



Connect and Protect

TransTechnical Solutions

Technical Data Sheet

Non-Metallic Systems

Type C90 - Elbow Connector

Technical Characteristics

Conforms to	BSI Kitemark KM-35161 CE Low voltage directive Lloyds Register of Shipping(Type Approval) NF 16-10/12 I4, F2 CEI 11170 LR3 / LR4		
Approvals and Standards	    		
Degree of mechanical protection	High Impact Resistance		
Degree of protection	IP66 - As standard IP67 - As standard IP68 - As standard (4 Bar 30 mins) IP69K - As standard		
UV protection	Very High		
Fitting Characteristics	90° Elbow single piece fitting - Integrated Seal System Fixed external male thread (Locknut supplied with METRIC threads only)		
Application	For insertion into threaded entries & knockouts using a locknut to secure		
Normal operating temperature range	Application	Min Temp	Max Temp
	Static	- 50°C	+120°C
	Dynamic	- 45°C	+120°C
For use with - Conduit Series	Light, Standard and Heavyweight variants of type PA, PI, PR, PADL & PF		
Fire performance	Test Standard		Performance Rating
	BS EN 61386-1 & 23		Approved
	NFF16-101		I4 F2
	ISO 4589-2		24%
	BS EN 60695-2-11		750°C
	UL94		HB
	Self Extinguishing Low smoke & Halo- gen Free		
Chemical resistance & Storage data	See page 5 & 6		
Type of material	Polyamide (Nylon) 66 Body - TPE Seal		

Image



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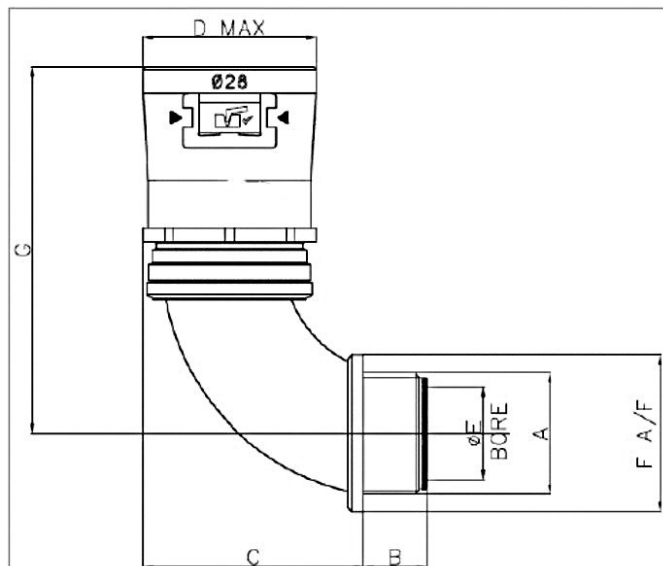
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Dimensional and Thread Data - M Thread

Part No Black Body M Threads	Thread A	Nominal Dimensions (mm)					
		B	C	D	E	F	G
AT13/M16/C90/BLY	M16x1.5	11.5	31.5	21.2	11	22	65.2
AT16/M16/C90/BLY	M16x1.5	11.5	33.1	23.2	11	22	65.2
AT16/M20/C90/BLY	M20x1.5	13	34.2	23.2	11	27	70
AT21/M20/C90/BLY	M20x1.5	13	36.1	30.2	15.4	27	72
AT28/M25/C90/BLY	M25x1.5	15	45.1	37.2	19	32.1	76.4
AT34/M32/C90/BLY	M32x1.5	16	57	44.2	25.9	38.9	86.4
AT42/M40/C90/BLY	M40x1.5	16	73.5	54.2	33.3	47.5	104.7
AT48/M50/C90/BLY	M50x1.5	16	94.5	65	43.8	59	127.6
AT54/M50/C90/BLY	M50x1.5	16	95.1	66.2	43.6	59	127.6
AT54/M63/C90/BLY	M63x1.5	16	95.1	66.2	70	70	127.6

