
CATALOG

Harnessflex®

Providing superior protection
for automotive wiring harnesses



Harnessflex offers complete system solutions for the routing and protection of electrical wiring against damage by mechanical abrasion, liquid ingress and corrosion salts.

Their use ensures that vulnerable connectors are not exposed to the elements, impact of foreign bodies and jet washing, which can cause malfunction and failure.

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Introduction

Company overview

Harnessflex was established in 1984 and is a leading designer and manufacturer of flexible conduit systems and connector interfaces, protecting critical electrical and electronic wiring assemblies in the automotive industry.

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Applications

Harnessflex provides harness solutions for:

- Agricultural vehicles
- Construction vehicles
- Engine manufacturers
- Harness Manufacturers
- Truck & bus manufacturers
- Tanker & trailer manufacturers
- Specialist vehicle components
- Military vehicles

Harnessflex offers complete system solutions for the routing and protection of electrical wiring against damage by mechanical abrasion, liquid ingress and corrosion salts. Their use ensures that vulnerable connectors are not exposed to the elements, impact of foreign bodies and jet washing, which can cause malfunction and failure.

Our success has come from our systematic commitment to providing an extensive range of high-grade quality components. Combining a full range of slit and un-slit conduit, fittings and connectors, we also offer a large range of hinged system components and connector interfaces.

Our customers

We work extremely closely with vehicle manufacturers and OEMs in the development of connector interfaces to suit individual applications. Offering bespoke design solution utilising our extensive range of interfaces, mean we can often offer tailored and innovative solutions for a range of applications.

Quality approvals and standards

Manufacturing is controlled in accordance with BS EN ISO 9001 whilst ongoing testing & approval to international standards, which provides any additional confidence required to specify appropriate Harnessflex products across the widest variety of automotive applications including harsh and aggressive environments.

All components comply with End of Life Vehicle (ELV) directive EU2000/53/EC. Harnessflex also comply to ISO14001 - Environmental Standard.



01



02



03



04

Product selection guide

Conduit

Product selection guide



Type	NC	NCV	CTPA	HNC	CPC	PP	DSPP	PKC	HTC
Conduit material	Polyamide 6	FR Polyamide 6	Polyamide 6	Polyamide 12	FR Co-Polyester	Poly-propylene	Modified Poly-propylene	Polyether-etherketone	Modified Co-Polyester
Conduit weight	Standard	Standard	Light	Standard	Medium	Medium	Medium	Standard	Medium
Slit version available	•	•	•	–	–	•	Slit only	–	•

Temperature range

Long term static min.	-40°C	-40°C	-40°C	-45°C	-50°C	-20°C	-20°C	-60°C	-45°C
Long term static max.	+120°C	+120°C	+120°C	+105°C	+135°C	+90°C	+90°C	+260°C	+175°C
Maximum temperature	+150°C	+150°C	+150°C	+120°C	+750°C	+105°C	+105°C	+300°C	+190°C

Characteristics

UV resistance	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■
Flexibility	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■
Fatigue life	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■
Ext. wear resistance	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■
Self extinguishing	•	•	•	•	•	–	•	•	•
Halogen free	•	•	•	•	•	•	•	•	•
Low smoke toxicity	•	•	•	•	•	–	–	•	•

Approvals

CE	•	•	•	•	•	•	•	•	•
UL94 V0	–	•	–	–	–	–	–	•	–
UL94 V2	–	–	–	–	•	–	•	–	–
UL94 HB	•	–	•	•	–	•	–	–	•
RoHS Compliant	•	•	•	•	•	•	•	•	•
ADR Approved	•	–	–	–	–	–	–	–	–
(ELV) EU200/53/EC	•	•	•	•	•	•	•	•	•

Chemical resistance*

IRM 903 (ASTM Oil No.2)	S	S	S	S	S	S	S	S	S
Diesel Oil	S	S	S	S	S	S	S	S	S
Ethylene Glycol (Anti-freeze)	S	S	S	S	S	S	S	S	S
Lubricating Oil	S	S	S	S	S	S	S	S	S
Methyl Alcohol	L	L	L	S	S	S	S	S	S
Parafin Oil	S	S	S	S	S	S	S	S	S
Petrol	S	S	S	S	S	S	S	S	S
Sodium Chloride	S	S	S	S	S	S	S	S	S
Sodium Hydroxide (10%)	S	S	S	S	S	S	S	S	S
Transformer Oil	S	S	S	S	S	S	S	S	S
Urea	S	S	S	S	NT	NT	NT	S	S
Vegetable Oil	S	S	S	S	S	S	S	S	S
Sea (Water)	S	S	S	S	S	S	S	S	S

Key: S = Suitable / L = Limited Suitability / U = Unsustainable / NT = Not Tested / Maximum Performance = ■■■■■ *All chemicals tested for resistance at 23°C

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General purpose conduit

NC Standard weight, Polyamide 6



Description

Flexible standard weight nylon (PA6) conduit is a general-purpose conduit suitable for automotive harness applications. Able to withstand extremes of temperatures and resistant to automotive oils and solvents. It is extremely tough and has a high impact strength and fatigue life.

Applications

NC standard weight is extensively used in harnesses on HGV and off road vehicle applications where a superior protection against impact and mechanical shock is preferred. The conduit is used for both chassis and engine applications and can be used in a wide range of temperatures. Polyamide 6 is highly resistant to all hydrocarbon based oils and fluids and many types of solvents.

NC Standard weight

Materials: Polyamide 6 / Colour: Black (BL), Grey (RAL7031), Red (RAL3031) & Orange (RAL2003)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved (Sealed fittings)	IP40	Hinged fitting	-40°C to +120°C	Very high (Black)
UL94 HB rated	IP67	Sealed fittings	Short term: +150°C	Medium (Grey, Orange and Red)
CE Mark to the Low Voltage Directive	IP68 (2 bar 30 mins)	Sealed fittings	Fire performance	
RoHS Compliant to 2011/65/EU	Degree of mechanical protection		Self extinguishing	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC		High flexibility & fatigue life	Low smoke toxicity	
		Very high abrasion, impact and shock resistance	Halogen free	



Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	NC06	● ● ●	06	4.5	7.1	4.5	5	25 / 50 / 100 / 200
	NC08	● ● ●	08	7.5	10.0	6.5	15	25 / 50 / 100 / 200
	NC10	● ● ●	10	8.5	11.5	8.4	15	25 / 50 / 100 / 200
	NC12	● ● ●	12	10	13.0	9.9	20	25 / 50 / 100 / 200
	NC16	● ● ●	16	13	16.0	11.8	30	25 / 50 / 100 / 200
	NC20	● ● ●	20	17	21.2	16.6	35	25 / 50 / 100 / 200
	NC25	● ● ●	25	22	25.6	21.3	40	25 / 50 / 100 / 200
	NC28	● ● ●	28	23	28.5	22.6	45	25 / 50 / 100 / 200
	NC30	● ● ●	30	26	31.6	26.0	50	25 / 50 / 100 / 200
	NC32	● ● ●	32	29	34.5	28.8	55	25 / 50 / 100 / 200
	NC40	● ● ●	40	36	42.5	34.8	65	25 / 50 / 100 / 200
	NC50	● ● ●	50	48	54.5	46.9	70	25 / 50 / 100 / 200

To order quote part number & reel length, e.g. NC06/100m

For colours other than standard black also add colour, i.e. /OR for Orange conduit or /RD for Red conduit, e.g. NC06/OR/100m

Bulk coil lengths over 200m are also available

General purpose conduit

NC Slit standard weight, Polyamide 6



Applications

NC standard weight is extensively used in harnesses on HGV, off road vehicles and marine applications where a superior protection against impact and mechanical shock is preferred.

The conduit is used for both chassis and engine applications and can be used in a wide range of temperatures. Polyamide 6 is highly resistant to all hydrocarbon based oils and fluids and many types of solvents.

NC Slit standard weight

Materials: Polyamide 6 / Colour: Black (BL), Grey (RAL7031), Red (RAL3031) & Orange (RAL2003)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-40°C to +120°C	Very high (Black)
UL94 HB rated	Degree of mechanical protection		Short term: +150°C	Medium (Grey, Orange and Red)
RoHS Compliant to 2011/65/EU	High flexibility & fatigue life		Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Very high abrasion, impact and shock resistance		Self extinguishing	
			Low smoke toxicity	
			Halogen free	



Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	NC06-S	● ● ●	06	4.5	7.1	4.5	5	25 / 50 / 100 / 200
	NC08-S	● ● ●	08	7.5	10.0	6.5	15	25 / 50 / 100 / 200
	NC10-S	● ● ●	10	8.5	11.5	8.4	15	25 / 50 / 100 / 200
	NC12-S	● ● ●	12	10	13.0	9.9	20	25 / 50 / 100 / 200
	NC16-S	● ● ●	16	13	16.0	11.8	30	25 / 50 / 100 / 200
	NC20-S	● ● ●	20	17	21.2	16.6	35	25 / 50 / 100 / 200
	NC25-S	● ● ●	25	22	25.6	21.3	40	25 / 50 / 100 / 200
	NC28-S	● ● ●	28	23	28.5	22.6	45	25 / 50 / 100 / 200
	NC32-S	● ● ●	32	29	34.5	28.8	55	25 / 50 / 100 / 200
	NC40-S	● ● ●	40	36	42.5	34.8	65	25 / 50 / 100 / 200
	NC50-S	● ● ●	50	48	54.5	46.9	70	25 / 50 / 100 / 200

To order quote part number & reel length, e.g. NC06-S/100m

For colours other than standard Black also add colour, i.e. /OR for Orange conduit or /RD for Red conduit, e.g. NC06/OR/100m

Bulk coil lengths over 200m are also available

Extra flexible conduit

CTPA Lightweight, Polyamide 6



Applications

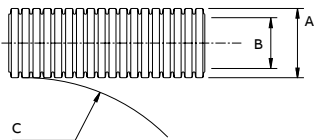
General purpose, lightweight loom applications.

CTPA Lightweight

Materials: Polyamide 6 / Colour: Black (BL), Grey (RAL7031), Red (RAL3031) & Orange (RAL2003)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-40°C to +120°C	Very high (Black)
UL94 HB rated	IP67	Sealed fittings	Short term: +150°C	Medium (Red and Orange)
RoHS Compliant to 2011/65/EU	Degree of mechanical protection		Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	High flexibility & fatigue life		Self extinguishing	
	Very high abrasion, impact and shock resistance		Low smoke toxicity	
			Halogen free	

Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)	
			NC	NW					
	Solid								
	CTPA08		08	7.5	10.0	6.5	10	25 / 50 / 100 / 200	
	CTPA10		10	8.5	11.5	8.7	15	25 / 50 / 100 / 200	
	CTPA12		12	10	13.0	10.1	20	25 / 50 / 100 / 200	
	CTPA16		16	13	16.0	11.8	35	25 / 50 / 100 / 200	
	CTPA20		20	17	21.2	16.9	45	25 / 50 / 100 / 200	
	CTPA25		25	22	25.6	21.3	45	25 / 50 / 100 / 200	
	CTPA28		28	23	28.5	23.1	45	25 / 50 / 100 / 200	
	CTPA32		32	29	34.5	28.8	55	25 / 50 / 100 / 200	
	CTPA40		40	36	42.5	35.0	65	25 / 50 / 100 / 200	
	CTPA50		50	48	54.5	46.0	90	25 / 50 / 100 / 200	
	Slit								
CTPA08		08	7.5	10.0	6.5	10	25 / 50 / 100 / 200		
CTPA10		10	8.5	11.5	8.7	15	25 / 50 / 100 / 200		
CTPA12		12	10	13.0	10.1	20	25 / 50 / 100 / 200		
CTPA16		16	13	16.0	11.8	35	25 / 50 / 100 / 200		
CTPA20		20	17	21.2	16.9	45	25 / 50 / 100 / 200		
CTPA25		25	22	25.6	21.3	45	25 / 50 / 100 / 200		
CTPA28		28	23	28.5	23.1	45	25 / 50 / 100 / 200		
CTPA32		32	29	34.5	28.8	55	25 / 50 / 100 / 200		
CTPA40		40	36	42.5	35.0	65	25 / 50 / 100 / 200		
CTPA50		50	48	54.5	46.0	90	25 / 50 / 100 / 200		

To order quote part number & reel length, e.g. CTPA08/100m

For colours other than standard Black also add colour, i.e. /OR for Orange conduit or /RD for Red conduit, e.g. NC06/OR/100m

Bulk coil lengths over 200m are also available

Low temperature, extra flexible conduit

HNC Standard weight, Polyamide 12



Applications

HNC Conduit is particularly used in applications requiring repeated flexing such as dynamic couplings, i.e. hydraulic arms and trailer couplings or rapid continuous motion, demanding high fatigue life and extra flexibility even in low temperature environments. Highly resistant to low temperature impact.

HNC Standard weight conduit is designed for connection to all Harnessflex hinged and sealed fittings. Contact us for slit conduit options.

HNC Standard Weight

Materials: Polyamide 12 / Colour: Black (BL)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-40°C to +105°C	Very high
UL94 HB rated	IP67	Sealed fittings	Short term: -50°C to +120°C	
RoHS Compliant to 2011/65/EU	IP68 (2 bar 30 mins)	Sealed fittings		
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Degree of mechanical protection		Fire performance	
	Very high flexibility & fatigue life		Self extinguishing	
	Very high abrasion, impact and shock resistance at low temperatures		Low smoke toxicity	
			Halogen free	



Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	HNC08	● ● ●	08	7.5	10.0	6.2	15	25 / 50 / 100 / 200
	HNC12	● ● ●	12	10	13.0	9.9	25	25 / 50 / 100 / 200
	HNC16	● ● ●	16	13	15.8	11.7	30	25 / 50 / 100 / 200
	HNC20	● ● ●	20	17	21.2	16.6	35	25 / 50 / 100 / 200
	HNC25	● ● ●	25	22	25.3	21.0	40	25 / 50 / 100 / 200
	HNC28	● ● ●	28	23	28.5	21.7	45	25 / 50 / 100 / 200
	HNC32	● ● ●	32	29	34.5	27.7	55	25 / 50 / 100 / 200
	HNC40	● ● ●	40	36	42.5	35.5	60	25 / 50 / 100 / 200
	HNC50	● ● ●	50	48	54.5	46.6	70	25 / 50 / 100 / 200

To order quote part number & reel length, e.g. HNC08/100m
Bulk coil lengths over 200m are also available

Flame retardant conduit

NCV Standard weight, FR Polyamide 6

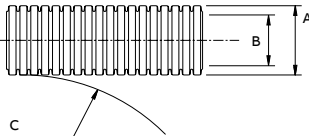


NCV Standard weight

Materials: FR Polyamide 6 / Colour: Black (BL)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-40°C to +120°C	Very high
UL94 V0 rated	IP67	Sealed fittings	Short term: +150°C	
RoHS Compliant to 2011/65/EU	IP68 (2 bar 30 mins)	Sealed fittings	Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Degree of mechanical protection		Self extinguishing	
	High flexibility & fatigue life		Low smoke toxicity	
	Very high abrasion, impact and shock resistance		Halogen free	
			UL94 V0 Rated	

Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	Solid							
	NCV06	● ● ●	06	4.5	7.1	4.5	5	25 / 50 / 100 / 200
	NCV08	● ● ●	08	7.5	10.0	6.5	15	25 / 50 / 100 / 200
	NCV10	● ● ●	10	8.5	11.5	8.4	15	25 / 50 / 100 / 200
	NCV12	● ● ●	12	10	13.0	9.9	20	25 / 50 / 100 / 200
	NCV16	● ● ●	16	13	16.0	11.8	30	25 / 50 / 100 / 200
	NCV20	● ● ●	20	17	21.2	16.6	35	25 / 50 / 100 / 200
	NCV25	● ● ●	25	22	25.6	21.3	40	25 / 50 / 100 / 200
	NCV28	● ● ●	28	23	28.5	22.6	45	25 / 50 / 100 / 200
	NCV32	● ● ●	32	29	34.5	28.8	55	25 / 50 / 100 / 200
	Slit							
	NCV06-S	● ● ●	06	4.5	7.1	4.5	5	25 / 50 / 100 / 200
	NCV08-S	● ● ●	08	7.5	10.0	6.5	15	25 / 50 / 100 / 200
NCV10-S	● ● ●	10	8.5	11.5	8.4	15	25 / 50 / 100 / 200	
NCV12-S	● ● ●	12	10	13.0	9.9	20	25 / 50 / 100 / 200	
NCV16-S	● ● ●	16	13	16.0	11.8	30	25 / 50 / 100 / 200	
NCV20-S	● ● ●	20	17	21.2	16.6	35	25 / 50 / 100 / 200	
NCV25-S	● ● ●	25	22	25.6	21.3	40	25 / 50 / 100 / 200	
NCV28-S	● ● ●	28	23	28.5	22.6	45	25 / 50 / 100 / 200	
NCV32-S	● ● ●	32	29	34.5	28.8	55	25 / 50 / 100 / 200	

To order quote part number & reel length, e.g. NC06/100m. Bulk coil lengths over 200m are also available

For colours other than standard Black also add colour, i.e. /OR for Orange conduit or /RD for Red conduit, e.g. NC06/OR/100m

Flame retardant conduit

CPC Medium weight, FR Co-Polyester



Description

A low smoke, low toxicity conduit, CP has excellent high and low temperature properties, making it ideal for harness applications such as engine, body section and chassis. CPC is resistant to hydrocarbons, greases, fuels and oils. Contact us for slit conduit options.

CPC Medium weight

Materials: FR Co-Polyester / Colour: Black (BL)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-50°C to +135°C	Very high
UL94 V2 rated	IP67	Sealed fittings	Short term: +175°C	
RoHS Compliant to 2011/65/EU	Degree of mechanical protection		Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Very high flexibility & fatigue life		Self extinguishing	
	Very high abrasion, impact and shock resistance at low temperatures		Halogen free	



Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	CPC08	● ● ●	08	7.5	9.8	6.2	20	25 / 50 / 100 / 200
	CPC12	● ● ●	12	10	13.0	9.4	25	25 / 50 / 100 / 200
	CPC16	● ● ●	16	13	16.0	11.0	30	25 / 50 / 100 / 200
	CPC20	● ● ●	20	17	21.2	16.1	40	25 / 50 / 100 / 200
	CPC25	● ● ●	25	22	25.3	21.0	45	25 / 50 / 100 / 200
	CPC28	● ● ●	28	23	28.5	22.5	45	25 / 50 / 100 / 200
	CPC32	● ● ●	32	29	34.5	27.2	55	25 / 50 / 100 / 200
	CPC40	● ● ●	40	36	42.5	34.2	60	25 / 50 / 100 / 200

To order quote part number & reel length, e.g. CPC08/100m
Bulk coil lengths over 200m are also available

Polypropylene conduit

PP Medium weight, Polypropylene



Applications

PP is particularly used in lighter applications where compression strength and LFH is not so important. The main property of this conduit is acid resistance.

PP is designed for connection to all Harnessflex Sealed and Hinged system fittings.

