.5 Where the Price includes the whole or part of the cost of any tooling the Customer acknowledges that unencumbered and exclusive title in such tooling will have vested in the Company and that the Customer has no claim to or rights therein.

**6. TERMS OF PAYMENT**

6.1 The Company will be entitled to submit its invoice on or at any time after the despatch of the Goods from the Company's premises or the substantial performance of the Services save that where delivery or performance has been postponed at the request or by the default of the Customer then the Company may submit its invoice for the Goods at any time after the Goods are ready for delivery or would have been ready in the ordinary course but for the Customer's request or default and may forthwith upon any such postponement invoice the Customer for all Services performed up to that date without prejudice to any other right or remedy of the Company.  
 6.2 Unless otherwise agreed by the Company in writing the Customer will pay the Price or part thereof within 30 days of the date of the Company's invoice notwithstanding that delivery may not have taken place.  
 6.3 All payments made to the Company must be in sterling (unless another currency has been otherwise agreed) at the address shown on the Company's invoice or direct to the Company's bank account. Payment will not be held back by the Company until the full amount is credited to the Company's bank account.  
 6.4 Where Goods are delivered by instalments the Company may invoice each instalment separately for part of the Price and the Customer will pay such invoices in accordance with these Terms.  
 6.5 The Customer will pay all amounts owing to the Company in full and will not exercise any rights of set off or counterclaim against invoices submitted.  
 6.6 In the event of default in payment by the Customer the Company will be entitled without prejudice to any other right or remedy to charge the Customer interest (on a daily basis) on the amount unpaid, at the rate of 4% per annum above the base rate of the Bank of England from time to time.

**7. RISK AND TITLE IN GOODS**

7.1 Risk will pass to the Customer, so that the Customer is responsible for all loss, damage or deterioration to the Goods when the Goods leave the premises of the Company. If the Company undertakes to deliver the Goods, risk will pass to the Customer after the time of delivery at the agreed place of delivery.  
 7.2 Notwithstanding delivery and the passing of risk in the Goods, or any other provision of these Terms, title to the Goods will only pass to the Customer upon the happening of any one of the following events:  
 7.2.1 the Customer has paid to the Company all sums due and payable by it to the Company for all Goods whatsoever supplied under the Contract; or  
 7.2.2 when the Company serves on the Customer notice in writing specifying that title in the Goods has passed.  
 7.3 Until such time as the property in the Goods passes to the Customer, the Customer will hold the Goods as the Company's bailee, and will keep the Goods separate from the property of the Customer and third parties and properly stored, protected and insured and identified as the Company's property and the Customer hereby irrevocably authorises the Company to enter upon the premises of the Customer or of any third party where the Goods are stored for the purpose of ensuring that the provisions of this clause are being complied with.  
 7.4 Until such time as title in the Goods passes to the Customer, the Customer will be entitled to resell or use the Goods in the ordinary course of its business but such right may be terminated immediately upon notice in writing by the Company to the Customer and if the Customer is then in possession of the Goods the Customer will forthwith return the same to the Company free of charge and in any event will cease to be in possession of the same with the consent of the Company.  
 7.5 The Company may recover Goods in respect of which title has not passed to the Customer at any time and the Customer hereby irrevocably authorises the Company to enter upon any premises of the Customer or of any third party, to the extent that the Customer is able to grant such authorisation, where the Goods are stored with or without vehicles, for the purpose of repossessing any Goods in respect of which title has not passed to the Customer.  
 7.6 The Customer will not be entitled to pledge or in any way charge by way of security for any indebtedness any of the Goods which remain the property of the Company, but if the Customer does so, all moneys owing by the Customer to the Company will without prejudice to any other right or remedy of the Company immediately become due and payable.

**8. SAMPLES AND DESCRIPTIONS**

8.1 The provision by the Company of samples for analysis by the Customer or the inspection of samples by the Customer will not render any sale by sample.  
 8.2 No guarantee or warranty is given that supplies will correspond exactly to the description or sample and the use of any description or sample will not constitute the Contract a sale by description or sample or a sale by sample and description.