Metric	Standard thread conforming to EN60423 & BS3643		
Thread Size	Ext Thread Outside Diameter	Int Thread Inside Diameter	Pitch
M16	16.0mm	14.4mm	1.5mm
M20	20.0mm	18.4mm	1.5mm
M25	25.0mm	23.4mm	1.5mm
M32	32.0mm	30.4mm	1.5mm
M40	40.0mm	38.4mm	1.5mm
M50	50.0mm	48.4mm	1.5mm
M63	63.0mm	61.4mm	1.5mm

NOTE: Dimensions are nominal



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BS EN 61386 Classification

Fitting	Compression	Impact	Min temp	Max temp	Bending	Electrical	IP solids	IP water	Corrosion	Tensile	Non-flame Propagating	Suspended load
ATS	N/A	4	2	4	N/A	0	6	7	0	1	1	0

Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Tensile Strength	IEC61386-1	2 mins at Specified Value (TPAFS21 Conduit)	Class 1
Tensile Strength		Ultimate Pullout (TPAFS21 Conduit)	240N
Impact Strength @ -45°C	IEC61386-1	No visible damage	Class 1
Impact Strength @ -5°C	IEC61386-1	No visible damage	Class 3
Impact Strength @ 23°C	IEC61386-1	No visible damage	Class 5

Tensile Tests to IEC 61386 gives the minimum classification value only. Actual values will depend on the type and size of the fittings used and will always be greater than the minimum – Impact strength is the minimum classification value at the minimum temperature – actual

Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Dynamic Applications	IEC 61386-23	5000 Operations at MBR 2hrs	-45°C to +120°C
Static Short Term Temp		Temporary Use (3000hrs)	-50°C to +120°C
Static Long Term Temp		Permanent Use (30,000) Hours	-40°C to +105°C

Flammability

Test Type	Method / Standard	Requirement	Result	Unit
Glow Wire	BS EN 60695-2-11	Extinguish within 30s	850°C	°C
Flammability	IEC 61386-1-12	1Kw Burner Flame to Self Extinguish	Pass	Pass/Fail
Oxygen Index - Nylon Body	ISO 4589-2		24.1	%
Ignition Rating - Nylon Body	NF F16-101	I Rating	I4	-
Oxygen Index - Elastomer Seal	ISO 4589-2		20.2	%
Ignition Rating - Elastomer Seal	ISO 4589-2	I Rating	I4	-

Smoke

Test Type	Method / Standard	Requirement	Result	Unit
Fume Rating - Nylon Body	NF F16-101	F Rating	F2	-
Fume Rating - Elastomer Seal	NF F16-101	F Rating	F2	-

Toxicity

Test Type	Method / Standard	Requirement	Result	Unit
Halogen Free	NFX 70-100	< 0.5%	Pass	Pass/Fail

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Pre Test Conditions

Duration	Standard	Temperature	Relative Humidity
168 (Hours)	IEC61386	23 (°C)	50 (%)

Chemical Resistance Chart

Key:		Astm No.1		Diesel oil		Methyl Bromide		Sulphur Dioxide (Gas)
		Astm No.2		Diethylamine		MEK		Sulphuric Acid (10%)
Suitable :		Astm No.3		Ethanol		Nitric Acid (10%)		Sulphuric Acid (70%)
		Acetic Acid (10%)		Ether		Nitric Acid (70%)		Toluene
Limited Suitability :		Acetone		Ethylamine		Oxalic Acid		Transformer Oil
		Aluminium Chloride		Ethylene Glycol		Ozone (Gas)		1,1,1-Trichloroethane
Unsuitable :		Aniline		Ethyl Ethanoate		Paraffin oil		Trichloroethylene
		Benzaldehyde		Freon 32		Petrol		Turpentine
Not Tested :		Benzene		Hydrochloric Acid (10%)		Phenol		Vegetable Oil
		Carbon tetrachloride		Hydrochloric Acid (36%)		Sea Water		Vinyl Acetate
		Chlorine water		Hydrogen Peroxide (35%)		Silver Nitrate		Water
		Chloroform		Hydrogen Peroxide (87%)		Skydrol		White Spirit
		Citric Acid		Lactic Acid		Sodium Chloride		Zinc Chloride
		Copper Sulphate		Lubricating oil		Sodium Hydroxide (10%)		
		Cresol		Methanol		Sodium Hydroxide (60%)		

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.

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