PP Medium weight

Materials: Modified Polypropylene / Colour: Black (BL)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-20°C to +90°C	High
UL94 HB rated	IP67	Sealed fittings	Short term: +105°C	
RoHS Compliant to 2011/65/EU	Degree of mechanical protection		Fire performance	
Conforms with End of Life Vehicledirective (ELV) EU200/53/EC	High flexibility and acid resistance		Halogen free	
	Medium fatigue life, impact and shock resistance			



Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	PP08	● ● ●	08	7.5	10.0	6.4	15	25 / 50 / 100 / 200
	PP10	● ● ●	10	8.5	11.5	8.6	20	25 / 50 / 100 / 200
	PP12	● ● ●	12	10	13.0	9.6	25	25 / 50 / 100 / 200
	PP16	● ● ●	16	13	16.2	11.2	35	25 / 50 / 100 / 200
	PP20	● ● ●	20	17	21.2	16.9	35	25 / 50 / 100 / 200
	PP25	● ● ●	25	22	25.6	21.5	40	25 / 50 / 100 / 200
	PP28	● ● ●	28	23	28.5	23.2	45	25 / 50 / 100 / 200
	PP32	● ● ●	32	29	34.5	29.1	55	25 / 50 / 100 / 200

To order quote part number & reel length, e.g. PP08/100m

For slit conduit options add -S to part number, e.g. PP08-S/100m

Bulk coil lengths over 200m are also available

Modified Polypropylene conduit

DSPP Deep section, medium weight, Modified Polypropylene



Applications

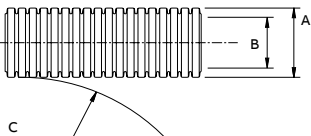
DSPP has a deep section to maintain the conduit shape during bending. Deep Section Conduits are supplied in slit form to facilitate rapid cable installation and are designed for connection to all Harnessflex hinged fittings.

DSPP Deep section medium weight

Materials: Modified Polypropylene / Colour: Black (BL)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-20°C to +90°C	Very high
UL94 V2 rated		Degree of mechanical protection	Short term: +105°C	
RoHS Compliant to 2011/65/EU	High flexibility and acid resistance		Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Medium fatigue life, impact and shock resistance			
CE LOW VOLTAGE DIRECTIVE				

Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	DSPP12	● ● ●	12	10	13.0	8.5	18	25 / 50 / 100 / 200
	DSPP16	● ● ●	16	13	16.2	11.1	32	25 / 50 / 100 / 200
	DSPP20	● ● ●	20	17	21.2	15.0	40	25 / 50 / 100 / 200
	DSPP28	● ● ●	28	23	28.5	21.7	50	25 / 50 / 100 / 200
	DSPP32	● ● ●	32	29	34.5	27.7	58	25 / 50 / 100 / 200
	DSPP40	● ● ●	40	36	42.5	34.6	80	25 / 50 / 100 / 200

To order quote part number & reel length, e.g. DSPP12/100m

Bulk coil lengths over 200m are also available

Super low fire hazard conduit

PKC Standard weight, Polyketone



Description

Super Low Fire Hazard PK is a standard weight conduit, which offers superior mechanical strength as well as high radiation and chemical protection in extreme temperatures.

PKC Standard weight

Materials: Polypropylene / Colour: Black (BL)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	-60°C to +260°C	Very high
UL94 V0 rated	IP67	Sealed fittings	Short term: +300°C	
RoHS Compliant to 2011/65/EU	IP68 (2 bar 30 mins)	Sealed fittings		
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Degree of mechanical protection		Fire performance	
	High flexibility		Self extinguishing	
	Very high fatigue life & abrasion, impact and shock resistance		Halogen free	
			UL94 V0 Rated	



Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	PKC12	● ● ●	12	10	13.0	10.0	35	25 / 50 / 100 / 200
	PKC16	● ● ●	16	13	15.8	11.9	45	25 / 50 / 100 / 200
	PKC20	● ● ●	20	17	21.2	16.6	60	25 / 50 / 100 / 200
	PKC28	● ● ●	28	23	28.5	21.7	65	25 / 50 / 100 / 200
	PKC32	● ● ●	32	29	34.5	27.7	80	25 / 50 / 100 / 200

To order quote part number & reel length, e.g. PKC12/25m
Bulk coil lengths over 200m are also available

High temperature conduit

HTC High temperature, Modified Co-Polyester



Applications

This conduit has been developed for use in where elevated temperatures occur. Suitable for long term exposure, up to 190°C.

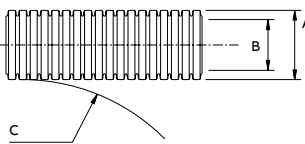
HTC Medium weight

Materials: Modified Co-Polyester / Colour: Black (BL)

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	TempGuard & standard hinged fittings	-45°C to +175°C	Very high
RoHS Compliant to 2011/65/EU	IP67	Sealed fittings	Short term: +190°C	
Conforms with End of Life Vehicle directive (ELV) EU2000/53/EC	Degree of mechanical protection		Fire performance	
	Very high flexibility & fatigue life		Self extinguishing	
	Very high elevated temperature, abrasion, impact and shock resistance		Halogen free	



Dimensions

	Part No.	Colour availability RD / OR / GR	Conduit size		Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW				
	Solid							
	HTC08	● ● ●	08	7.5	9.8	6.2	20	25 / 50 / 100 / 200
	HTC10	● ● ●	10	8.5	11.5	8.7	15	25 / 50 / 100 / 200
	HTC12	● ● ●	12	10	13.0	9.4	25	25 / 50 / 100 / 200
	HTC16	● ● ●	16	13	16.0	11.0	30	25 / 50 / 100 / 200
	HTC20	● ● ●	20	17	21.2	16.1	40	25 / 50 / 100 / 200
	HTC25*	● ● ●	25	22	25.3	21.0	45	25 / 50 / 100 / 200
	HTC28*	● ● ●	28	23	28.5	22.5	45	25 / 50 / 100 / 200
	HTC32*	● ● ●	32	29	34.5	27.2	55	25 / 50 / 100 / 200
	Slit							
HTC08-S	● ● ●	08	7.5	9.8	6.2	20	25 / 50 / 100 / 200	
HTC10-S	● ● ●	10	8.5	11.5	8.7	15	25 / 50 / 100 / 200	
HTC12-S	● ● ●	12	10	13.0	9.4	25	25 / 50 / 100 / 200	
HTC16-S	● ● ●	16	13	16.0	11.0	30	25 / 50 / 100 / 200	
HTC20-S	● ● ●	20	17	21.2	16.1	40	25 / 50 / 100 / 200	
HTC25-S*	● ● ●	25	22	25.3	21.0	45	25 / 50 / 100 / 200	
HTC28-S*	● ● ●	28	23	28.5	22.5	45	25 / 50 / 100 / 200	
HTC32-S*	● ● ●	32	29	34.5	27.2	55	25 / 50 / 100 / 200	

*Parts numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

To order quote part number & reel length, e.g. HTC08/50m

Bulk coil lengths over 200m are also available



Hinged fittings

Introduction

Hinged fittings are designed to protect against ingress, excessive cable strain and mechanical abrasion.

Quality approvals and standards

Manufacturing is controlled in accordance with BS EN ISO 9001 whilst ongoing testing & approval to international standards, provides additional confidence in specifying Harnessflex products across a variety of automotive applications.

All components comply with End of Life Vehicle (ELV) directive EU2000/53/EC. Harnessflex also comply to ISO14001 - Environmental Standard.

Design features include:

1. Radiussed internal form of conduit protects cables from abrasion
2. Internal backstop (found on all hinged fittings) alleviates any potential problems caused by unevenly cut conduit and ensures correct assembly
3. **Outlets can be blanked.** Certain outlets can be blanked using BPST08, BCH12 & BCH20
4. **Outlets can be reduced.** Certain outlets can be reduced using **?????, ?????, ?????** providing multiple conduit outlets

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +120°C	Very high
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU2000/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	



Hinged fittings

External hinged joiner



External hinged joiner

One-piece joiner and elbow hinged fittings allow a variety of conduit size variations. These fittings are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore. Can be used as an in-line reducer as well as an enlarger.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

External hinged joiner

	Part No.	Conduit size (NC)		Conduit size (NW)		Nominal dimensions (mm)			
		A	B	A	B	C	D	E	F
	JPS1208	12	08	10	7.5	38	16	10	10
	JPS1212	12	12	10	10	36	16	10	10
	JPS1612	16	12	13	10	36	21	10	10
	JPS1616	16	16	13	13	36	21	10	10
	JPS2008	20	08	17	7.5	38	26	12	10
	JPS2012	20	12	17	10	38	26	12	10
	JPS2016	20	16	17	13	38	26	12	10
	JPS2020	20	20	17	17	38	26	12	12
	JPS2520	25	20	22	17	39	33	12	12
	JPS2525	25	25	22	22	39	33	13	13
	JPS2820	28	20	23	17	39	33	13	13
	JPS2825	28	25	23	22	39	33	13	13
	JPS2828	28	28	23	23	39	33	13	13

Hinged fittings

External hinged elbow



External hinged elbow

One-piece joiner and elbow hinged fittings allow a variety of conduit size variations. These fittings are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore. Can be used as an in-line reducer as well as an enlarger.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

External hinged elbow

	Part No.	Conduit size (NC)		Conduit size (NW)		Nominal dimensions (mm)				
		A	B	A	B	C	D	E	F	G
	EPS08S08*	08	08	7.5	7.5	38	29	20	10	10
	EPS12S12*	12	12	10	10	38	29	20	10	10
	EPS1608	16	08	10	7.5	34	34	21	10	10
	EPS1612	16	12	13	10	34	34	21	10	10
	EPS1616	16	16	13	13	34	34	21	10	10
	EPS2008	20	08	17	7.5	41	39	26	12	10
	EPS2012	20	12	17	10	41	41	26	10	10
	EPS2016	20	16	17	13	41	41	26	12	10
	EPS2020	20	20	17	17	41	41	26	12	12
	EPS2520	25	20	22	17	48	48	33	13	12
	EPS2525	25	25	22	22	48	48	33	13	13
	EPS2812	28	12	23	10	48	48	33	13	10
	EPS2816	28	16	23	13	48	48	33	13	10
	EPS2820	28	20	23	17	48	48	33	13	12
	EPS2825	28	25	23	22	48	48	33	13	13
	EPS2828	28	28	23	23	48	48	33	13	13
	EPS3232**	32	32	29	29	60	60	38	12	12
	EPS4040**	40	40	36	36	67	67	47	15	15

*Swivel fitting

**Split fitting not hinged

Hinged fittings

External hinged Y-piece



External hinged Y-piece

One-piece asymmetrical 3 junction fittings allow a variety of conduit size variations. These fittings are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

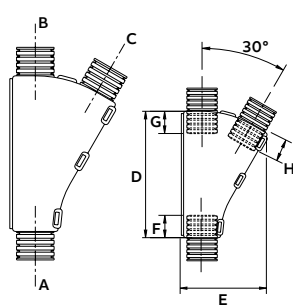
4. Integral retaining clips

Retains conduit in position during assembly.

External hinged Y-piece

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal dimensions (mm)				
		A	B	C	A	B	C	D	E	F	G	H
	YPS080808	08	08	08	7.5	7.5	7.5	55	37	10	10	10
	YPS080812	08	08	12	7.5	7.5	10	55	37	10	10	10
	YPS081208	08	12	08	7.5	10	7.5	55	37	10	10	10
	YPS101010	10	10	10	8.5	8.5	8.5	55	37	10	10	10
	YPS120808	12	08	08	10	7.5	7.5	55	37	10	10	10
	YPS120810	12	08	10	10	7.5	8.5	55	37	10	10	10
	YPS120812	12	08	12	10	7.5	10	55	37	10	10	10
	YPS121010	12	10	10	10	8.5	8.5	55	37	10	10	10
	YPS121208	12	12	08	10	10	7.5	55	37	10	10	10
	YPS121210	12	12	10	10	10	8.5	55	37	10	10	10
	YPS121212	12	12	12	10	10	10	55	37	10	10	10
	YPS160812	16	8	12	13	7.5	10	55	37	10	10	10
	YPS161010	16	10	10	13	8.5	8.5	55	40	10	10	10
	YPS161208	16	12	08	13	10	7.5	55	40	10	10	10
	YPS161210	16	12	10	13	10	8.5	55	40	10	10	10
	YPS161212	16	12	12	13	10	10	55	40	10	10	10
	YPS161608	16	16	08	13	13	7.5	55	40	10	10	10
	YPS161610	16	16	10	13	13	8.5	55	40	10	10	10
	YPS161612	16	16	12	13	13	10	55	40	10	10	10
	YPS200808	20	08	08	17	7.5	7.5	43	37	12	10	10
	YPS201208	20	12	08	17	10	7.5	43	37	12	10	10
	YPS201210	20	12	10	17	10	8.5	43	37	12	10	10
	YPS201212	20	12	12	17	10	10	43	37	12	10	10

External hinged Y-piece

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal Dimensions (mm)				
		A	B	C	A	B	C	D	E	F	G	H
	YPS201608	20	16	08	17	13	7.5	43	37	12	10	10
	YPS201612	20	16	12	17	13	10	48	40	12	10	10
	YPS201616	20	16	16	17	13	13	48	40	12	10	10
	YPS202008	20	20	08	17	17	7.5	56	45	12	10	10
	YPS202010	20	20	10	17	17	8.5	58	45	12	12	10
	YPS202012	20	20	12	17	17	10	58	45	12	12	10
	YPS202016	20	20	16	17	17	13	64	48	12	12	10
	YPS252020	25	20	20	22	17	17	54	49	10	12	12
	YPS252508	25	25	08	22	22	7.5	67	56	10	12	10
	YPS252510	25	25	10	22	22	8.5	67	56	10	13	10
	YPS252512	25	25	12	22	22	10	67	56	10	13	10
	YPS252516	25	25	16	22	22	13	67	56	10	13	10
	YPS252520	25	25	20	22	22	17	77	60	10	13	12
	YPS252525	25	25	25	22	22	22	91	67	10	13	13
	YPS282012	28	20	12	23	17	10	54	49	10	13	10
	YPS282016	28	20	16	23	17	13	54	49	10	12	10
	YPS282020	28	20	20	23	17	17	54	49	10	12	12
	YPS282512	28	25	12	23	22	10	67	56	10	12	10
	YPS282520	28	25	20	23	22	17	77	60	10	13	12
	YPS282525	28	25	25	23	22	22	91	67	10	13	13
	YPS282808	28	28	08	23	23	7.5	67	56	10	13	10
	YPS282812	28	28	12	23	23	10	67	56	10	13	10
	YPS282816	28	28	16	23	23	13	67	56	10	13	10
	YPS282820	28	28	20	23	23	17	77	60	10	13	12
	YPS282825	28	28	25	23	23	22	91	67	12	13	13
	YPS282828	28	28	28	23	23	23	91	67	12	13	13
	YPS322516	32	25	16	29	22	13	100	75	12	13	10
	YPS322520	32	25	20	29	22	17	100	76	12	13	12
	YPS322525	32	25	25	29	22	22	100	79	12	13	13
	YPS322532	32	25	32	29	22	29	100	82	12	13	13
	YPS323216	32	32	16	29	29	13	100	75	12	13	10
	YPS323220	32	32	20	29	29	17	100	76	12	13	12
	YPS323225	32	32	25	29	29	22	100	79	12	13	13
	YPS323232	32	32	32	29	29	29	100	82	13	13	13
	YPS403212*	40	32	12	36	29	10	133	91	15	12	10
	YPS403216*	40	32	16	36	29	13	133	92	15	12	10
	YPS403225*	40	32	25	36	29	22	133	92	15	12	12
	YPS403228*	40	32	28	36	29	23	133	92	15	12	12
	YPS404012*	40	40	12	36	36	10	135	93	15	15	10
	YPS404016*	40	40	16	36	36	13	135	93	15	15	10
	YPS404025*	40	40	25	36	36	22	135	93	15	15	12
	YPS404028*	40	40	28	36	36	23	135	93	15	15	12
	YPS404032*	40	40	32	36	36	29	135	96	15	15	12
	YPS404040*	40	40	40	36	36	36	135	100	15	15	15

*Size 40 YPS fittings are not hinged. They are a two part fitting

Hinged fittings

External hinged T-piece



External hinged T-piece

One-piece symmetrical 3 junction fittings allow a variety of conduit size variations. These fittings are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

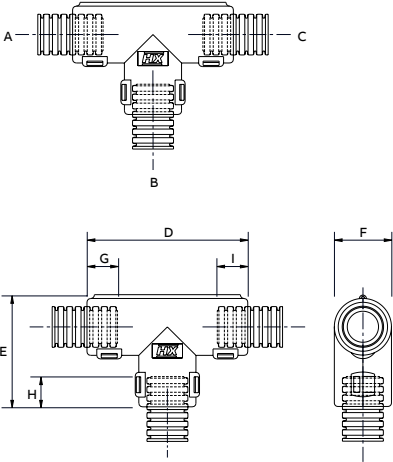
4. Integral retaining clips

Retains conduit in position during assembly.