**9. PRE-DELIVERY TESTING AND INSPECTION**

9.1 To the extent required or permitted by the Contract the Customer or its authorised agent will be entitled to test or inspect the Goods prior to their delivery. If this right is not exercised within 7 days of notification to the Customer of readiness for inspection or testing or where the Customer does not, within 3 days after inspection or testing notify the Company in writing of its lack of satisfaction then the Customer will be conclusively deemed to have accepted the Goods and to have agreed that the Goods are fully in conformity with the Contract. Any costs incurred in carrying out such testing or inspection including the provision of consumable items will be charged extra to the Customer.

**10. SHORT DELIVERY AND DEFECTS APPARENT ON INSPECTION AT DELIVERY**

10.1 Without prejudice to clause 9 the Customer will have no claim for shortages or other damage apparent on visual inspection unless:  
 10.1.1 the Customer inspects the Goods within 3 working days of delivery and notifies the Company of the claim orally within such period; and

10.1.2 a written complaint is made to the Company; and  
 10.1.3 the Company is given an opportunity to inspect the Goods and investigate any complaint before any use of, or alteration to, or interference with the Goods.  
 10.2 Failure to comply with clause 10.1 will mean the Goods will be deemed to be in all respects in accordance with the Contract. If short delivery does take place, the Customer will not reject the Goods but accept the Goods delivered as part performance of the Contract.  
 10.3 The Customer will have no claim for non-delivery unless a written complaint is made to the Company within 14 days of the date of the Company's invoice. Subject to compliance by the Customer with the requirements of clause 10, the Company will at its option be entitled to repair or replace free of cost and within a reasonable time any Goods lost in transit or found to be defective or damaged on visual inspection. If the Company does so repair or replace the Goods the Customer will be bound to accept such repaired or replacement Goods and the Company will be under no further liability in respect of any loss or damage whatsoever arising from the delivery, or lack of delivery, or from any delay before the defective Goods are repaired or the replacement Goods are delivered.  
 10.5 The Customer cannot reject the Goods or the Services without giving the Company a reasonable time and opportunity to rectify any defects in the Goods or the Services. If the Customer rejects all or part of the Goods or the Services they shall be deemed to be in all respects in accordance with the Contract. If the Customer does become entitled to reject the Goods or the Services the Company will repay to the Customer any sums paid by the Customer in respect thereof but will be under no further liability in respect of its failure to perform or the consequences thereof. The Customer will in any event have no right to reject the Goods or the Services, or any part of them, on account of minor omissions or defects which do not materially affect the commercial use of the Goods.

