

SECTION A-A

	Male Thread	Female Thread	Female entry thread length	Male entry thread length Metric	Max Bore Diameter		Overall Length	Hexagon A/F Size Swivel	A/C Size Swivel	Hexagon Width Swivel	Hexagon A/F Size Lock Nut	A/C Size Lock Nut	Hexagon Width Lock Nut
	B	C	D	E	F		U	I	J	K	L	M	N
GROUP II ONLY	M16 x 1.5	M16 x 1.5	16	15	11		81	30	32.5	4	36	39.5	10.5
GROUP II ONLY		1/2NPT	18		14.3		81	30	32.5	4	36	39.5	10.5
	M20 x 1.5	M20 x 1.5	16	15	14.3		81	30	32.5	4	36	39.5	10.5
		3/4NPT	18		20.2		81	30	32.5	4	36	39.5	10.5
	M25 x 1.5	M25 x 1.5	16	15	20.2		97	46	50.5	6	55	60.6	10.5
		1NPT	22		26.5		97	46	50.5	6	55	60.6	10.5
	M32 x 1.5	M32 x 1.5	16	15	26.5		97	46	50.5	6	55	60.6	10.5
		1 1/4NPT	22		32.5		97	46	50.5	6	55	60.6	10.5
	M40 x 1.5	M40 x 1.5	16	15	32.5		117	65	70.8	6	80	88	10.5
		1 1/2 NPT	22		44.5		117	65	70.8	6	80	88	10.5
	M50 x 1.5	M50 x 1.5	16	15	44.5		117	65	70.8	6	80	88	10.5
		2NPT	22		56.3		117	65	70.8	6	80	88	10.5
	M63 x 1.5	M63 x 1.5	16	15	56.3		147	95	104	8	95	104	11.5
		2 1/2 NPT	26		65.3		147	95	104	8	95	104	11.5
	M75 x 1.5	M75 x 1.5	16	15	68.3		147	95	104	8	95	104	11.5
		3 NPT	26		68.3		147	95	104	8	95	104	11.5

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**HAWKE International**  
 OXFORD ST WEST  
 ASHTON-U-LYNE  
 OL7 0NA  
 TEL: +44 (0)161 308 3611

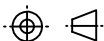
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REMOVE ALL BURRS AND SHARP EDGES USING MINIMUM CHAMFER OR RADIUS. PARTICULARLY REMOVE ALL BURRS FROM START AND FINISH OF THREADS

3RD ANGLE PROJECTION



DO NOT SCALE IF IN DOUBT ASK

GENERAL TOLERANCES

LINEAR ± 0.15mm  
 ANGULAR ± 0°30'