External hinged T-piece

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal dimensions (mm)					
		A	B	C	A	B	C	D	E	F	G	H	I
	TPS080808	08	08	08	7.5	7.5	7.5	45.2	31.1	17	10	10	10
	TPS081208	08	12	08	7.5	10	7.5	45.2	31.1	17	10	10	10
	TPS081612	08	16	12	7.5	13	10	45.2	31.1	17	10	10	10
	TPS100808	10	08	08	8.5	7.5	7.5	45.2	31.1	17	10	10	10
	TPS100810	10	08	10	8.5	7.5	8.5	45.2	31.1	17	10	10	10
	TPS101010	10	10	10	8.5	8.5	8.5	45.2	31.1	17	10	10	10
	TPS101012	10	10	12	8.5	8.5	13	45.2	31.1	17	10	10	10
	TPS120808	12	08	08	10	7.5	7.5	45.2	31.1	17	10	10	10
	TPS120812	12	08	12	10	7.5	10	45.2	31.1	17	10	10	10
	TPS121010	12	10	10	10	8.5	8.5	45.2	31.1	17	10	10	10
	TPS121012	12	10	12	10	8.5	10	45.2	31.1	17	10	10	10
	TPS121208	12	12	08	10	10	7.5	45.2	31.1	17	10	10	10
	TPS121210	12	12	10	10	10	7.5	45.2	31.1	17	10	10	10
	TPS121212	12	12	12	10	10	10	45.2	31.1	17	10	10	10
	TPS121612	12	16	12	10	13	10	45.2	31.1	21	10	10	10
	TPS160808	16	8	8	13	7.5	7.5	49.1	34.8	21	10	10	10
	TPS160812	16	8	12	13	7.5	10	49.1	34.8	21	10	10	10
	TPS160816	16	8	16	13	7.5	13	49.1	34.8	21	10	10	10
	TPS161012	16	10	12	13	8.5	10	49.1	34.8	21	10	10	10
	TPS161016	16	10	16	13	8.5	13	49.1	34.8	21	10	10	10
	TPS161212	16	12	12	13	10	10	49.1	34.8	21	10	10	10
	TPS161216	16	12	16	13	10	13	49.1	34.8	21	10	10	10
	TPS161608	16	16	8	13	13	7.5	49.1	34.8	21	10	10	10

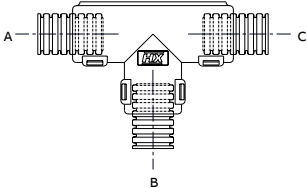
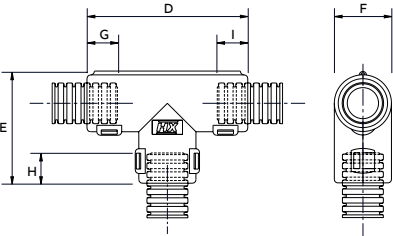
External hinged T-piece

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal dimensions (mm)					
		A	B	C	A	B	C	D	E	F	G	H	I
	TPS161612	16	16	12	13	13	10	49.1	34.8	21	10	10	10
	TPS161616	16	16	16	13	13	13	49.1	34.8	21	10	10	10
	TPS162012	16	20	12	13	17	10	49.1	34.8	21	10	10	10
	TPS162016	16	20	16	13	17	13	49.1	34.8	21	10	10	10
	TPS200816	20	08	16	17	7.5	13	56.5	41.0	26	12	10	10
	TPS200820	20	08	20	17	7.5	17	56.5	41.0	26	12	10	12
	TPS201016	20	10	16	17	8.5	13	56.5	41.0	26	12	10	10
	TPS201020	20	10	20	17	8.5	17	56.5	41.0	26	12	10	12
	TPS201216	20	12	16	17	10	13	56.5	41.0	26	12	10	10
	TPS201220	20	12	20	17	10	17	56.5	41.0	26	12	10	12
	TPS201612	20	16	12	17	13	10	56.5	41.0	26	12	10	10
	TPS201616	20	16	16	17	13	13	56.5	41.0	26	12	10	10
	TPS201620	20	16	20	17	13	17	56.5	41.0	26	12	10	12
	TPS202012	20	20	12	17	17	10	56.5	41.0	26	12	12	10
	TPS202016	20	20	16	17	17	13	56.5	41.0	26	12	12	10
	TPS202020	20	20	20	17	17	17	56.5	41.0	26	12	12	12
	TPS202516	20	25	16	17	22	13	64.5	48.5	33	12	13	10
	TPS250820	25	8	20	22	7.5	17	64.5	48.5	33	13	10	12
	TPS250825	25	8	25	22	7.5	22	64.5	48.5	33	13	10	13
	TPS251025	25	10	25	22	8.5	22	64.5	48.5	33	13	10	13
	TPS251220	25	12	20	22	10	17	64.5	48.5	33	13	10	12
	TPS251225	25	12	25	22	10	22	64.5	48.5	33	13	10	13
	TPS251620	25	16	20	22	13	17	64.5	48.5	33	13	12	12
	TPS251625	25	16	25	22	13	22	64.5	48.5	33	13	12	13
	TPS252020	25	20	20	22	17	17	64.5	48.5	33	13	13	12
	TPS252025	25	20	25	22	17	22	64.5	48.5	33	13	13	13
	TPS252520	25	25	20	22	22	17	64.5	48.5	33	13	10	12
	TPS252525	25	25	25	22	22	22	64.5	48.5	33	13	10	13
	TPS280820	28	8	20	23	7.5	17	64.5	48.5	33	13	10	12
	TPS280828	28	8	28	23	7.5	23	64.5	48.5	33	13	10	13
	TPS281020	28	10	20	23	8.5	17	64.5	48.5	33	13	10	12
	TPS281028	28	10	28	23	8.5	23	64.5	48.5	33	13	10	13
	TPS281220	28	12	20	23	10	17	64.5	48.5	33	13	10	13
	TPS281225	28	12	25	23	10	22	64.5	48.5	33	13	10	12
	TPSS281228	28	12	28	23	10	23	64.5	48.5	33	13	10	13
	TPS281620	28	16	20	23	13	17	64.5	48.5	33	13	10	12
	TPS281625	28	16	25	23	13	22	64.5	48.5	33	13	10	13
	TPS281628	28	16	28	23	13	23	64.5	48.5	33	13	10	13
	TPS282020	28	20	20	23	17	17	64.5	48.5	33	13	12	12
	TPS282025	28	20	25	23	17	22	64.5	48.5	33	13	12	13
	TPS282028	28	20	28	23	17	23	64.5	48.5	33	13	12	13
	TPS282525	28	25	25	23	22	22	64.5	48.5	33	13	13	13
	TPS282528	28	25	28	23	22	23	64.5	48.5	33	13	13	13
	TPS282528	28	25	28	23	22	23	64.5	48.5	33	13	13	13

Hinged fittings

External hinged T-piece (continued)

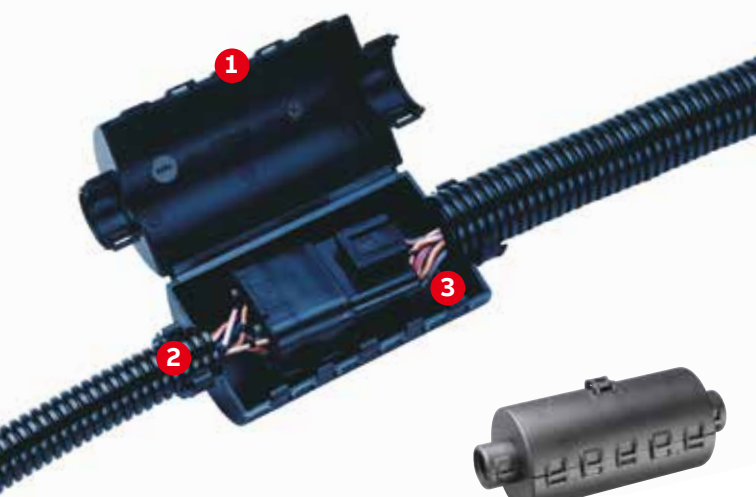
External hinged T-piece

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal dimensions (mm)					
		A	B	C	A	B	C	D	E	F	G	H	I
	TPS282828	28	28	28	23	23	23	64.5	48.5	33	13	13	13
	TPS300830	30	8	30	26	7.5	26	72.0	55.3	39	12	10	12
	TPS301230	30	12	30	26	10	26	72.0	55.3	39	12	10	12
	TPS301625	30	16	25	26	13	22	72.0	55.3	39	12	10	12
	TPS301630	30	16	30	26	13	26	72.0	55.3	39	12	10	12
	TPS302020	30	20	20	26	17	17	72.0	55.3	39	12	12	12
	TPS302025	30	20	25	26	17	22	72.0	55.3	39	12	12	12
	TPS302030	30	20	30	26	17	26	72.0	55.3	39	12	12	12
	TPS302525	30	25	25	26	22	22	72.0	55.3	39	12	12	12
	TPS303025	30	30	25	26	26	22	72.0	55.3	39	12	12	12
	TPS303030	30	30	30	26	26	26	72.0	55.3	39	12	12	12
	TPS321625	32	16	25	29	13	22	72.0	55.3	39	13	10	13
	TPS321632	32	16	32	29	13	29	72.0	55.3	39	13	10	13
	TPS322532	32	25	32	29	22	29	72.0	55.3	39	13	10	13
	TPS322025	32	20	25	29	17	22	72.0	55.3	39	13	12	13
	TPS322028	32	20	28	29	17	23	72.0	55.3	39	13	12	13
	TPS322032	32	20	32	29	17	29	72.0	55.3	39	13	12	13
	TPS322525	32	25	25	29	22	22	72.0	55.3	39	13	13	13
	TPS322532	32	25	32	29	22	29	72.0	55.3	39	13	13	13
	TPS323225	32	32	25	29	29	22	72.0	55.3	39	13	13	13
	TPS323232	32	32	32	29	29	29	72.0	55.3	39	13	13	13
	TPS401232*	40	12	32	36	10	29	85.0	65.0	47	15	10	12
	TPS401240*	40	12	40	36	10	36	87.0	65.0	47	15	10	15
	TPS401632*	40	16	32	36	13	29	85.0	65.0	47	15	10	12
	TPS401640*	40	16	40	36	13	36	87.0	65.0	47	15	10	15
	TPS402040*	40	20	40	36	17	36	87.0	65.0	47	15	12	15
	TPS402540*	40	25	40	36	22	36	87.0	65.0	47	15	12	15
	TPS402840*	40	28	40	36	23	36	87.0	65.0	47	15	12	15
	TPS404016*	40	40	16	36	36	13	85.0	70.0	47	15	15	12
	TPS404032*	40	40	32	36	36	29	85.0	70.0	47	15	15	12
	TPS404040*	40	40	40	36	36	36	87.0	70.0	47	15	15	15

*Size 40 TPS fittings are not hinged. They are a two part fitting

Hinged fittings

External hinged protective shroud



External hinged protective shroud

One-piece cover providing protection for in-line connectors, fuse links, circuit breakers and splicing areas. The CPS shrouds can be used as a harness datum, due to the integrated cable tie/fir tree facility. The strong construction allows for the protection of delicate connections, or as an alternative when an interface / backshell isn't available. These fittings are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

External hinged protective shroud

Part No.	Internal diameter (mm)	Conduit size (NC)		Conduit size (NW)		Nominal dimensions (mm)				
		A	B	A	B	C	D	E	F	G
CPS341212	35	12	12	10	10	38	73	100	10	10
CPS421212	43	12	12	10	10	47	77	104	10	10
CPS421616	43	16	16	13	13	47	77	104	10	10
CPS422020	43	20	20	17	17	47	77	104	12	12

2 piece fittings

Custom two piece multiple breakout fitting



Custom two piece multiple breakout fitting
One-piece hinged fittings designed to suit specific project or application requirements.

- 1 . Multi outlet options**
Connect multiple pieces of conduit to one fitting.
- 2. Outlets can be blanked**
Certain outlets can be blanked using BPST08, BCH12 & BCH20 - See page 87.

Custom hinged multiple breakout fitting

		Conduit size (NC)						Conduit size (NW)					
Part No.	Type	A	B	C	D	E	F	A	B	C	D	E	F
Type 1													
MPS100	1	12	8	20	20	25	12	10	7.5	17	17	22	10
MPS102	2	16	8	16	8	25	–	13	7.5	16	7.5	22	–

Type 1

Type 2

		Nominal dimensions (mm)										weight (kg)	
Part No.	Type	Conduit engagement											
		G	H	I	J	K	L	M	N	O	P	R	
MPS100	1	10	10	12	12	13	12	98	43	28	28	59	22
MPS102	2	10	10	10	10	13	–	97	–	–	–	–	23



Two-piece fittings

Two-piece 5 way fitting



Two-piece 5 way fitting

Two identical half shells snap together to give a 5 Way conduit fitting. Designed to fit all Harnessflex conduit. Additional configurations possible (dependent on volume).

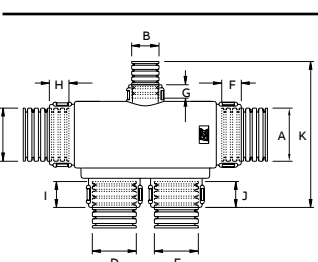
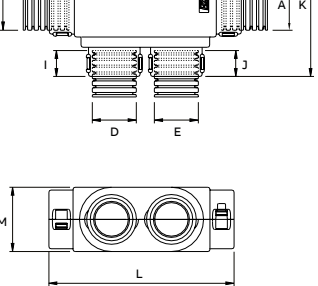
1. Multi outlet options

Connect multiple pieces of conduit

2. Outlets can be blanked

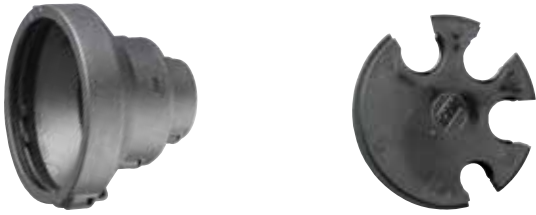
Outlets can be easily blanked using BPST08, BCH12 & BCH20 - See page 87.

External hinged joiner

	Part No.	Conduit size (NC)					Conduit size (NW)					Nominal dimensions (mm)								
		A	B	C	D	E	A	B	C	D	E	F	G	H	I	J	K	L	M	
	MPS121212-2020	12	12	12	20	20	10	10	10	17	17	10	7	10	10	10	59	92	32	
	MPS122812-2020	12	28	12	20	20	10	23	10	17	17	10	12	10	10	10	67	92	32	
	MPS201220-2020	20	12	20	20	20	17	17	10	17	17	12	7	12	10	10	59	92	32	
	MPS202820-2020	20	28	20	20	20	17	23	17	17	17	12	12	12	10	10	67	92	32	
	MPS251225-2020	25	12	25	20	20	22	10	22	17	17	11	7	11	10	10	59	92	32	
	MPS252825-2020	25	28	25	20	20	22	23	22	17	17	11	12	11	10	10	67	92	32	
																				

Accessories

In-line hinged circular fitting



In-line hinged circular fitting

One-piece straight fittings providing in-line 'customised' combinations of multiple conduit breakouts. ST break out disk configuration can be made to order, for more details see website for specification and ordering sheet.

In-line hinged circular fitting

	Part No.	Conduit size (A)		Nominal dimensions (mm)		
		NC	NW	B	C	D
	CI20-A31	20	17	62	45	12
	CI25-A31	25	22	62	45	13
	CI32-A31	32	29	62	45	13

Circular breakout fitting

	Part No.	Breakout type					
		1	2	3	4	5	6
	ST31-100	NC08	NC08	NC08	BLANK	NC08	NC08
	ST31-101	NC12	NC12	NC08	BLANK	BLANK	NC12
	ST31-102	NC08	NC08	NC08	NC08	NC08	NC08
	ST31-103	NC12	NC12	NC12	NC12	NC12	NC12

NOTE: Other configurations available on request



TempGuard hinged fittings

Introduction

Designed to operate at temperatures up to 200°C, TempGuard systems provide a complete high temperature cable routing solution for the automotive market.

Modern engine design has continually evolved to meet changing times. Global regulations such as Euro 6, USA10, and Tier 4 for off-highway heavy duty vehicles have mandated that manufacturers reduce emission levels. This required reduction, along with changes to engine design to improve safety, reduce noise and improve efficiency, have resulted in higher engine temperatures and led to the automotive industry actively looking for a complete and effective solution to protect the wiring and connectors in their engines.

Harnessflex have responded to market demand, by creating it's new range of high temperature conduits and fittings, designed to operate at temperatures up to 200°C. Created from the outset for use as a full system, the range is made from specialist co-polyester and polyamide respectively, that provide long-term heat, age, tensile, and impact strength to protect vital cable connections. The system has endured long term heat age testing to ensure consistent performance.

The TempGuard system is manufactured from low smoke, zero halogen materials, with a temperature operating range suited to the heat demands of today's engines.

The system provides higher performance levels of flexibility, impact and abrasion resistance, combined with enhanced chemical resistances especially to oils and greases for aggressive engine compartment environments. The range includes HTC08 - HTC20 conduit, with respective T and Y-Piece fittings, straight and elbow joiners, along with connector interfaces for AMP, Bosch, Deutsch and FCI.

A working high temperature sample harness is available for order and global shipping.

Type YPH - External high temperature hinged Y-piece

One-piece asymmetrical 3 junction fittings allow a variety of conduit variations. These fittings are designed to snap together over all types of slit and unslit Harnessflex conduit, maintaining maximum conduit bore.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.



Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +200°C	High
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	
			UL94 V2 / UL94 RTI 150 (Elec)	

TempGuard hinged fittings

Type JPH - External hinged joiner



Type JPH - External high temperature hinged joiner

One-piece joiner and elbow hinged fittings allow a variety of conduit size variations. These fittings are designed to snap together over all types of slit and unslit Harnessflex conduit, maintaining maximum conduit bore. Can be used as an in-line reducer as well as an enlarger.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

Type JPH - External high temperature hinged joiner

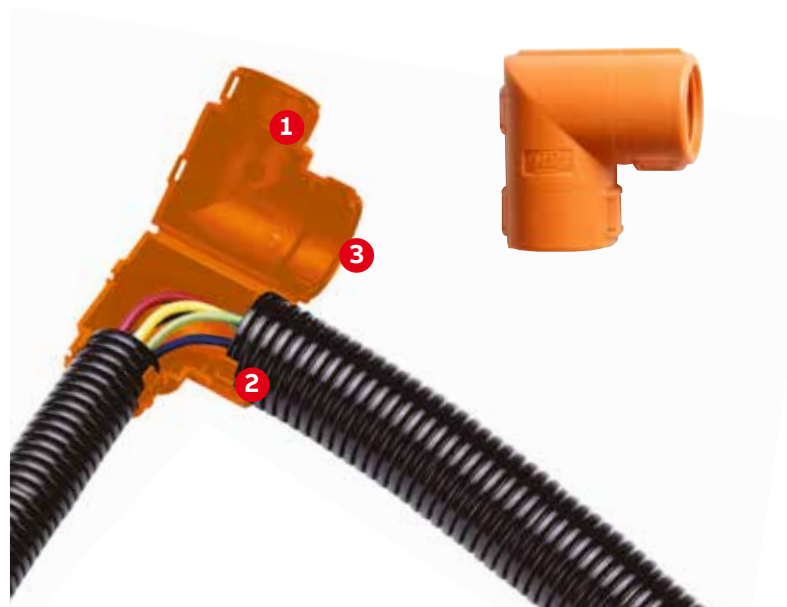
Part No.	Conduit size (NC)		Conduit size (NW)		Nominal dimensions (mm)			
	A	B	A	B	C	D	E	F
JPH1212	12	12	10	10	36	16	10	10
JPH1612	16	12	13	10	36	21	10	10

Part No.	Conduit size (NC)		Conduit size (NW)		Nominal dimensions (mm)			
	A	B	A	B	C	D	E	F
JPH1208*	12	8	10	7.5	38	16	10	10
JPH1616*	16	16	13	13	36	21	10	10
JPH2008*	20	08	17	7.5	38	26	12	10
JPH2016*	20	16	17	13	38	26	12	10
JPH2020*	20	20	17	17	38	26	12	12

*Made to order - Part numbers listed are available to order but not stocked items, and would be subject to manufacturing leadtime

TempGuard hinged fittings

Type EPH - External hinged elbow



Type EPH - External high temperature hinged joiner

One-piece joiner and elbow hinged fittings allow a variety of conduit size variations. These fittings are designed to snap together over all types of slit and unslit Harnessflex conduit, maintaining maximum conduit bore. Can be used as an in-line reducer as well as an enlarger.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

Type EPH - External high temperature hinged elbow

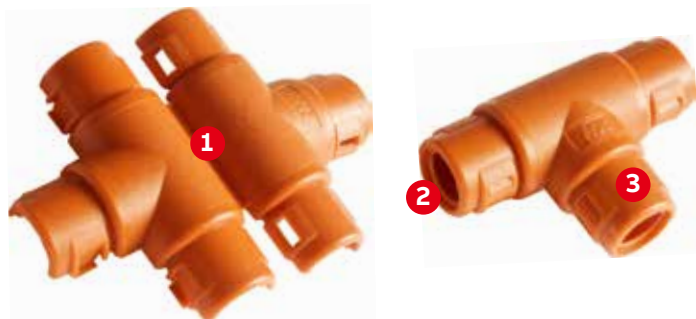
Part No.	Conduit size (NC)		Conduit size (NW)		Nominal dimensions (mm)				
	A	B	A	B	C	D	E	F	G
EPH1612	16	12	13	10	34	34	21	10	10
EPH1616	16	16	13	13	34	34	21	10	10
EPH2020	20	20	17	17	41	41	26	12	12

Part No.	Conduit size (NC)		Conduit size (NW)		Nominal dimensions (mm)				
	A	B	A	B	C	D	E	F	G
EPH08S08*	08	08	7.5	7.5	38	29	20	10	10
EPH12S12*	12	12	10	10	38	29	20	10	10
EPH1608*	16	08	10	7.5	34	34	21	10	10
EPH2008*	20	08	17	7.5	41	39	26	12	10
EPH2016*	20	16	17	13	41	41	26	12	10

*Made to order - Part numbers listed are available to order but not stocked items, and would be subject to manufacturing leadtime

TempGuard hinged fittings

Type TPH - External hinged T-piece



Type TPH - External high temperature hinged T-piece

One-piece symmetrical 3 junction fittings allow a variety of conduit size variations. These fittings are designed to snap together over all types of slit and unslit Harnessflex conduit, maintaining maximum conduit bore.