**11. WARRANTIES AND GUARANTEE**

11.1 The Company warrants that the Goods will comply with any specification specifically agreed by the Company in writing. All other terms, warranties or conditions as to quality, description, fitness or purpose or otherwise (whether express or implied, statutory or otherwise) are excluded to the fullest extent permitted by law save as set out in clauses 11.2 and 11.3.  
 11.2 Without prejudice to clause 10, if the Customer shall, within 14 days of a defect being discovered and in any event within 12 months of the Goods being put into service or within 12 months of delivery (whichever is the earlier), give written notice to the Company that a defect exists in the Goods the Company will upon being satisfied by examination that the Goods are defective solely due to faulty materials or workmanship at its sole discretion either repair the defective Goods or take such steps as to the maximum practicable extent to substitute goods free of cost and within a reasonable time.  
 11.3 The Company gives no guarantee and the Customer will to any claim and the Customer will not be entitled to any claim in respect of any repairs or alterations undertaken by the Customer without the prior specific written consent of the Company nor in respect of any defect arising by reason of fair wear and tear or damage due to accident, neglect or misuse nor in respect of any defect in the design of the Goods or the performance of the Services in either case to the Customer's specification.  
 11.4 The Company will not be liable for loss or damage suffered by reason of use of the Goods after the Customer becomes aware of a defect or after circumstances arising which should reasonably have indicated to the Customer the existence of a defect.  
 11.5 The Company gives no guarantee and the Customer will not be entitled to any claim in respect of any defect arising by reason of:  
 11.5.1 any failure to install, operate or maintain the Goods in strict accordance with the Company's instructions and any operational manuals supplied by the Company.  
 11.5.2 any failure to operate or maintain the Goods using unsuitable lubricant, defective mounting or connection or any other factor causing a defect beyond the reasonable control of the Company.  
 11.6 The Company does not guarantee in respect of Goods not of the Company's manufacture but will assign to the Customer its rights (if any) against its supplier and these rights will be taken in extinction of and in substitution for any rights which the Customer would otherwise have had against the Company. Further in respect of any such Goods or component parts of the Goods the Company gives no assurance or guarantee whatsoever that the sale or use thereof will not infringe patent, copyright or other intellectual property rights of any other person, firm or company.  
 11.7 All information and details contained in the Company's advertising, sales and technical literature are provided for guidance only and their accuracy is not guaranteed. No such data or information will form part of the Contract and the Company will not in any event be liable for any inaccuracies or omissions. Unless agreed by the Company in writing the Company will be under no liability whatsoever in respect of any failure of the Goods to achieve indicative performance targets.  
 11.8 Any advice of the Company relating to the use of the Goods cannot be relied upon by the Customer and therefore at all times it is for the Customer to satisfy itself of the suitability of the Goods for its own particular purpose. Unless expressly agreed by the Company in writing, the Company does not warrant that the Goods are suitable for any particular purpose whether or not such purpose has been notified to the Company and any implied warranty or condition (statutory or otherwise) to that effect is excluded.

**12. LIMIT OF LIABILITY**

12.1 The Company will not be liable for economic or consequential loss including loss of profits, contribution to overheads, business opportunities, loss of contracts, finance charges, goodwill, loss of production, increased costs of labour and/or materials, or damage to property however caused by any defect in the Goods or a breach of the duty to exercise reasonable skill and care in providing the Services but subject to the exception where any defect in the Goods or breach of the duty to exercise reasonable skill and care in providing the Services gives rise to a claim by reason of death or personal injury.

**13. DIMENSIONS**

13.1 The Company reserves the right to alter or change the specification of the Goods within reasonable limits having regard to the type and nature of the Goods. Dimensions stated by the Company are approximate unless the Customer has set out in the Order that the dimensions should comply with precise tolerances.

**14. TERMINATION**

14.1 The Company reserves the right at any time by notice in writing to the Customer to cancel the Contract for the supply of the Goods or the provision of the Services the subject of any quotation in the event of the Customer failing to approve forthwith any plans, specifications or other matter submitted to the Customer for such approval, but without prejudice to any other rights or remedies which the Company may have against the Customer.  
 14.2 If the Customer fails to take delivery of the Goods when required, or makes default or commits a breach of any of its obligations under the Contract, or any other contract with the Company, or if the Customer commits any act of bankruptcy or under the provisions of Section 123 of the Insolvency Act 1986 is deemed to be unable to pay its debts or makes or offers to make any arrangement or composition with creditors or if any distress or execution or other legal process is levied upon any of the Customer's property or assets or in the event of a resolution being passed or proceedings commenced for the administration or liquidation of the Customer (other than a voluntary winding up for the purpose of bona fide solvent reconstruction or amalgamation) or if a Receiver or Manager or Administrator is appointed of all or any part of its assets or undertaking, the Company will be entitled without prejudice to its other rights or remedy accrued or accruing to the Company to terminate the Contract in whole or in part by notice in writing and to recover from the Customer any loss on sale of the Goods or supply of the Services comprised in the Contract.  
 14.3 In the event of the performance of any obligation accepted by the Company being prevented, delayed, or in any way interfered with by:  
 14.3.1 act of God, explosion, flood, tempest, fire or accident;  
 14.3.2 war or threat of war, sabotage, insurrection, civil disturbance or requisition;  
 14.3.3 restrictions, regulations, by-laws, prohibitions or measure of any kind on part of any governmental, parliamentary or local authority;  
 14.3.4 company or external regulations or embargoes or strikes, lock-outs, or other industrial actions or trade disputes (whether involving employees or either the Company or the Customer or of a third party);  
 14.3.6 difficulties in obtaining raw materials, labour, fuel, parts or machinery;  
 14.3.7 power failure or breakdown in machinery;  
 14.3.8 non-delivery by the Company's suppliers or damage to or destruction of the whole or part of the Goods; or by any other cause beyond the Company's control the Company may at its option suspend performance or terminate the Contract without liability for any damage or losses resulting from such suspension or termination being without prejudice to the Company's right to recover all sums owing to it in respect of Goods delivered, Services performed and costs incurred to date.