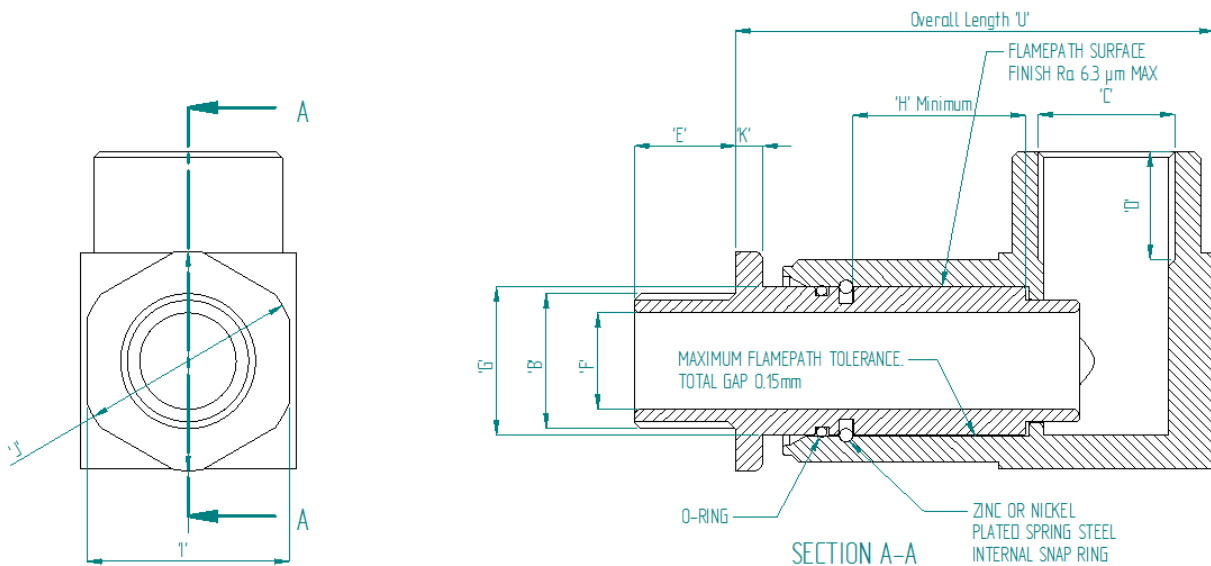
UNLESS OTHERWISE STATED

FIRST ISSUE	09/01/11		A		
MODIFICATION	DATE/SIG	DCN	ISSUE		

DRN	AD
CHD	AJT
DATE	09/01/11
UNITS	mm

TITLE  
 90° ELBOW SWIVEL  
 LOCKSTOP  
 HAWKE ASIA

DRG. No.	492
SCALE	???
SHEET	1 OF 1



- CERTIFICATION:** These male to female type 493 - 90° Elbow Swivel Components meet the requirements of IECEx/ATEX for Exd I ExdIIc, Exe I, ExelIc and ExtbIIc installations, and are suitable for fitment into or onto suitably threaded entries in Exd equipment as part of the equipments overall apparatus certification.
- SPECIFICATION:** In accordance with IEC/EN60079-0, IEC/EN60079-1 IEC/EN60079-7, IEC/EN60079-31
- TESTS:** These male to female type 493 - 90° Elbow Swivel Components meet with the requirements of IEC / EN 60079-0, IEC/EN 60079-1, IEC/EN60079-7, IEC/EN60079-31
- MATERIAL:** These 90° Elbow Swivel Components may be manufactured from any of the metallic materials listed in drawing number 3015.  
FINISH: The 90° Elbow Swivel Components may be plated to a maximum thickness of 0.008mm. The wall thickness between the thread major diameter and the adaptor external hexagon shall be at least 1.5 mm thick.
- GAUGING & THREADS:** The threads shown in drawing 3016 may be used. The threads can be of the same shape and form on each end of the adaptor or alternatively, the threads size and form may be different. In which case, the bore relating to the smallest male thread size shall apply and the hexagon size relating to the larger thread size applies. There shall be no more than one step size difference between the threads
- STAMPING:** Components in Brass, Stainless Steel and Steel to be stamped in the following manner:-  
Format:  
HAWKE 493/Thread Sizes/Exd I Mb Exe I Mb ExdIIcGb I ExelIc Gb, Extb IIIC Db (-60°C to +100°C)\* **See note 8 for temperature details** IP66  
SIRA11ATEX1347U IECExSIR11.0152U IM2 /II2GD year of manufacture OL7 0NA UK 1180  
Example: Groups I and II:- Brass, Nickel Plated Brass and Stainless Steel only  
HAWKE 493/M25/M25 / Exd I Mb Exe I Mb ExdIIc Gb ExelIc Gb Extb IIIC Db (-60°C to +100°C)\* **See note 8 for temperature details** IP66  
SIRA11ATEX1347U IECExSIR11.0152U IM2 /II2GD 11 OL7 0NA UK 1180  
Note:- The EPL's may be omitted from the product marking and added to the packaging. The Exe marking for Group I or II may also be omitted if not required.  
**Aluminium 90° Elbow Swivels and M16 threaded couplings are to contain Group II marking details only with no reference to Group I**
- Additional sealing methods may be required to ensure the IP rating of the equipment is maintained when using these 90° Elbow Swivel Components .
- O RING:** (Pimseal or equivalent Silicone 70 Shore, Temp range -60°C to +200°C)  
O Ring - Silicon 70 -60°C to +100°C