1. One-piece external design

Unrestricted bore and quick assembly requiring no tools.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

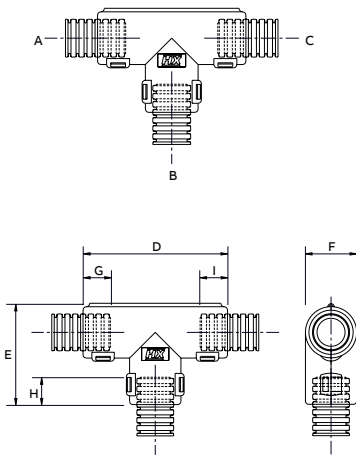
3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

Type TPH - External high temperature hinged T-piece

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal dimensions (mm)					
		A	B	C	A	B	C	D	E	F	G	H	I
	TPH080808	08	08	08	7.5	7.5	7.5	45.2	31.1	17	10	10	10
	TPH081208	08	12	08	7.5	10	7.5	45.2	31.1	17	10	10	10
	TPH120808	12	08	08	10	7.5	7.5	45.2	31.1	17	10	10	10
	TPH120812	12	08	12	10	7.5	10	45.2	31.1	17	10	10	10
	TPH121208	12	12	08	10	10	7.5	45.2	31.1	17	10	10	10
	TPH121212	12	12	12	10	10	10	45.2	31.1	17	10	10	10
	TPH121612	12	16	12	10	13	10	45.2	31.1	17	10	10	10
	TPH160812	16	08	12	13	7.5	10	49.1	34.8	21	10	10	10
	TPH160816	16	08	16	13	7.5	13	49.1	34.8	21	10	10	10
	TPH161212	16	12	12	13	10	10	49.1	34.8	21	10	10	10
	TPH161216	16	12	16	13	10	13	49.1	34.8	21	10	10	10
	TPH161608	16	16	08	13	13	7.5	49.1	34.8	21	10	10	10
	TPH161612	16	16	12	13	13	10	49.1	34.8	21	10	10	10
	TPH161616	16	16	16	13	13	13	49.1	34.8	21	10	10	10
	TPH162012	16	20	12	13	17	10	49.1	34.8	21	10	10	10
	TPH162016	16	20	16	13	17	13	49.1	34.8	21	10	10	10
	TPH200816	20	08	16	17	7.5	13	56.5	41	26	12	10	10
	TPH200820	20	08	20	17	7.5	17	56.5	41	26	12	10	12
	TPH201216	20	12	16	17	10	13	56.5	41	26	12	10	10
	TPH201220	20	12	20	17	10	17	56.5	41	26	12	10	12
	TPH201616	20	16	16	17	13	13	56.5	41	26	12	10	10
	TPH201620	20	16	20	17	13	17	56.5	41	26	12	10	12
	TPH202012	20	20	12	17	17	10	56.5	41	26	12	12	10
	TPH202016	20	20	16	17	17	13	56.5	41	26	12	12	10
	TPH202020	20	20	20	17	17	17	56.5	41	26	12	12	12

Type TPH - External high temperature hinged T-piece

	Part No.	Conduit size (NC)			Conduit size (NW)								Nominal dimensions (mm)		
		A	B	C	A	B	C	D	E	F	G	H	I		
	TPH081612*	08	16	12	7.5	13	10	45.2	31.1	17	10	10	10		
	TPH100808*	10	08	08	8.5	7.5	7.5	45.2	31.7	17	10	10	10		
	TPH101010*	10	10	10	8.5	8.5	8.5	45.2	31.7	17	10	10	10		
	TPH101012*	10	10	12	8.5	8.5	10	45.2	31.7	17	10	10	10		
	TPH121010*	12	10	10	10	8.5	8.5	45.2	31.1	17	10	10	10		
	TPH121012*	12	10	12	10	8.5	10	45.2	31.1	17	10	10	10		
	TPH121210*	12	12	10	10	10	7.5	45.2	31.1	17	10	10	10		
	TPH160808*	16	08	08	13	7.5	7.5	49.1	34.8	21	10	10	10		
	TPH161012*	16	10	12	13	8.5	10	49.1	34.8	21	10	10	10		
	TPH161016*	16	10	16	13	8.5	13	49.1	34.8	21	10	10	10		
	TPH201016*	20	10	16	17	8.5	13	56.5	41	26	12	10	10		
	TPH201020*	20	10	20	17	8.5	17	56.5	41	26	12	10	12		
	TPH201612*	20	16	12	17	13	10	56.5	41	26	12	10	10		

*Made to order - Part numbers listed are available to order but not stocked items, and would be subject to manufacturing leadtime

TempGuard hinged fittings

Type YPH - External hinged Y-piece



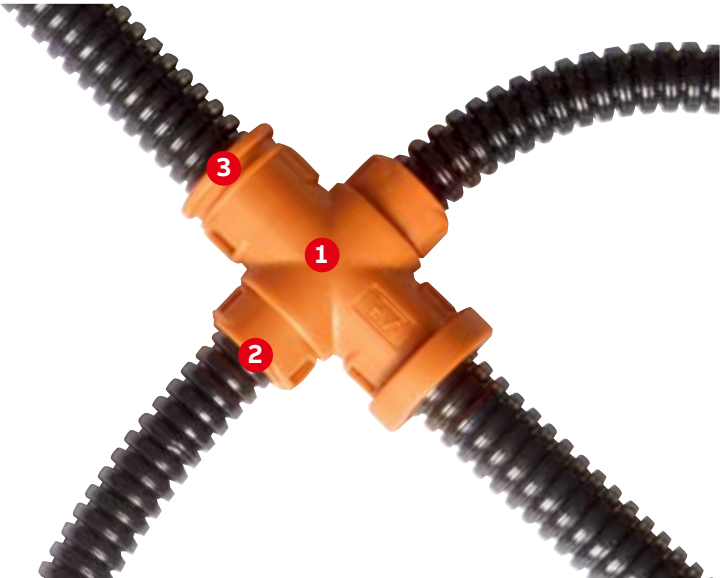
Type YPH - External high temperature hinged Y-piece

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal dimensions (mm)				
		A	B	C	A	B	C	D	E	F	G	H
	YPH080808	08	08	08	7.5	7.5	7.5	55	37	10	10	10
	YPH120808	12	08	08	10	7.5	7.5	55	37	10	10	10
	YPH120810	12	08	10	10	7.5	8.5	55	37	10	10	10
	YPH121208	12	12	08	10	10	7.5	55	37	10	10	10
	YPH121212	12	12	12	10	10	10	55	37	10	10	10
	YPH161208	16	12	08	13	10	7.5	55	40	10	10	10
	YPH161212	16	12	12	13	10	10	55	40	10	10	10
	YPH161608	16	16	08	13	13	7.5	55	40	10	10	10
	YPH161612	16	16	12	13	13	10	55	40	10	10	10
	YPH201212	20	12	12	17	10	10	43	37	12	10	10
	YPH201616	20	16	16	17	13	13	48	40	12	10	10
	YPH202008	20	20	08	17	17	7.5	56	45	12	10	10
	YPH202012	20	20	12	17	17	10	58	45	12	12	10
	YPH202016	20	20	16	17	17	13	64	48	12	12	10
	YPH080812*	08	08	12	7.5	7.5	10	55	37	10	10	10
	YPH081208*	08	12	08	7.5	10	7.5	55	37	10	10	10
	YPH101010*	10	10	10	8.5	8.5	8.5	55	37	10	10	10
	YPH121010*	12	10	10	10	8.5	8.5	55	37	10	10	10
	YPH121210*	12	12	10	10	10	8.5	55	37	10	10	10
	YPH161010*	16	10	10	13	8.5	8.5	55	40	10	10	10
	YPH161210*	16	12	10	13	10	8.5	55	40	10	10	10
	YPH161610*	16	16	10	13	13	8.5	55	40	10	10	10
	YPH200808*	20	08	08	17	7.5	7.5	43	37	12	10	10
	YPH201208*	20	12	08	17	10	7.5	43	37	12	10	10
	YPH201210*	20	12	10	17	10	8.5	43	37	12	10	10
	YPH201608*	20	16	08	17	13	7.5	43	37	12	10	10
	YPH201612*	20	16	12	17	13	10	48	40	12	10	10
	YPH202010*	20	20	10	17	17	8.5	58	45	12	12	10

*Made to order - Part numbers listed are available to order but not stocked items, and would be subject to manufacturing leadtime

TempGuard two-piece fittings

Two-piece X configuration fitting



Two-piece X configuration fitting

Two-piece X configuration fitting providing protection for in-line connectors, fuse links, circuit breakers and splicing areas. The strong construction allows for the protection of delicate connections, or as an alternative when an interface/backshell isn't available. These fittings are designed to snap together over all types of slit and unslit Harnessflex conduit, maintaining maximum conduit bore.

- 1. Compact design**
Reducing distance between centres.
- 2. High pull-off strength**
Conduit corrugations sit tightly into joiner junctions.
- 3. Snap together**
Fittings can be linked together for multiple outlet options without the need for short conduit joints.

Two-piece X configuration fitting

Part No.	Conduit size (NC)				Conduit size (NW)					Conduit engagement (mm)				Nominal dimensions (mm)		
	A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	
XPH1208	12	8	12	8	10	7.5	10	7.5	9.5	7	9.5	7	42.3	5.5	38	

Technical drawing of the X configuration fitting showing top, side, and front views with dimension labels A through K.

Two-piece fittings

Two-piece X configuration fitting



Two-piece X configuration fitting

Two-piece X configuration fitting providing protection for in-line connectors, fuse links, circuit breakers and splicing areas. The CPS shrouds can be used as a harness datum, due to the iterated cable tie/fir tree facility. The strong construction allows for the protection of delicate connections, or as an alternative when an interface/backshell isn't available. These fittings are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore.

1. Compact design

Reducing distance between centres.

2. High pull-off strength

Conduit corrugations sit tightly into joiner junctions.

3. Snap together

Fittings can be linked together for multiple outlet options without the need for short conduit joints.

Two-piece X configuration fitting

Part No.	Conduit size (NC)				Conduit size (NW)				Conduit engagement (mm)				Nominal dimensions (mm)			
	A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	
XPS1208	12	8	12	8	10	7.5	10	7.5	9.5	7	9.5	7	42.3	5.5	38	

Technical drawing of the XPS1208 fitting. The top view shows the X-configuration with dimensions A, B, C, D, E, F, G, H. The side view shows the profile with dimensions I, J. The front view shows the connection points with dimension K.



Interfaces

Introduction

Vehicle electrical system faults are often traced to problems at the cable entry points of electrical connectors. Harnessflex connector interfaces are designed to protect against the high pressure wash-down, excessive cable strain and mechanical abrasion identified as the principle causes.

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Capabilities

Harnessflex works closely with many OEM’s to develop protection for electrical connectors (a critical area of an engine harness).

Our experienced internal design team uses 3D CAD modelling software to produce various concepts for customer approval.

Once a design is selected, a rapid prototype of the interface can be supplied to assist pre-production process.

These prototype parts can be used for validation, due to the close approximation of properties of the material used in the prototyping process and materials used in our injection moulded components.

With Harnessflex’s history of connector interface design and our understanding of customers requirements, we are well placed to produce bespoke designs to integrate electrical connectors into a harness design.

Features & benefits

- Interfaces can be used in areas where electrical connectors are vulnerable to high pressure washing
- Our interfaces offer strain relief to crimped contacts
- When our 90° swivel elbows are used with interfaces they allow the harness to self level
- Using our part CI-MF-90, in addition to a standard 90° swivel fitting, a 180° swivel bend is possible

1. High pull-off strength
Conduit corrugations locate securely providing high pull off strength.

2. Conduit size labels
Each junction indicates nominal conduit size to aid installation.

3. Straight or 90° elbow versions
Compact design ideal for use where space is limited.

4. Swivel elbow
Allowing 360 degree rotation for ease of routing.

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +120°C	Very high
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU2000/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	



LOW VOLTAGE
DIRECTIVE

External hinged connector interfaces

AMP Superseal



AMP Superseal swivel interface - External hinged connector interface

Single junction straight and 90° elbow interfaces providing high integrity connections between AMP Superseal or Junior timer connectors and Harnessflex conduit systems. These fittings are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing.

1. High pull-off strength

Conduit corrugations locate securely providing high pull off strength.

2. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

3. Straight or 90° elbow versions

Compact design ideal for use where space is limited.

4. Swivel elbow

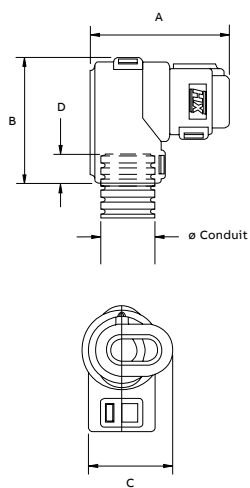
Allowing 360 degree rotation for ease of routing.

AMP Superseal straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CI08-AS1	08	7.5	23.6	16.1	18	10	1 way	282079-2*
	CI08-AS2	08	7.5	22.4	20.5	18	10	2 way	282080-1*
	CI08-AS3	08	7.5	22.4	26.5	18	10	3 way	282087-1*
	CI08-AS4	08	7.5	34	33	18	10	4 way	282088-1*
	CI10-AS2	10	8.5	34	21	20	10	2 way	282080-1*
	CI10-AS3	10	8.5	34	27	20	10	3 way	282087-1*
	CI10-AS4	10	8.5	34	33	20	10	4 way	282088-1*
	CI12-AS1	12	10	23.6	16.1	18	10	1 way	282079-2*
	CI12-AS2	12	10	22.4	20.5	18	10	2 way	282080-1*
	CI12-AS3	12	10	22.4	26.5	18	10	3 way	282087-1*
	CI12-AS4	12	10	34	33	19	10	4 way	282088-1*

*All Colour and Wire variants

AMP Superseal 90° elbow swivel interface



Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
	NC	NW	A	B	C	D		
CI08-90-AS1	08	7.5	37.5	30.3	18	10	1 way	282079-2*
CI08-90-AS2	08	7.5	33.3	30.3	18	10	2 way	282080-1*
CI08-90-AS3	08	7.5	22.4	26.5	18	10	3 way	282087-1*
CI08-90-AS4	08	7.5	33.3	30.3	18	10	4 way	282088-1*
CI10-90-AS2	10	8.5	35	38	19	10	2 way	282080-1*
CI10-90-AS3	10	8.5	35	38	19	10	3 way	282087-1*
CI10-90-AS4	10	8.5	41.2	38	19	10	4 way	282088-1*
CI12-90-AS2	12	10	33.3	30.3	20.5	10	2 way	282080-1*
CI12-90-AS3	12	10	33.3	30.3	26.7	10	3 way	282087-1*
CI12-90-AS4	12	10	37	30.3	33	10	4 way	282088-1*

*All colour and wire variants

External hinged connector interfaces

AMP Junior & Mini timer



AMP Junior & Mini Timer - External hinged connector interface

Single junction straight and 90° elbow interfaces providing high integrity connections between AMP Superseal or Junior timer connectors and Harnessflex conduit systems. These fittings are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing.

1. High pull-off strength

Conduit corrugations locate securely providing high pull off strength.

2. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

3. Straight or 90° elbow versions

Compact design ideal for use where space is limited.

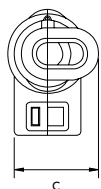
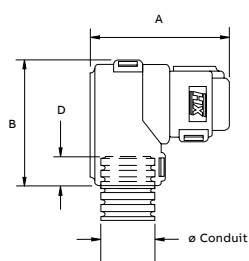
4. Swivel elbow

Allowing 360 degree rotation for ease of routing.

AMP Junior & Mini Timer straight interface

	Junior Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CI08-AM2	8	7.5	24.9	21.3	18	10	2 way	347887-3*
	CI08-AM3	8	7.5	24.9	27.2	18	10	3 way	1-827578-1*
	CI08-AM4	8	7.5	37.0	32.0	19	10	4 way	281804-1*
	CI10-AM2	10	8.5	37.0	21.0	19	10	2 way	347887-3*
	CI10-AM3	10	8.5	37.0	27.0	19	10	3 way	1-827578-1*
	CI10-AM4	10	8.5	37.0	32.0	19	10	4 way	281804-1*
	CI12-AM2	12	10	24.9	21.3	18	10	2 way	347887-3*
	CI12-AM3	12	10	24.9	27.2	18	10	3 way	1-827578-1*
	CI12-AM4	12	10	37.0	32.0	19	10	4 way	281804-1*
	*All colour and wire variants								
	Mini Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CI12-X01	12	10	34	16.2	19.6	10	–	–

AMP Junior & Mini Timer 90° elbow swivel interface



Junior Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
	NC	NW	A	B	C	D		
CI08-90-AM2	8	7.5	35.7	30.3	21.3	7	2 way	347887-3*
CI08-90-AM3	8	7.5	35.7	30.3	27.2	7	3 way	1-827578-1*
CI08-90-AM4	8	7.5	39.5	30.3	32.0	7	4 way	281804-1*
CI10-90-AM2	10	8.5	37.5	38.0	21.3	10	2 way	347887-3*
CI10-90-AM3	10	8.5	37.5	38.0	27.2	10	3 way	1-827578-1*
CI10-90-AM4	10	8.5	41.2	38.0	32.0	10	4 way	281804-1*
CI12-90-AM2	12	10	35.7	30.3	21.3	7	2 way	347887-3*
CI12-90-AM3	12	10	35.7	30.3	27.2	7	3 way	1-827578-1*
CI12-90-AM4	12	10	39.5	30.3	32.0	7	4 way	281804-1*

*All colour and wire variants

Mini Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
	NC	NW	A	B	C	D		
CI12-90-XO1	12	10	37	30.3	19	10	–	–

External hinged connector interfaces

Ampseal 16



Ampseal 16 Interface - External hinged connector interface

A range of straight and 90° elbow interfaces offering a compact and high integrity connection between Ampseal automotive connectors and Harnessflex conduit systems. These interfaces provide complete cable protection right up to the connector. They also provide strain relief and protection from high pressure washing, helping to maintain the sealing integrity of the connector. The 90° elbow allows the conduit to swivel 360° around the connector housing. These fittings are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore.