**15. STATUTORY REQUIREMENTS**

15.1 The Customer will observe and comply with all statutes, regulations, enactments, by-laws, prohibitions or restrictions of any governmental, parliamentary or local authority in the United Kingdom or any other country or state in which the Goods are to be used. The Customer will indemnify the Company in respect of any claim against the Company which may be under and the consequences thereof in respect of a breach of this clause.

**16. LICENCES AND CONSENTS**

16.1 The Customer will be responsible for all consents, approvals, import or other licences, permissions or authorities required by any legislation or regulations whether in the United Kingdom or elsewhere and for any failure to obtain the same unless the Contract specifically provides otherwise. The Order will constitute a warranty and representation by the Customer that it has obtained every necessary consent, approval, licence, permit or authority that may be required in connection with the Goods and their supply to the Customer.

**17. PRODUCT LIABILITY**

17.1 In respect of Goods supplied to the Customer for incorporation with, or use ancillary to, any composite products to be produced, manufactured, processed or supplied by the Customer or otherwise the Customer will indemnify the Company for all losses and damages (including all legal costs) that the Company may incur in the event that any claim or claims are made against the Company pursuant to the Consumer Protection Act 1987 relating to the said composite product or products of the Customer or other Goods supplied by the Company in circumstances in which the Goods supplied by the Company were either:  
 17.1.1 or  
 17.1.2 were only rendered the defective part or became a defective product by reason of actions or omissions of the Customer; or  
 17.1.3 were only rendered the defective part or became a defective product by reason of instructions or warnings given by the Customer or another supplier of the said composite product or products.  
 17.2 For the purposes of this term the word "defective" will be interpreted in accordance with the definition in the Consumer Protection Act 1987.  
 17.3 The Customer acknowledges that it is under a duty to pass on to its customers (where appropriate) all instructions, information and warnings supplied to it by the Company with the Goods.

**18. GENERAL**

18.1 The Customer shall not assign or transfer to any other person any of its rights without the express consent of the Company, nor sub-contract any of its obligations under the Contract.  
 18.2 A notice under these Terms must be in Writing addressed to that other party at its registered office or principal place of business or such other address as may at the relevant time have been notified under this provision to the party giving the notice.  
 18.3 No waiver by the Company of any breach of the Contract by the Customer will be considered as a waiver of any prior or subsequent breach of the same or any other provision.  
 18.4 The Customer acknowledges and agrees that the Contract confers no rights on any third party and the provisions of the Contracts (Rights of Third Parties) Act 1999 is excluded in its entirety.  
 18.5 If any provision of these Terms is held to be invalid or unenforceable in whole or in part the validity of the other provisions of these Terms and the remainder of the provision in question shall not be affected.  
 18.6 The Contract shall be governed by the laws of England and Wales, and the Customer agrees to submit to the non-exclusive jurisdiction of the English courts.



The international FLEXION™ infrastructure is embedded in a network of ERIKS Core Competence Centres, providing regional technical support, at the same time calling on the shared FLEXION™ pool of knowledge and specialised capabilities.

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