Male Thread	Female Thread	Female entry thread length	Male entry thread length	Max Bore Diameter	Flameproof Swivel Diameter	Flameproof Swivel Length	Hexagon A/F Size Swivel	A/C Size Swivel	Hexagon Width Swivel	O-Ring	Internal Snap Ring	Overall Length
B	C	D	E	F	G	H	I	J	K			U
M16 x 1.5	M16 x 1.5	16	15	11	22	25	30	32.5	4	19.5 I/D x 1.5	RBM0220	71
1/2NPT	1/2NPT	18	22.5	14.3	22	25	30	32.5	4	19.5 I/D x 1.5	RBM0220	71
M20 x 1.5	M20 x 1.5	16	15	14.3	22	25	30	32.5	4	19.5 I/D x 1.5	RBM0220	71
3/4NPT	3/4NPT	18	22.8	20.2	22	25	30	32.5	4	19.5 I/D x 1.5	RBM0220	71
M25 x 1.5	M25 x 1.5	16	15	20.2	35	25	46	50.5	6	32.5 I/D x 1.5	RBM0350	87
1NPT	1NPT	22	27.65	26.5	35	25	46	50.5	6	32.5 I/D x 1.5	RBM0350	87
M32 x 1.5	M32 x 1.5	16	15	26.5	35	25	46	50.5	6	32.5 I/D x 1.5	RBM0350	87
1 1/4NPT	1 1/4NPT	22	28.27	32.5	35	25	46	50.5	6	32.5 I/D x 1.5	RBM0350	87
M40 x 1.5	M40 x 1.5	16	15	32.5	55	25	65	70.8	6	52.5 I/D x 1.5	RBM0550	107
1 1/2 NPT	1 1/2 NPT	22	28.69	44.5	55	25	65	70.8	6	52.5 I/D x 1.5	RBM0550	107
M50 x 1.5	M50 x 1.5	16	15	44.5	55	25	65	70.8	6	52.5 I/D x 1.5	RBM0550	107
2NPT	2NPT	22	29.53	56.3	55	25	65	70.8	6	52.5 I/D x 1.5	RBM0550	107
M63 x 1.5	M63 x 1.5	16	15	56.3	80	25	95	104	8	76.5 I/D x 2.0	RBM0800	137
2 1/2 NPT	2 1/2 NPT	26	43.46	65.3	80	25	95	104	8	76.5 I/D x 2.0	RBM0800	137
M75 x 1.5	M75 x 1.5	16	15	68.3	80	25	95	104	8	76.5 I/D x 2.0	RBM0800	137
3 NPT	3 NPT	26	45.15	68.3	80	25	95	104	8	76.5 I/D x 2.0	RBM0800	137

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OL7 0NA  
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DO NOT SCALE IF IN DOUBT ASK  
GENERAL TOLERANCES  
LINEAR ± 0.15mm  
ANGULAR ± 0°30'  
UNLESS OTHERWISE STATED

1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2" and 3" BORE DIMENSIONS INCREASED COLUMN F	22/05/13	HC613/044	C
RECESS AND 30 DEGREE CHAMFER ADDED TO ELBOW	14/08/12 AD	HC612/025	B
FIRST ISSUE	09/01/11		A
MODIFICATION	DATE/SIG	DCN	ISSUE

DRN AD  
CHD AJT  
DATE 09/01/11  
UNITS mm

TITLE  
**90° ELBOW SWIVEL**

DRG. No.  
**493**  
SCALE ??? SHEET 1 OF 1