1. High pull-off strength

Conduit corrugations locate securely providing high pull off strength.

2. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

3. Straight or 90° elbow versions

Compact design ideal for use where space is limited.

4. Swivel elbows

Allowing 360 degree rotation for ease of routing.

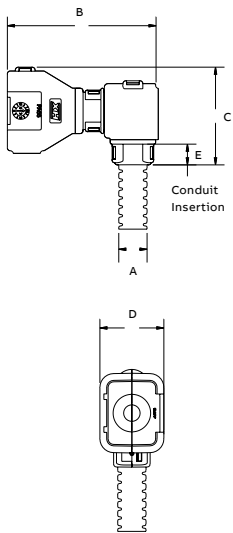
Ampseal 16 straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	B	C	D	E		
	CI08-AT2PL	08	7.5	23	18	34	12	2 way	776427-1*
	CI08-AT3PL	08	7.5	28	18	33	11	3 way	776427-1*
	CI08-AT4PL	08	7.5	29	23	39	13	4 way	776487-1*
	CI12-AT4PL	12	10	29	23	37	11	4 way	776487-1*
	CI12-AT6PL	12	10	29	23	37	11	6 way	776433-1*
	CI12-AT8PL	12	10	32	23	37	11	8 way	776494-1*
	CI12-AT12PL	12	10	41	23	37	11	12 way	776494-1*
	CI16-AT8PL	16	13	32	23	37	11	8 way	776494-1
	CI16-AT12PL	16	13	41	23	37	11	12 way	776494-1*

*All colour and wire variants

Ampseal 16 90° elbow interface - Standard profile plugs

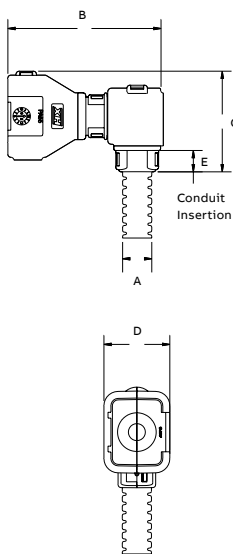
Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
	NC	NW	B	C	D	E		
CI08-90-AT2PL	08	7.5	49	32	20	7.1	2 Way	776427-1*
CI08-90-AT3PL	08	7.5	49	34	20	7.1	3 Way	776427-1*
CI08-90-AT4PL	08	7.5	53	34	23	7.1	4 Way	776487-1*
CI12-90-AT2PL	12	10	49	32	20	7.1	2 Way	776427-1*
CI12-90-AT3PL	12	10	49	34	20	7.1	3 Way	776427-1*
CI12-90-AT4PL	12	10	53	35	23	7.1	4 Way	776487-1*



*All colour and wire variants

Ampseal 16 90° elbow interface - Low profile plugs & receptacles

Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
	NC	NW	A	B	C	D		
CI08-90-AT2LP	08	7.5	37.3	25.0	17.0	7.1	2 way	776427-1*
CI08-90-AT2LR	08	7.5	37.3	25.0	20.0	7.1	2 way	—
CI08-90-AT3LP	08	7.5	39.8	29.0	17.1	7.1	3 way	776427-1*
CI08-90-AT3LR	08	7.5	39.8	29.0	17.1	7.1	3 way	—
CI08-90-AT4LP	08	7.5	40.8	29.4	20.6	7.1	4 way	776487-1*
CI08-90-AT4LR	08	7.5	40.8	29.4	20.6	7.1	4 way	—
CI08-90-AT6LP	08	7.5	42.8	29.4	22.5	7.1	6 way	776433-1*
CI08-90-AT6LR	08	7.5	42.8	29.4	22.5	7.1	6 way	—
CI12-90-AT2LP	12	10	38.0	23.0	20.0	7.1	2 way	776427-1*
CI12-90-AT2LR	12	10	38.0	23.0	20.0	7.1	2 way	—
CI12-90-AT3LP	12	10	40.2	27.1	17.1	7.1	3 way	776427-1*
CI12-90-AT3LR	12	10	40.2	27.1	17.1	7.1	3 way	—
CI12-90-AT4LP	12	10	41.1	27.5	20.6	7.1	4 way	776487-1*
CI12-90-AT4LR	12	10	41.1	27.5	20.6	7.1	4 way	—
CI12-90-AT6LP	12	10	43.1	27.5	22.5	7.1	6 way	776433-1*
CI12-90-AT6LR	12	10	43.1	27.5	22.5	7.1	6 way	—



NOTE: LP = Plug, LR = Receptacle

*All colour and wire variants

External hinged connector interfaces

Deutsch - DT Series



Deutsch - DT Series straight interface - External hinged connector interface

Straight and 90° elbow interfaces providing high integrity connections between Deutsch DT connectors and Harnessflex conduit systems. These interfaces are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing. Also compatible with Amphenol and Molex connector versions.

1. Deflects water from connector

During high pressure cleaning.

2. High pull-off strength

Conduit corrugations locate securely providing high pull off strength.

3. Conduit size labels

Each junction indicates nominal conduit size to aid installation.

4. Straight or 90° elbow versions

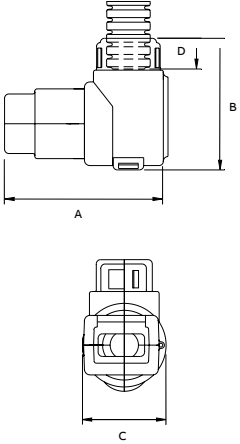
Compact design ideal for use where space is limited.

Deutsch - DT Series straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CI08-DT2	08	7.5	26	16	18	7	2 way	DT06-2S*
	CI08-DT3	08	7.5	30	22	24	12	3 way	DT06-3S*
	CI08-DT4	08	7.5	42	18	27	12	4 way	DT06-4S*
	CI08-DT6	08	7.5	42	22	27	12	6 way	DT06-6S*
	CI12-DT2	12	10	26	16	18	7	2 way	DT06-2S*
	CI12-DT3	12	10	29	22	24	7	3 way	DT06-3S*
	CI12-DT4	12	10	40	18	27	7	4 way	DT06-4S*
	CI12-DT6	12	10	40	22	27	10	6 way	DT06-6S*
	CI12-DT8	12	10	40	25	30	10	8 way	DT06-8SA*
	CI16-DT12	16	13	44	24	40	10	12 way	DT06-12SA*

*All colour variants

Deutsch - DT Series 90° elbow swivel interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CI08-90-DT2	08	7.5	36	30	19	7	2 Way	DT06-2S*
	CI08-90-DT3	08	7.5	44	30	23	7	3 Way	DT06-3S*
	CI08-90-DT4	08	7.5	48	30	25	7	4 Way	DT06-4S*
	CI08-90-DT6	08	7.5	48	34	25	7	6 Way	DT06-6S*
	CI12-90-DT2	12	10	36	30	19	7	2 Way	DT06-2S*
	CI12-90-DT3	12	10	44	30	23	7	3 Way	DT06-3S*
	CI12-90-DT4	12	10	48	30	25	7	4 Way	DT06-4S*
	CI12-90-DT6	12	10	48	34	25	7	6 Way	DT06-6S*
	CI12-90-DT8	12	10	63	37	30	10	8 Way	DT06-8S*
	CI12-90-DT12	12	10	68	36	38	10	12 Way	DT06-12SA*
	CI16-90-DT8	16	13	63	37	30	10	8 Way	DT06-8SA*
	CI16-90-DT12	16	13	68	36	38	10	12 Way	DT06-12SA*

*All colour variants

External hinged connector interfaces

Deutsch - DTP04 Series

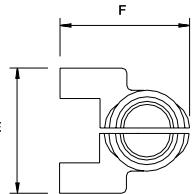
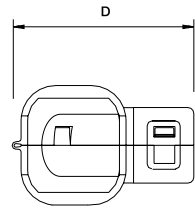
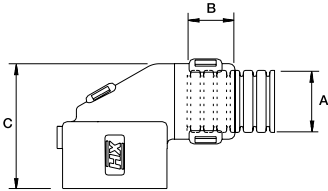


Deutsch - DTP04 Series interface - External hinged connector interface

Single compact 90° elbow interfaces providing a dual orientation high integrity connection between the Deutsch DTP04 and Harnessflex conduit systems. These interfaces are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore. The 16-90-DTP04 adaptor will snap into the outlet of a 16mm hinged fitting including types ‘Y’ (YPS), ‘T’ (TPS), elbows (EPS) and joiners (JPS).

Deutsch - DTP04 Series 90° elbow interface

Part No.	Conduit size (A)		Nominal dimensions (mm)					
	NC	NW	B	C	D	E	F	
CI12-90-DTP04	12	7.5	10	27	37	25	28	
16-90-DTP04	–	–	–	27	35	25	27	



2 piece connector interfaces

Deutsch - DRC50



Deutsch - DRC50 interface - External 2 piece connector interface

Two identical half shells snap together onto the twin outlets of the Deutsch DRC50 interface giving a 3 Way conduit fitting. These interfaces are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore.

Deutsch - DRC50 3 way interface

	Part No.	Conduit size (NC)			Conduit size (NW)			Nominal dimensions (mm)					
		A	B	C	A	B	C	D	E	F	G	H	I
	CI122812-DRC50	12	28	12	10	23	10	8	10	8	58	92	36
	CI201220-DRC50	20	12	20	17	10	17	10	8	10	50	92	36
	CI202820-DRC50	20	28	20	17	23	17	10	10	10	58	92	36
	CI251225-DRC50	25	12	25	22	10	22	10	8	10	50	92	36
	CI252825-DRC50	25	28	25	22	23	22	10	10	10	58	92	36

External hinged connector interfaces

FCI Automotive Apex 2.8



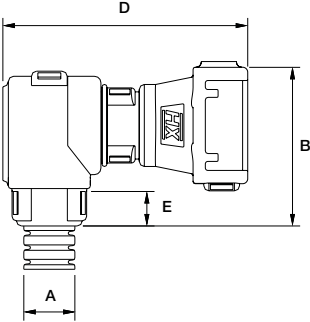
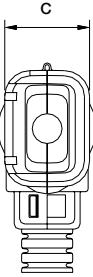
FCI Automotive Apex 2.8 interface - External hinged connector interface

Single junction, straight and 90° elbow interfaces providing high integrity connections between FCI Apex connectors or Junior timer connectors and Harnessflex conduit systems. These interfaces are designed to snap together over all types of slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing.

FCI Automotive Apex 2.8 straight interface

	Part No.	Conduit size		Nominal dimensions (mm)			
		NC	NW	B	C	D	E
	CI08-FCI02	08	7.5	25.0	17.0	33.0	12
	CI08-FCI03	08	7.5	34.0	17.0	34.0	12
	CI08-FCI04	08	7.5	39.0	17.0	34.0	12
	CI12-FCI02	12	10	25.0	17.0	27.0	7
	CI12-FCI03	12	10	35.0	17.0	29.0	7
	CI12-FCI04	12	10	38.0	17.0	29.0	7
	CI12-FCI14	12	10	53.0	26.0	34.0	10
	CI16-FCI14	16	13	53.0	26.0	59.0	10
	16-FCI14	16	13	53.0	26.0	33.0	–
	CI17-FCI10	16	13	39.2	25.5	44.0	10.6
	CI25-FCI50	25	22	56.0	37.0	50.7	13

FCI Automotive Apex 2.8 90° elbow swivel interface

	Part No.	Connector	Conduit size (A)		Nominal dimensions (mm)			
			NC	NW	B	C	D	E
	CI08-90-FCS02	2 Way	8	7.5	30.0	19.0	33	10
	CI08-90-FCI02	2 Way	8	7.5	31.0	19.0	48	10
	CI08-90-FCI03	3 Way	8	7.5	35.0	19.0	49	10
	CI08-90-FCI04	4 Way	8	7.5	38.0	19.0	49	10
	CI12-90-FCI02	2 Way	12	10	32.0	19.0	48	10
	CI12-90-FCI03	3 Way	12	10	37.0	19.0	49	10
	CI12-90-FCI04	4 Way	12	10	38.0	19.0	49	10
	CI08-90-FCI14	14 Way	8	7.5	38.0	24.0	57	10
	CI12-90-FCI14	14 Way	12	10	38.0	24.0	57	10
	CI16-90-FCI14	14 Way	16	13	38.0	24.0	57	10
	CI20-90-FCI14	14 Way	20	17	32.9	23.5	63.7	N/A
								

External hinged connector interfaces

Bosch Compact

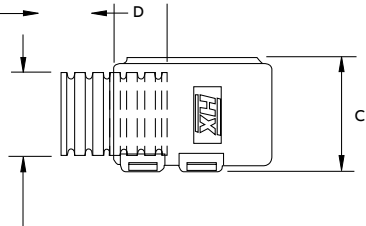
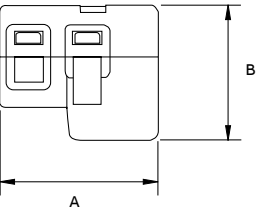


Bosch Compact Interface - External hinged connector interface

Single junction, straight and 90° elbow interfaces providing high integrity connections between various Bosch Compact connectors and Harnessflex conduit systems. These interfaces are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing.

Bosch Compact straight interface

Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
	NC	NW	A	B	C	D		
CI08-BC2	08	7.5	25.0	21.3	18	10	2 Way	1 928 403 137*
CI08-BC3	08	7.5	25.0	26.7	18	10	3 Way	1 928 403 110*
CI08-BC4	08	7.5	25.0	29.0	18	10	4 Way	1 928 403 112*
CI12-BC2	12	10	25.0	21.3	18	10	2 Way	1 928 403 137*
CI12-BC3	12	10	25.0	26.7	18	10	3 Way	1 928 403 110*
CI12-BC4	12	10	25.0	29.0	18	10	4 Way	1 928 403 112*
CI28-BC40	28	23	44.4	40.0	–	–	40 Way	–



ø Conduit

*All Bosch Kompact variants

Bosch Compact 90° elbow swivel interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CI08-90-BC2	08	7.5	33.3	30.3	20.5	10	2 Way	1 928 403 137*
	CI08-90-BC3	08	7.5	33.3	30.3	26.7	10	3 Way	1 928 403 110*
	CI08-90-BC4	08	7.5	37.0	30.3	33.0	10	4 Way	1 928 403 112*
	CI12-90-BC2	12	10	33.3	30.3	20.5	10	2 Way	1 928 403 137*
	CI12-90-BC3	12	10	33.3	30.3	26.7	10	3 Way	1 928 403 110*
	CI12-90-BC4	16	13	37.0	30.3	33.0	10	4 Way	1 928 403 112*

*All Bosch Kompact variants

External hinged connector interfaces

Delphi Series external hinged connector interfaces



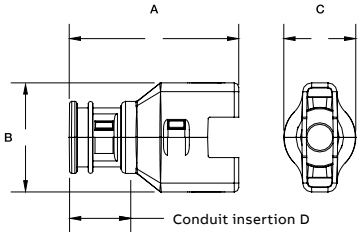
Delphi Series interface - External hinged connector interface

Straight and 90° elbow interfaces providing high integrity connections between various Delphi series connectors and Harnessflex conduit systems. These interfaces are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing.

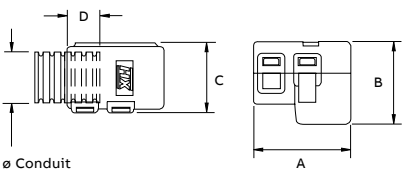
Delphi Series straight interface

	Part No.	Conduit size		Nominal dimensions (mm)			
		NC	NW	A	B	C	D
GT284 straight connector interface	CI08-DE001	08	7.5	18.0	17.0	17.0	6.0
	CI08-MP2	08	7.5	20.0	16.0	28.9	12.3
	CI08-MP3	08	7.5	43.0	20.0	28.0	10.0
	C108-MMP2	08	7.5	30.0	17.0	18.0	10.0
	CI08-WP2	08	7.5	31.3	16.1	28.3	10.0
	CI08-PTD2	08	7.5	20.2	20.5	18.0	14.7
	CI08-GT153	08	7.5	38.0	24.0	16.0	10.0
	16-GT284	16	13	37.3	21.3	40.0	29.5

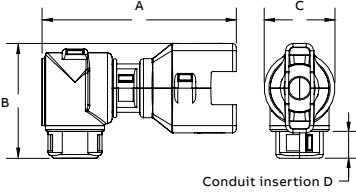
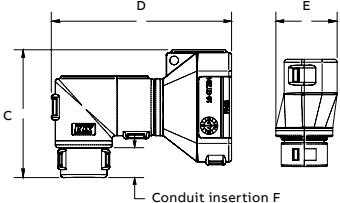
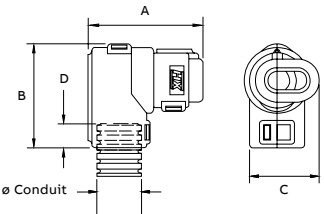
GT153 straight connector interface



External straight connector interface



Delphi Series 90° elbow swivel interface

	Part No.	Conduit size		Nominal dimensions (mm)			
		NC	NW	A	B	C	D
GT153 elbow connector interface 	CI08-90-DE001	08	7.5	32.0	30.0	17.5	7.3
	CI08-90-MP2	08	7.5	35.0	42.0	29.5	7.3
	CI08-90-MP3	08	7.5	56.9	30.0	20.0	10.0
	CI08-90-MMP2	08	7.5	45.0	30.0	19.0	7.3
	CI12-90-MP2	12	10	20.0	42.0	30.5	7.3
	CI12-90-MP3	12	10	56.9	31.0	20.0	10.0
	CI12-90-MMP2	12	10	–	–	–	–
	CI08-90-WP2	08	7.5	45.2	33.3	19.5	10.0
	CI12-90-WP2	12	10	45.2	34.3	19.5	10.0
	CI08-90-PTD2	08	7.5	33.8	30.0	22.0	10.0
GT284 elbow connector interface 	CI12-90-PTD2	12	10	33.8	21.0	22.0	10.0
	CI08-90-GT153	08	7.5	53.0	31.0	19.0	7.0
	CI12-90-GT153	12	10	53.0	32.0	19.0	10.0
	CI12-90-GT284	12	10	62.6	44.4	–	10.0
	CI16-90-GT284	16	13	62.6	44.4	–	–
External elbow connector interface 							
	Part reference	Connector system					
	MP	Delphi Metri-Pack					To suit Metripack
	MMP	Delphi Metri-Pack					To suit Metripack
	WP	Delphi Weatherpack					To suit Weatherpack
	PTD	Power Timer					
	GT	Delphi GT Series 150 and 180					

Kostal hinged interface

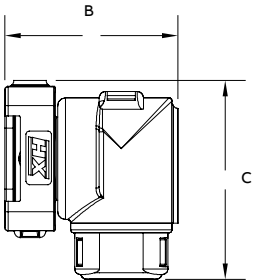
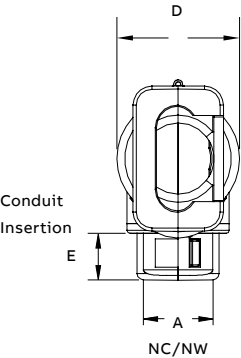
Kostal 90° elbow swivel interface



Kostal hinged interface
Clip-on elbow interface for Kostal in-line connector.

Kostal 90° elbow swivel interface

	Part No.	Conduit size (A)		Nominal dimensions (mm)			
		NC	NW	B	C	D	E
CI08-90-K2C	CI08-90-K2C	08	7.5	27.4	30.0	19.5	10
	CI08-90-K3C	08	7.5	27.4	31.4	19.5	10
	CI12-90-K2C	12	10	27.4	31.0	19.5	10
	CI12-90-K3C	12	10	27.4	32.4	19.5	10



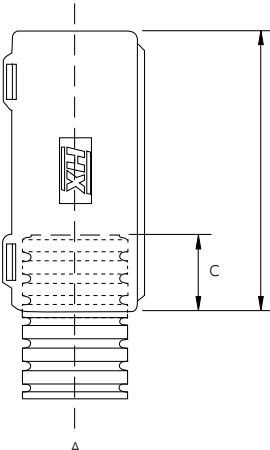
Millflex hinged ABS interfaces



Millflex hinged ABS interface
Clip-on straight interface for Millflex ABS connectors.

Millflex hinged ABS interface

Part No.	Conduit size (A)		Nominal dimensions (mm)	
	NC	NW	B	C
CI08-MF2	08	7.5	35.6	10
CI10-MF2	10	8.5	35.6	10
CI12-MF2	12	10	35.6	10



Sumitomo hinged interface

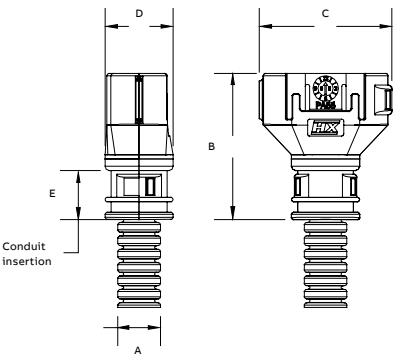
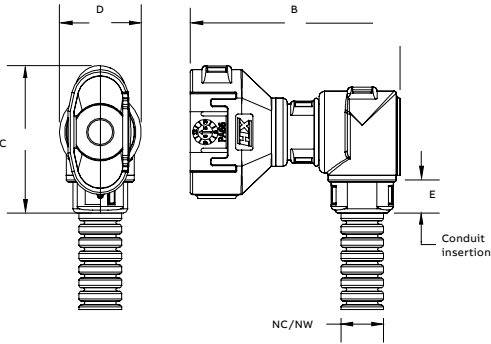
Sumitomo 4 way hinged interface



Sumitomo 4 way hinged interface

Straight and 90° elbow interfaces providing high integrity connections between Sumitomo connectors and Harnessflex conduit systems. These interfaces are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing.

Sumitomo 4 way hinged interface

		Conduit size (A)		Nominal dimensions (mm)			
Part No.		NC	NW	B	C	D	E
	CI08-SU4	08	7.5	34.4	31.5	16.1	12.3
	CI08-90-SU4	08	7.5	48.2	34.8	19.3	7.3
							

NOTE: 180° versions are available

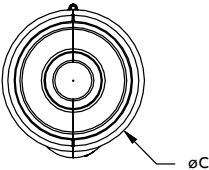
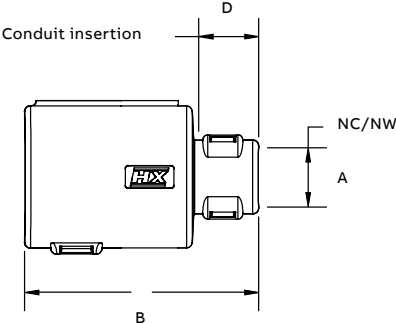
DIN 72585 Hinged interface



DIN 72585 hinged interface
Circular interface to fit DIN 72585 STYLE connectors. Connector is free to swivel after interface is installed.

DIN 72585 hinged interface

Part No.	Conduit size (A)		Nominal dimensions (mm)		
	NC	NW	B	C	D
CI08-72585	08	7.5	40.9	24.9	10



Blanking plug



Blanking plug
Plastic blanking plug to seal female DIN 72585 circular connectors. Prevents the ingress of water/dust, during transport or harness storage.

Blanking plug

Nominal dimensions (mm)			
Part No.	A	B	C
BP72585	26.3	23.8	17.8

Technical drawing of the blanking plug showing side and end views. The side view shows dimensions A (length of the plug body) and B (height of the plug body). The end view shows the circular profile with a central hole of diameter C and a label 'PA66'.



TempGuard external hinged connector interfaces

Introduction

The TempGuard range of external hinged connector interfaces has been designed to satisfy the market demand for a complete wiring harness protection solution, which can handle long term exposure to high temperatures.

As a leading designer and manufacturer of flexible conduit systems, fittings and connector interfaces, Harnessflex is well known for providing automotive manufacturers across the globe, with solutions that protect vehicle wiring against damage from mechanical abrasion, liquid and dust ingress, and corrosive salts.

Our TempGuard external hinged connector interfaces have been designed to meet the increasing demands of today's engines. EGR systems that recycle an engine's waste gases, the use of single or multiple turbos to improve tractability, power and fuel efficiency have all contributed to higher temperature areas within a vehicle's engine. The TempGuard conduit and fittings system is designed to work specifically with high temperature wiring, allowing them to

successfully operate at up to 200°C, with long term heat aging, tensile and impact strength testing carried out to ensure the reliability and validity of the range. Through improved system performance and integrity TempGuard reduces running costs, minimises breakdowns and downtime, increasing overall productivity.

Features & benefits

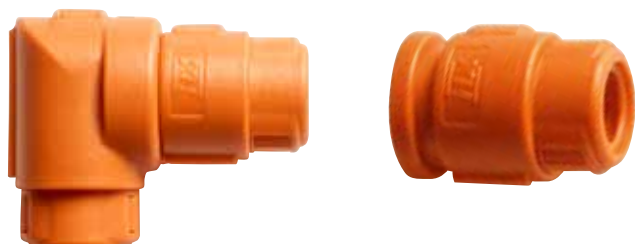
- High temperature range up to 200°C of hinged connector interface
- Very high fatigue life, with protection from heat, abrasion, vibration and automotive fluids in all harness routing areas
- High temperature Polyamide material
- UL94 V2 certified
- Products tested for tensile and impact strength

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +200°C	High
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU2000/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	
			UL94 V2 / UL94 RTI 150 (Elec)	



TempGuard external hinged connector interfaces

AMP AS Superseal



AMP AS Superseal swivel interface - High temperature external hinged connector interface
Single junction straight and 90° elbow interfaces providing high integrity, high temperature connection protection between AS - AMP Superseal connectors and Harnessflex conduit systems. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

AMP AS Superseal straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CIH08-AS2	08	7.5	22.4	20.5	18.0	10.0	2 Way	282080-1*
	CIH08-AS3	08	7.5	22.4	26.5	18.0	10.0	3 Way	282087-1*
	CIH08-AS4	08	7.5	34.0	33.0	18.0	10.0	4 Way	282088-1*
	CIH12-AS2	12	10	22.4	20.5	18.0	10.0	2 Way	282080-1*
	CIH12-AS4	12	10	34.0	33.0	19.0	10.0	4 Way	282088-1*
	CIH10-AS2*	10	8.5	34.0	21.0	20.0	10.0	2 Way	282080-1*
	CIH10-AS3*	10	8.5	34.0	27.0	20.0	10.0	3 Way	282087-1*
	CIH10-AS4*	10	8.5	34.0	33.0	20.0	10.0	4 Way	282088-1*
	CIH12-AS1*	12	10	23.6	16.1	18.0	10.0	1 Way	282080-1*
	CIH12-AS3*	12	10	22.4	26.5	18.0	10.0	3 Way	282088-1*

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

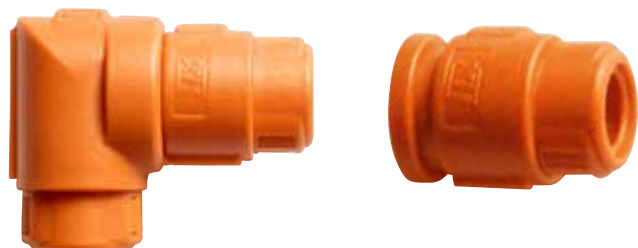
AMP AS Superseal 90° elbow swivel interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CIH08-90-AS2	08	7.5	33.3	30.3	18.0	10.0	2 Way	282080-1*
	CIH08-90-AS1*	08	7.5	37.5	30.3	18.0	10.0	1 Way	—
	CIH08-90-AS3*	08	7.5	33.3	30.3	18.0	10.0	3 Way	—
	CIH08-90-AS4*	08	7.5	37.0	30.3	18.0	10.0	4 Way	—
	CIH10-90-AS2*	10	8.5	35.0	38.0	19.0	10.0	2 Way	—
	CIH10-90-AS3*	10	8.5	35.0	38.0	19.0	10.0	3 Way	—
	CIH10-90-AS4*	10	8.5	41.2	38.0	19.0	10.0	4 Way	—
	CIH12-90-AS1*	12	10	33.3	30.3	18.0	10.0	1 Way	—
	CIH12-90-AS2*	12	10	33.3	30.3	20.5	10.0	2 Way	—
	CIH12-90-AS3*	12	10	33.3	30.3	26.7	10.0	3 Way	—
	CIH12-90-AS4*	12	10	37.0	30.3	33.0	10.0	4 Way	—

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

TempGuard external hinged connector interfaces

AMP Junior & Mini timer



AMP Junior & Mini timer - High temperature external hinged connector interface

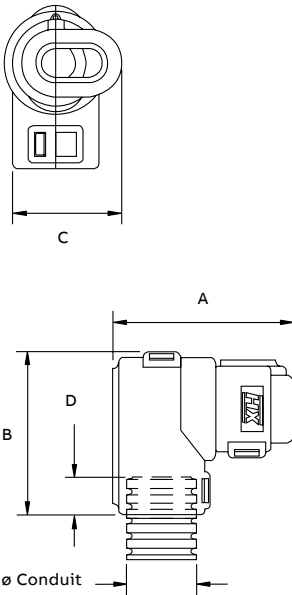
Single junction straight and 90° elbow interfaces providing high integrity, high temperature connection protection between AMP Superseal or Junior timer connectors and Harnessflex conduit systems in elevated temperature areas. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

AMP Junior & Mini timer straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CIH08-AM2	08	7.5	24.9	21.3	18.0	10.0	2 Way	347887-3*
	CIH08-AM3	08	7.5	24.9	27.2	18.0	10.0	3 Way	1-827578-1*
	CIH08-AM4	08	7.5	37.0	32.0	19.0	10.0	4 Way	281804-1*
	CIH12-AM2	12	10	24.9	21.3	18.0	10.0	2 Way	347887-3*
	CIH12-AM4	12	10	37.0	32.0	19.0	10.0	4 Way	281804-1*
	CIH08-AM1*	08	7.5	23.6	16.1	18.0	10.0	1 Way	—
	CIH08-AM3*	08	7.5	22.4	26.5	18.0	10.0	3 Way	—
	CIH08-AM4*	08	7.5	34.0	33.0	18.0	10.0	4 Way	—
	CIH10-AM2*	10	8.5	34.0	21.0	20.0	10.0	2 Way	—
	CIH10-AM3*	10	8.5	34.0	27.0	20.0	10.0	3 Way	—
	CIH10-AM4*	10	8.5	34.0	33.0	20.0	10.0	4 Way	—
	CIH12-AM1*	12	10	24.9	21.3	18.0	10.0	2 Way	—
	CIH12-AM3*	12	10	37.0	32.0	19.0	10.0	4 Way	—

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

AMP Junior & Mini timer 90° elbow swivel interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CIH08-90-AM2	08	7.5	35.7	30.3	21.3	7.0	2 Way	347887-3*
	CIH08-90-AM3	08	7.5	35.7	30.3	27.2	7.0	3 Way	1-827578-1*
	CIH08-90-AM4	08	7.5	39.5	30.3	32.0	7.0	4 Way	281804-1*
	CIH12-90-AM2	12	10	35.7	30.3	21.3	7.0	2 Way	347887-3*
	CIH08-90-AM1*	08	7.5	37.5	30.3	18.0	10.0	1 Way	—
	CIH10-90-AM2*	10	8.5	35.0	38.0	19.0	10.0	2 Way	—
	CIH10-90-AM3*	10	8.5	41.2	38.0	19.0	10.0	3 Way	—
	CIH10-90-AM4*	12	10	33.3	30.3	18.0	10.0	4 Way	—
	CIH12-90-AM1*	12	10	33.3	30.3	20.5	10.0	1 Way	—
	CIH12-90-AM3*	12	10	33.3	30.3	26.7	10.0	3 Way	—
	CIH12-90-AM4*	12	10	37.0	30.3	33.0	10.0	4 Way	—

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

TempGuard external hinged connector interfaces

Ampseal 16



Ampseal 16 - High temperature external hinged connector interface

A range of straight and 90° elbow fittings offering a compact and high integrity connection between Ampseal automotive connectors and Harnessflex conduit systems. These interfaces provide complete cable protection right up to the connector. They also provide strain relief and protection from high pressure washing, helping to maintain the sealing integrity of the connector.

Ampseal 16 straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	B	C	D	E		
	CIH08-AT2PL	08	7.5	23.0	18.0	34.0	12.0	2 Way	776427-1*
	CIH08-AT3PL	08	7.5	28.0	18.0	33.0	11.0	3 Way	776427-1*
	CIH08-AT4PL	08	7.5	29.0	23.0	39.0	13.0m	4 Way	776487-1*
	CIH12-AT4PL	12	10	29.0	23.0	37.0	11.0	4 Way	776487-1*
	CIH12-AT6PL	12	10	29.0	23.0	37.0	11.0	6 Way	776433-1*
	CIH12-AT8PL	12	10	32.0	23.0	37.0	11.0	8 Way	776494-1*
	CIH12-AT12PL*	12	10	41.0	23.0	37.0	11.0	12 Way	—
	CIH16-AT8PL*	16	13	32.0	23.0	37.0	11.0	8 Way	—
	CIH16-AT12PL*	16	13	41.0	23.0	37.0	11.0m	12 Way	—
	CIH20-AT20PL*	20	17	41.0	23.0	48.0	12.0m	8 Way	—

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime.

NOTE: LP = Plug, LR = Receptacle

—
Ampseal 16 90° elbow interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	B	C	D	E		
	CIH08-90-AT2LP	08	7.5	37.3	25.0	17.0	7.1	2 Way	776427-1*
	CIH08-90-AT3LP	08	7.5	39.8	29.0	17.1	7.1	3 Way	776427-1*
	CIH08-90-AT2PL	08	7.5	49.0	32.0	20.0	7.1	2 Way	776427-1*
	CIH08-90-AT3PL	08	7.5	49.0	34.0	20.0	7.1	3 Way	776427-1*
	CIH12-90-AT2LP	12	10	38.0	23.0	20.0	7.1	2 Way	776427-1*
	CIH12-90-AT3LP	12	10	40.2	27.1	17.1	7.1	3 Way	776427-1*
	CIH12-90-AT3LR	12	10	40.2	27.1	17.1	7.1	3 Way	—
	CIH12-90-AT6LP	12	10	43.1	27.5	22.5	7.1	6 Way	776433-1*
	CIH08-90-AT2LR*	08	7.5	37.3	25.0	20.0	7.1	2 Way	—
	CIH08-90-AT3LR*	08	7.5	39.8	29.0	17.1	7.1	3 Way	—
	CIH08-90-AT4LP*	08	7.5	40.8	29.4	20.6	7.1	4 Way	—
	CIH08-90-AT4LR*	08	7.5	40.8	29.4	20.6	7.1	4 Way	—
	CIH08-90-AT6LP*	08	7.5	42.8	29.4	22.5	7.1	6 Way	—
	CIH08-90-AT6LR*	08	7.5	42.8	29.4	22.5	7.1	6 Way	—

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime.

NOTE: LP = Plug, LR = Receptacle

TempGuard external hinged connector interfaces

Bosch Compact



Bosch Compact - High temperature external hinged connector interface

Single junction straight and 90° elbow fittings providing high integrity, high temperature connection between Bosch Compact connectors and Harnessflex conduit systems in elevated temperature areas. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

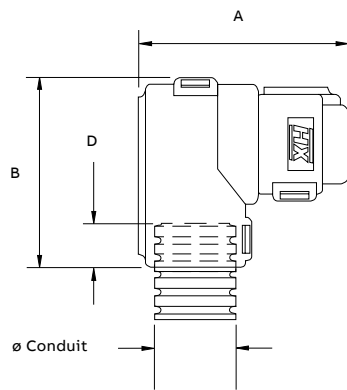
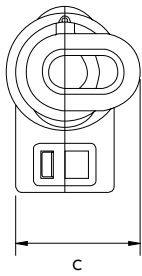
Bosch Compact straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CIH08-BC2	08	7.5	25.0	21.3	18.0	10.0	2 Way	1 928 403 137*
	CIH08-BC3	08	7.5	25.0	26.7	18.0	10.0	3 Way	1 928 403 110*
	CIH12-BC2	12	10	25.0	21.3	18.0	100	2 Way	1 928 403 137*
	CIH12-BC3	12	10	25.0	26.7	18.0	10.0	3 Way	1 928 403 110*
	CIH08-BC4*	08	7.5	25.0	29.0	18.0	10.0	4 Way	—
	CIH12-BC4*	12	10	25.0	29.0	18.0	10.0	4 Way	—

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

Bosch Compact 90° elbow swivel interface

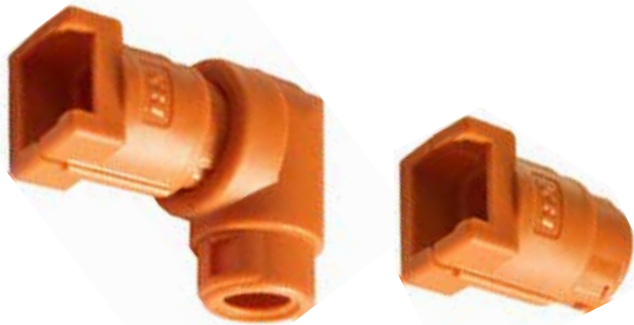
Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
	NC	NW	A	B	C	D		
CIH08-90-BC2	08	7.5	33.3	30.3	20.5	10.0	2 Way	1 928 403 137*
CIH08-90-BC3	08	7.5	33.3	30.3	26.7	10.0	3 Way	1 928 403 110*
CIH12-90-BC2	12	10	33.3	30.3	20.5	10.0	2 Way	1 928 403 137*
CIH08-90-BC4*	08	7.5	37.0	30.3	33.3	10.0	4 Way	–
CIH12-90-BC4*	12	10	37.0	30.3	33.3	10.0	4 Way	–



*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

TempGuard external hinged connector interfaces

Deutsch - DT Series

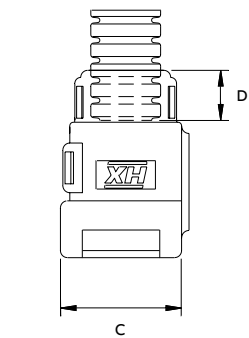


Deutsch - DT Series interface - High temperature external hinged connector interface

Single junction straight and 90° elbow fittings providing high integrity connections between Deutsch DT connectors and Harnessflex conduitsystems. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

Deutsch - DT Series straight interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CIH08-DT2	08	7.5	26.0	16.0	18.0	7.0	2 Way	DT06-2S*
	CIH08-DT3	08	7.5	30.0	22.0	24.0	12.0	3 Way	DT06-3S*
	CIH08-DT4	08	7.5	42.0	18.0	27.0	12.0	4 Way	DT06-4S*
	CIH12-DT2	12	10	26.0	16.0	18.0	7.0	2 Way	DT06-2S*
	CIH12-DT3	12	10	29.0	22.0	24.0	7.0	3 Way	DT06-3S*
	CIH12-DT4	12	10	40.0	18.0	27.0	7.0	4 Way	DT06-4S*
	CIH12-DT6	12	10	40.0	22.0	27.0	10.0	6 Way	DT06-6S*
	CIH12-DT8	12	10	40.0	25.0	30.0	10.0	8 Way	DT06-8S*
	CIH08-DT6*	08	7.5	42.0	22.0	27.0	12.0	6 Way	—
	CIH16-DT12*	16	13	44.0	24.0	40.0	10.0	12 Way	—



*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

—
Deutsch - DT Series 90° elbow swivel interface

	Part No.	Conduit size		Nominal dimensions (mm)				Interface reference	Connector reference
		NC	NW	A	B	C	D		
	CIH08-90-DT2	08	7.5	36.0	30.0	19.0	7.0	2 Way	DT06-2S*
	CIH08-90-DT4	08	7.5	48.0	30.0	25.0	7.0	4 Way	DT06-4S*
	CIH12-90-DT2	12	10	36.0	30.0	19.0	7.0	2 Way	DT06-2S*
	CIH08-90-DT3*	08	7.5	44.0	30.0	23.0	7.0	3 Way	—
	CIH08-90-DT6*	08	7.5	48.0	34.0	25.0	7.0	6 Way	—
	CIH12-90-DT3*	12	10	44.0	30.0	23.0	7.0	3 Way	—
	CIH12-90-DT4*	12	10	48.0	34.0	25.0	7.0	4 Way	—
	CIH12-90-DT6*	12	10	44.0	30.0	23.0	7.0	6 Way	—
	CIH12-90-DT8*	12	10	63.0	37.0	30.0	10.0	8 Way	—
	CIH12-90-DT12*	12	10	68.0	36.0	38.0	10.0	12 Way	—
	CIH16-90-DT8*	16	13	63.0	37.0	30.0	10.0	8 Way	—
	CIH16-90-DT12*	16	13	68.0	36.0	38.0	10.0	12 Way	—

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

TempGuard external hinged connector interfaces

FCI Automotive Apex



FCI Automotive Apex interface - High temperature external hinged connector interface

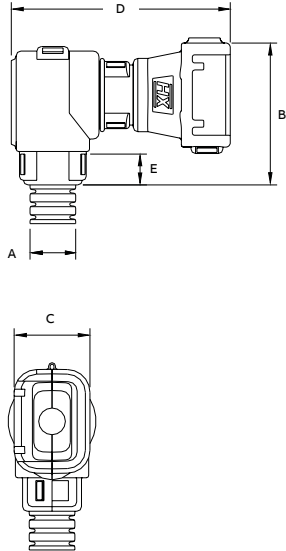
A range of straight and 90° elbow fittings offering a compact and high integrity, high temperature connection protection between FCI Apex automotive connectors or junior timer connectors and Harnessflex conduit systems in elevated temperature areas. These interfaces provide complete cable protection right up to the connector. They also provide strain relief and protection from high pressure washing, helping to maintain the sealing integrity of the connector.

FCI Automotive Apex straight interface

	Part No.	Conduit size (A)		Nominal dimensions (mm)			
		NC	NW	B	C	D	E
	CIH08-FCI02	08	7.5	25.0	17.0	33.0	12.0
	CIH08-FCI03	08	7.5	34.0	17.0	34.0	12.0
	CIH08-FCI04	08	7.5	39.0	17.0	34.0	12.0
	CIH12-FCI02	12	10	25.0	17.0	27.0	7.0
	CIH12-FCI03	12	10	35.0	17.0	29.0	7.0
	CIH12-FCI04	12	10	38.0	17.0	29.0	7.0
	CIH12-FCI14	12	10	53.0	26.0	34.0	10.0
	CIH16-FCI14*	—	—	53.0	26.0	34.0	—
	CIH17-FCI10*	17	14	39.2	25.5	44.0	10.6

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

FCI Automotive Apex 90° elbow swivel interface

	Part No.	Conduit size (A)		Nominal dimensions (mm)			
		NC	NW	B	C	D	E
	CIH08-90-FCI02	08	7.5	31.0	19.0	48.0	10.0
	CIH08-90-FCI03	08	7.5	35.0	19.0	49.0	10.0
	CIH12-90-FCI02	12	10	32.0	19.0	48.0	10.0
	CIH08-90-FCS02*	08	7.5	30.0	19.0	33.0	10.0
	CIH08-90-FCI04*	08	7.5	38.0	19.0	49.0	10.0
	CIH12-90-FCI03*	12	10	37.0	19.0	49.0	10.0
	CIH12-90-FCI04*	12	10	38.0	19.0	49.0	10.0
	CIH08-90-FCI14*	08	7.5	38.0	24.0	57.0	10.0
	CIH12-90-FCI14*	12	10	38.0	24.0	57.0	10.0
	CIH16-90-FCI14*	16	13	38.0	24.0	57.0	10.0

*Made to order - Part numbers listed are available to order but not stocked items, and would therefore be subject to manufacturing leadtime

HX Interfaces

HX 93286 Series external split connector interface



HX 93286 Series - HX interface

Split type customised interfaces providing high integrity connections to the Molex SRC series of connectors and Harnessflex conduit systems. The system offers connections to all types of slit and un-slit Harnessflex conduit systems multiple configurations both straight and at right angles to the connector to offer the maximum flexibility and space utilisation for harness design. Additionally, using the male type fitting the interface can be connected to Harnessflex hinged JPS, EPS, YPS and TPS fitting for multiple cable configuration outlet options. The interfaces provide a cable routing solution whilst also offering mechanical, abrasion and jet washing protection for both the connector and cabling.

1. Split external design

Unrestricted bore and quick assembly no tools required.

2. Multiple configuration options

Provides the right conduit and outlet position option.

3. High strength

Provides protection and security for connector and cable outlet options without the need for short conduit joints.

HX 93286 Straight interface

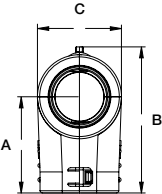
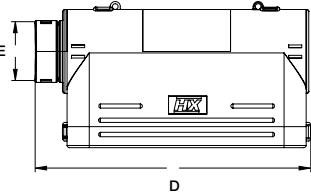
Straight interface Part No.	Conduit size (E)		Nominal dimensions (mm)			
	NC	NW	A	B	C	D
CI28-MX93286	28	23	56.6	77.5	38.3	113.2
CI32-MX93286	32	29	56.6	77.5	38.3	113.2
CI40-MX93286	40	36	56.6	83.3	46.8	113.2

Technical drawing of the HX 93286 Straight interface showing dimensions A, B, C, D, and E. The drawing includes a side view and a top view.

NOTE: Other configurations available on request

HX 93286 90° elbow interface

90° elbow interface Part No.	Conduit size (E)		Nominal dimensions (mm)			
	NC	NW	A	B	C	D
M28-90-MX93286	–	–	43.8	66.6	38.3	125.6
CI28-90-MX93286	28	23	43.8	66.6	38.3	125.6
CI32-90-MX93286	32	29	43.8	66.6	38.3	125.6
CI40-90-MX93286	40	36	43.8	68.5	46.8	131.4



NOTE: Other configurations available on request

Kostal hinged interface

Kostal straight interface & PG thread LK20



Kostal straight interface

Part No.	Conduit size (A)		Nominal dimensions (mm)				
	NC	NW	B	C	D	E	
CI16-LK20	16	13	51	28	34	10	
CI08-SLK28-3	8	7.5	51	28	34	10	

PG thread LK20

Part No.	Thread type	Thread length (mm)	A/F (mm)	I.D (mm)
PG21-LK20	PG21	12.2	37.8	22.6

Sumitomo hinged interface

Sumitomo 4 way hinged interface



Sumitomo 4 way hinged interface

Straight and 90° elbow interfaces providing high integrity connections between Sumitomo connectors and Harnessflex conduit systems. These interfaces are designed to snap together over all types of Harnessflex slit and unslit conduit, maintaining maximum conduit bore. In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing.

Sumitomo 4 way hinged interface

	Part No.	Conduit size (A)		Nominal dimensions (mm)			
		NC	NW	B	C	D	E
	CI08-SU4	08	7.5	34.4	31.5	16.1	12.3
	CI08-90-SU4	08	7.5	48.2	34.8	19.3	7.3

NOTE: 180° versions are available

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +120°C	Very high
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	



Special customised products

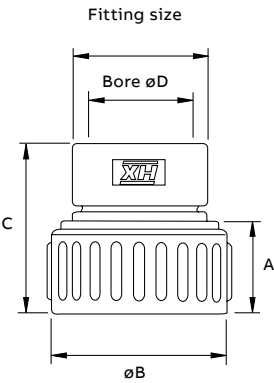
Interfaces for circular connectors



Interfaces for circular connectors - Special customised products

Interface provides connection between electrical circular connectors and hinged conduit system. Due to the innovative design, the interface can freely rotate without any harness movement.

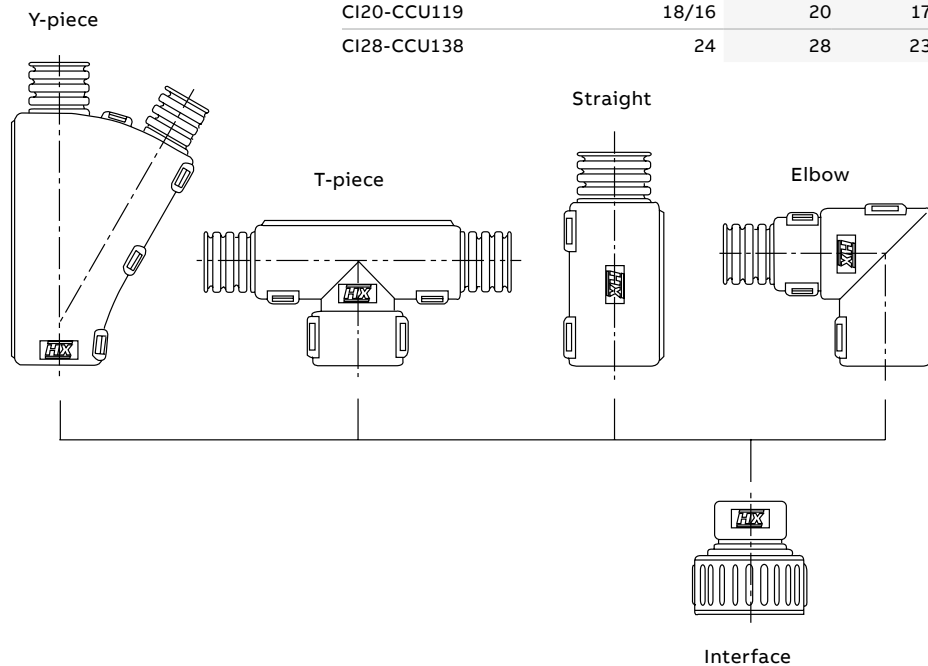
Hinged fitting

	Part No.	Shell size (mm)	Conduit size		Thread size
			NC	NW	
	NEPA14-16	14	16	13	13/16"-20 UNEF
	NEPA16-20	16	20	17	15/16"-20 UNEF
	NEPA24-28	24	28	23	17/16"-18 UNEF
	CI20-CCU100	18/16	20	17	1"-20 UNEF
	CI20-CCU119	18/16	20	17	13/16"-18 UNEF
	CI28-CCU138	24	28	23	13/8"-18 UNEF

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +120°C	Very high
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	

Interface for circular connector

Part No.	Shell size (mm)	Conduit size		Nominal dimensions (mm)			
		NC	NW	A	B	C	D
NEPA14-16	14	16	13	14.4	25.3	25.0	12.5
NEPA16-20	16	20	17	14.4	30.0	26.3	16.4
NEPA24-28	24	28	23	17.0	42.0	29.8	22.8
CI20-CCU100	18/16	20	17	11.0	30.0	26.0	16.4
CI20-CCU119	18/16	20	17	11.0	33.0	26.0	16.5
CI28-CCU138	24	28	23	13.0	41.5	30.0	22.8



Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +120°C	Very high
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	



Accessories

Multi-way reducers



Multi-way reducers

Multi-way reducers

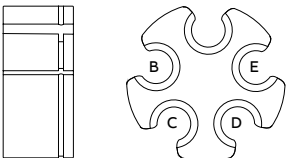
One-piece, multi-way breakout inserts providing reducing options to a variety of conduit sizes from a single hinged fitting junction. These reducers can accommodate all types of Harnessflex slit and unslit conduit and may be used with all Harnessflex hinged fittings.

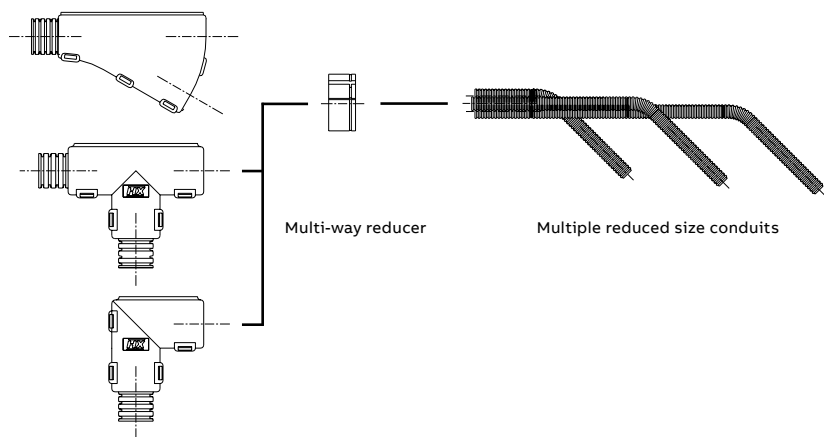
1. Split external design

Unrestricted bore and quick assembly no tools required.

2. Multiple configuration options

Provides the right conduit and outlet position option.

	Part No.	From conduit size		To conduit size (NC)					To conduit size (NW)			
		NC	NW	A	B	C	D	E	A	B	C	D
Multi-way reducer configurations Hinged fittings 	ST20-2x08	20	17	08	08	–	–	–	7.5	7.5	–	–
	ST20-12	20	17	12	–	–	–	–	10	–	–	–
	STN25-3x08	25	22	08	08	08	–	–	7.5	7.5	7.5	–
	ST25-12	25	22	12	08	–	–	–	10	–	–	–
	ST25-1208	25	22	12	08	–	–	–	10	7.5	–	–
	ST28-4x08	28	23	08	08	08	08	–	7.5	7.5	7.5	7.5
	ST30-4x08	30	26	08	08	08	–	–	7.5	7.5	7.5	7.5
	ST32-12-4x08	32	29	12	08	08	08	08	7.5	7.5	7.5	7.5



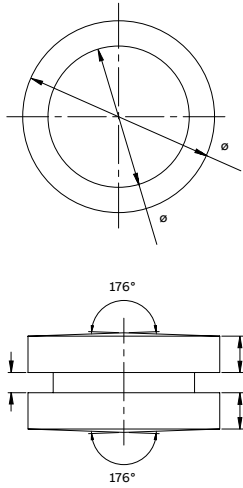
Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive		For use with: All conduits in the Harnessflex range	-40°C to +120°C	Very high
RoHS Compliant to 2011/65/EU			Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP40	Yes	Self extinguishing	
	IP67	N/A	Low smoke toxicity	
	IP68	N/A	Halogen free	

Accessories

Blanking caps



Blanking caps

	Part No.	Conduit size	
		NC	NW
	BPST08	08	7.5
	BCH12	08	7.5
	BCH20	20	17



Sealed fittings

Introduction

Sealed fittings are designed to protect against high pressure washing, excessive cable strain and mechanical abrasion.

Capabilities

Through our internal design team we are able to offer unique solutions, specific to our customers applications. Using the latest 3D CAD modelling software we are able to communicate new product designs quickly and efficiently.

Rapid prototype parts can be made to order to enable product evaluation early on in the design cycle.

If you have a requirement for a dedicated sealed fitting please contact us to discuss your requirements.

Features & benefits

- The anti-vibration spring clips can be released easily if access is needed - no tool required
- In order to maintain the IP rating of the sealed fittings face sealing washers must be used with all threaded fittings
- Our sealed T & X pieces and our sealed manifolds have inspection covers, which can be removed during installation to aid cable routing



Sealed fittings

Straight fitting



Straight fitting - Sealed fittings

Straight compression type fitting incorporating fixed or swivel male threads to provide connection to knockouts and threaded entries. These fittings are designed for use with all types of unslit Harnessflex conduit, maintaining maximum conduit bore.

Straight (metric versions) - Sealed fittings

Straight body Part No.	Cap nut	Sealing bush	Conduit size		Thread size
			NC	NW	
AB12-M16	CN07	SRN07	10	8.5	M16 x 1.5mm
AB12-M20	CN07	SRN07	10	8.5	M20 x 1.5mm
AB12-M16	CN09	SRN09	12	10	M16 x 1.5mm
AB12-M20	CN09	SRN09	12	10	M20 x 1.5mm
AB16-M16	CN11	SRN11	16	13	M16 x 1.5mm
AB16-M20	CN11	SRN11	16	13	M20 x 1.5mm
AB20-M20	CN16	SRN16	20	17	M20 x 1.5mm
AB25-M25	CN21	SRN21	25	22	M25 x 1.5mm
AB25-M25	CN28	SRN28	28	23	M25 x 1.5mm
AB32-M32	CN32	SRN29	32	29	M32 x 1.5mm
AB40-M40	CN36	SRN36	40	36	M40 x 1.5mm
AB50-M50	CN48	SRN48	50	48	M50 x 1.5mm

NOTE: Order elbow bodies, cap nuts, sealing bushes separately

A	B	C	Min bore D	Thread E	A/F size F	G
34	12	23	11	M16 x 1.5mm	22	17
37	14	23	15	M20 x 1.5mm	27	17
34	12	26	11	M16 x 1.5mm	22	17
37	14	26	15	M20 x 1.5mm	27	17
35	12	26	11	M16 x 1.5mm	27	17
37	14	26	15	M20 x 1.5mm	27	11
39	14	31	15	M20 x 1.5mm	30	20
43	15	39	19	M25 x 1.5mm	38	21
43	15	39	19	M25 x 1.5mm	38	21
49	16	46	26	M32 x 1.5mm	46	27
59	16	58	31	M40 x 1.5mm	59	35
59	16	72	41	M50 x 1.5mm	73	35

NOTE: Dimensions refer to an overall assembly

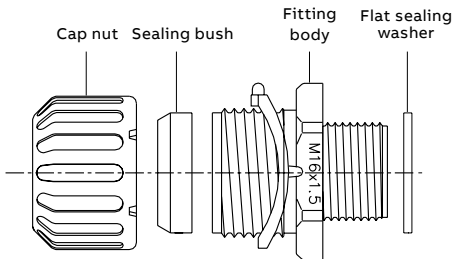
Straight (PG version) - Sealed fittings

Straight body Part No.	Cap nut	Sealing bush	Conduit size		Thread size
			NC	NW	
AB12-PG09	CN07	SRN07	10	8.5	PG09
AB12-PG11	CN07	SRN07	10	8.5	PG11
AB12-PG13	CN07	SRN07	10	8.5	PG13.5
AB12-PG09	CN09	SRN09	12	10	PG09
AB12-PG11	CN09	SRN09	12	10	PG11
AB12-PG13	CN09	SRN09	12	10	PG13.5
AB16-PG09	CN11	SRN11	16	13	PG09
AB16-PG11	CN11	SRN11	16	13	PG11
AB16-PG13	CN11	SRN11	16	13	PG13.5
AB20-PG16	CN16	SRN16	20	17	PG16
AB25-PG21	CN21	SRN21	25	22	PG21
AB25-PG21	CN28	SRN28	28	23	PG21
AB32-PG29	CN32	SRN32	32	29	PG29
AB40-PG36	CN36	SRN36	40	36	PG36
AB50-PG48	CN48	SRN48	50	48	PG48

NOTE: Order fitting bodies, cap nuts and sealing bushes separately
Part numbers for NPT and PF threads available on request

A	B	C	Min bore D	Thread E	A/F size F	G
32	10	23	10	PG09	22	17
32	10	23	14	PG11	22	17
32	10	23	16	PG13.5	22	17
32	10	23	10	PG09	22	17
32	10	23	14	PG11	22	17
32	10	26	16	PG13.5	27	17
32	10	26	10	PG09	27	17
32	10	26	14	PG11	27	17
32	10	26	16	PG13.5	27	17
35	11	31	18	PG16	30	20
40	12	39	23	PG21	38	21
40	12	39	23	PG21	38	21
45	12	46	31	PG29	46	27
55	12	58	38	PG36	59	35
55	12	72	50	PG48	73	35

NOTE: Dimensions refer to an overall assembly



Sealed fittings

Straight fitting



1. IP66, IP67 & IP68 sealing

SRN sealing bush protects against ingress of water and dust.

2. Cap-nut retention ring

Ensures integrity of assembly under extreme vibration (suits NC10-32 size elbows).

3. Choice of threads

Available with metric, PG fixed male threads, NPT & PF.

4. Includes flat seal washer

Provides seal between panel/bulkhead and fitting.

Straight (swivel metric version) - Sealed fittings

	Straight body Part No.	Cap nut	Sealing bush	Conduit size		Thread size
				NC	NW	
Straight fitting	ABS12-M16	CN07	SRN07	10	8.5	M16 x 1.5mm
	ABS12-M20	CN07	SRN07	10	8.5	M20 x 1.5mm
	ABS12-M16	CN09	SRN09	12	10	M16 x 1.5mm
	ABS12-M20	CN09	SRN09	12	10	M20 x 1.5mm
	ABS20-M20	CN16	SRN16	20	17	M20 x 1.5mm

NOTE: Order fitting bodies, cap nuts and sealing bushes separately
Other thread options available including PF, PG, NPT and UNEF - contact us for further information

Straight swivel fitting

	Straight body Part No.	A	B	C	Min bore D	Thread E	A/F Size F	G
Straight swivel fitting	ABS12-M16	44.5	11	23	12	M16 x 1.5mm	24	17
	ABS12-M20	44.5	11	23	12	M20 x 1.5mm	24	17
	ABS12-M16	44.5	11	23	12	M16 x 1.5mm	24	17
	ABS12-M20	44.5	11	23	12	M20 x 1.5mm	24	17
	ABS20-M20	47.0	11	31	16	M20 x 1.5mm	33	22.5

NOTE: Dimensions refer to an overall assembly

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved (NC conduits ONLY)		For use with: All conduits in the Harnessflex range	-40°C to +150°C	Very high
CE Mark to the Low Voltage Directive			Fire performance	
RoHS Compliant to 2011/65/EU	IP40	N/A	Self extinguishing	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP67	Yes	Low smoke toxicity	
	IP68	Yes (2 bar 30mins)	Halogen free	



Sealed fittings

90° Elbow



90° Elbow - Sealed fittings

90° compression type fitting incorporating fixed or swivel male threads to provide connection to knockouts and threaded entries. These fittings are designed for use with all types of unslit Harnessflex conduit, maintaining maximum conduit bore.

90° Elbow (metric version) - Sealed fittings

Elbow body Part No.	Cap nut	Sealing bush	Face sealing washer	Conduit size		Thread size
				NC	NW	
AB16-M16-90	CN11	SRN11	SWM16	16	13	M16 x 1.5mm
AB16-M20-90	CN11	SRN11	SWM20	16	13	M20 x 1.5mm
AB20-M20-90	CN16	SRN16	SWM20	20	17	M20 x 1.5mm
AB25-M25-90	CN21	SRN21	SWM25	25	22	M25 x 1.5mm
AB25-M25-90	CN28	SRN28	SWM25	25	23	M25 x 1.5mm
AB32-M32-90	CN32	SRN29	SWM32	32	29	M32 x 1.5mm
AB40-M40-90	CN36	SRN36	SWM40	40	36	M40 x 1.5mm
AB50-M50-90	CN48	SRN48	SWM50	50	48	M50 x 1.5mm

NOTE: Order elbow bodies, cap nuts, sealing bushes separately

A	B	C	Min bore D	Thread E	A/F size F	G	H
46	12	26	15	M16 x 1.5mm	22	48	17
46	13	26	15	M20 x 1.5mm	27	49	17
47	13	31	15	M20 x 1.5mm	27	51	20
56	15	39	20	M25 x 1.5mm	33	62	21
56	15	39	20	M25 x 1.5mm	33	62	21
66	16	46	26	M32 x 1.5mm	40	76	27
77	16	59	34	M40 x 1.5mm	48	93	35
94	16	72	40	M50 x 1.5mm	59	114	35

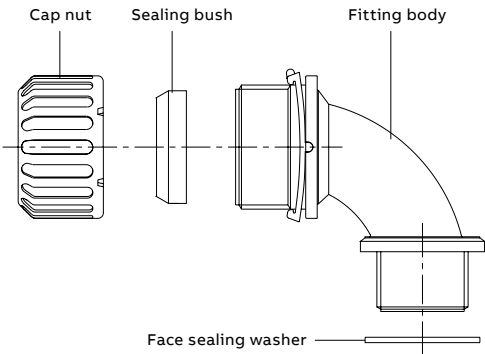
NOTE: Dimensions refer to an overall assembly

90° Elbow (PG version) - Sealed fittings

Elbow body Part No.	Cap nut	Sealing bush	Face sealing washer	Conduit size		Thread size
				NC	NW	
AB12-PG09-90	CN07	SRN07	SWPG09	10	8.5	PG09
AB12-PG09-90	CN09	SRN09	SWPG09	12	10	PG09
AB16-PG11-90	CN11	SRN11	SWPG11	16	13	PG11
AB20-PG16-90	CN16	SRN16	SWPG16	20	17	PG16
AB25-PG21-90	CN21	SRN21	SWPG21	25	22	PG21
AB25-PG21-90	CN28	SRN21	SWPG21	28	23	PG21
AB32-PG29-90	CN32	SRN29	SWPG29	32	29	PG29

NOTE: Order elbow bodies, cap nuts, sealing bushes separately

A	B	C	Min bore D	Thread E	A/F size F	G	H
46	10	23	11	PG09	22	44	17
46	10	23	11	PG09	22	44	17
46	10	26	14	PG11	25	46	17
46	12	31	15	PG16	28	50	20
56	12	39	22	PG21	36	59	21
56	12	39	22	PG21	36	59	21
66	12	46	29	PG29	44	72	27



Sealed fittings

90° Elbow



1. IP66, IP67 & IP68 sealing

SRN sealing bush protects against ingress of water and dust.

2. Cap-nut retention ring

Ensures integrity of assembly under extreme vibration (suits NC10-32 size elbows).

3. 90° Swept elbow

Avoids cable damage and abrasion.

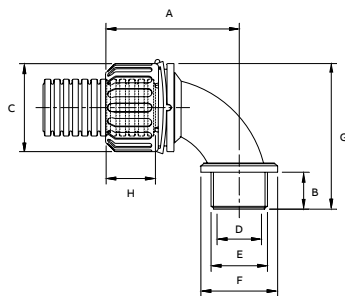
4. Choice of threads

Available with Metric, PG fixed male threads and optional face sealing washer.

90° Elbow (swivel metric version) - Sealed fittings

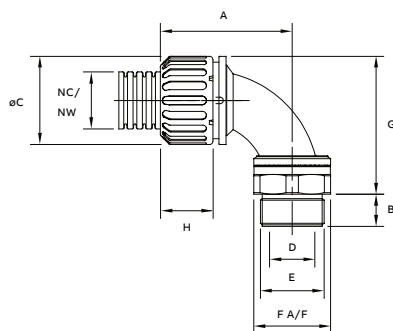
	Elbow body Part No.	Cap nut	Sealing bush	Face sealing washer	Conduit size		Thread size
					NC	NW	
90° elbow fitting	ABS12-M16-90	CN07	SRN07	SWM16	10	8.5	M16 x 1.5mm

NOTE: Order elbow bodies, cap nuts, sealing bushes and face sealing washers separately
Other thread options available including PF, PG, NPT and UNEF - contact us for further information



Elbow body Part No.	A	B	C	Min bore D	Thread E	A/F Size F	G	H
ABS12-M16-90	45	12	23	12	M16 x 1.5mm	24	45	17

90° elbow swivel fitting



Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved (NC conduits ONLY)		For use with: All conduits in the Harnessflex range	-40°C to +150°C	Very high
CE Mark to the Low Voltage Directive			Fire performance	
RoHS Compliant to 2011/65/EU	IP40	N/A	Self extinguishing	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP67	Yes	Low smoke toxicity	
	IP68	Yes (2 bar 30mins)	Halogen free	



Sealed fittings

90° Flange



90° Flange - Sealed fittings

90° elbow compression type fitting providing a 4 hole panel mounting facility. These fittings are designed for use with all types of unslit Harnessflex conduit, maintaining maximum conduit bore.

1. IP67 Sealing bush

Protects against the ingress of water and dust.

2. Cap-nut retention ring

Ensures integrity of assembly under extreme vibration.

3. 90° Flange design

Avoids cable damage and abrasion.

4. Integral O ring face seal

Provides seal between panel/bulkhead and fitting.

90° Flange - Sealed fittings

Flange body

Sealing bush

Cap nut

H

I

Flange body

Part No.

Cap nut

Sealing bush

Conduit size

NC

NW

AB32-F90

CN32

SRN29

32

29

AB40-F90

CN36

SRN36

40

36

AB50-F90

CN48

SRN48

50

48

NOTE: Other configurations available on request

A

B

C

D

E

F

G

J

6mm

Flange body

Part No.

Nominal dimensions (mm)

AB32-F90

66

54

46

36

95

36

17

63

53

27

AB40-F90

86

73

63

46

115

30

27

77

64

35

AB50-F90

86

73

73

59

125

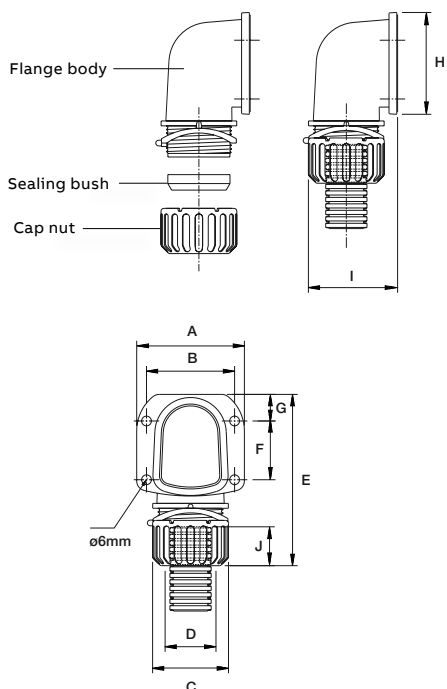
30

30

86

77

35



NOTE: Dimensions refer to an overall assembly

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved (NC conduits ONLY)		For use with: All conduits in the Harnessflex range	-40°C to +150°C	Very high
CE Mark to the Low Voltage Directive			Fire performance	
RoHS Compliant to 2011/65/EU	IP40	N/A	Self extinguishing	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP67	Yes	Low smoke toxicity	
	IP68	Yes (2 bar 30mins)	Halogen free	

Sealed fittings

T-piece



T-piece - Sealed fittings

Symmetrical, 3 junction compression type fittings providing a variety of conduit size configurations. These fittings are designed for use with all types of unsplit Harnessflex conduit, maintaining maximum conduit bore.

1. IP67 Sealing bush

Protects against the ingress of water and dust.

2. Cap-nut retention ring

Ensures integrity of assembly under extreme vibration.

3. Smooth contoured internal form

Protects cables from damage during installation.

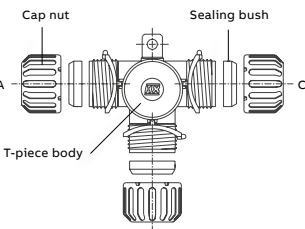
4. Integral mounting bracket

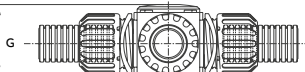
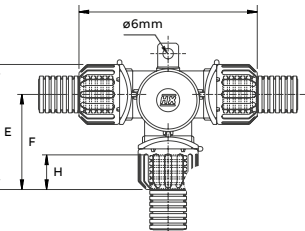
Provides secure external fixing point.

5. Removable IP67 inspection lid

Provides easy access to cables during installation.

T-piece - Sealed fitting

	T-piece with bracket Part No.	T-piece no bracket Part No.	Cap nut	Sealing bush	Conduit size						Nominal dimensions (mm)					
					NC			NW								
					A	B	C	A	B	C	D	E	F	G	H	
	—	TP12	CN07	SRN07	10	10	10	8.5	8.5	8.5	68	50	39	27	17	
	—	TP12	CN09	SRN09	12	12	12	10	10	10	68	50	39	27	17	
	—	TP16	CN11	SRN11	16	16	16	13	13	13	69	51	38	31	17	
	TPB20	TP20	CN16	SRN16	20	20	20	17	17	17	80	58	43	35	20	
	TPB28	TP28	CN21	SRN21	25	25	25	22	22	22	95	71	52	43	21	
	TPB28	TP28	CN28	SRN28	28	28	28	23	23	23	95	71	52	43	21	
	TPB32	—	CN32	SRN29	32	32	32	29	29	29	109	84	61	51	27	



NOTE: Order T-piece bodies, cap nuts and sealing bushes separately. Dimensions refer to an overall assembly

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved (NC conduits ONLY)		For use with: All conduits in the Harnessflex range	-40°C to +150°C	Very high
CE Mark to the Low Voltage Directive			Fire performance	
RoHS Compliant to 2011/65/EU	IP40	N/A	Self extinguishing	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP67	Yes	Low smoke toxicity	
	IP68	Yes (2 bar 30mins)	Halogen free	

Sealed fittings

X-piece



X-piece - Sealed fittings

Symmetrical 4 junction compression type fitting providing a variety of conduit size configurations. These fittings are designed for use with all types of unslit Harnessflex conduit, maintaining maximum conduit bore.

1. IP67 Sealing bush

Protects against the ingress of water and dust.

2. Cap-nut retention ring

Ensures integrity of assembly under extreme vibration.

3. Smooth contoured internal form

Protects cables from damage during installation.

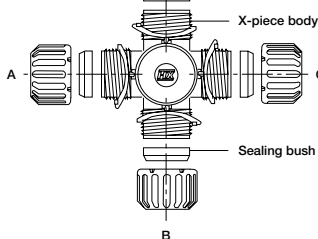
4. Removable IP67 inspection lid

Provides easy access to cables during installation.

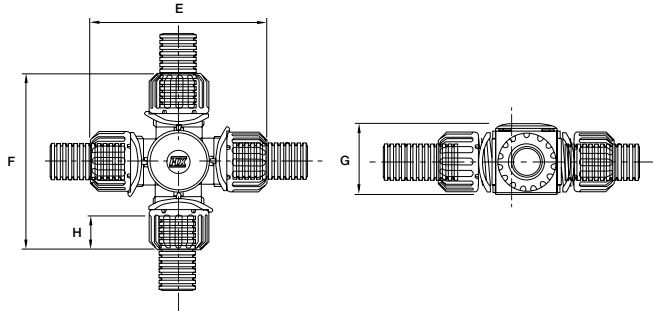
X-piece - Sealed fittings

X-piece Part No.	Cap nut	Sealing bush	Conduit size (NC)				Conduit size (NW)			
			A	B	C	D	A	B	C	D
XP20	CN16	SRN16	20	20	20	20	17	17	17	17

NOTE: Order X-piece bodies, cap nuts and sealing bushes separately



X-piece Part No.	E	F	G	H
XP20	80	80	35	20



Approvals

ADR Approved (NC conduits ONLY)
CE Mark to the Low Voltage Directive
RoHS Compliant to 2011/65/EU
Conforms with End of Life Vehicle
directive (ELV) EU200/53/EC



IP Rating

Appropriate fitting

	For use with: All conduits in the Harnessflex range
IP40	N/A
IP67	Yes
IP68	Yes (2 bar 30mins)

Temperature range

-40°C to +150°C

UV resistance

Very high

Fire performance

Self extinguishing
Low smoke toxicity
Halogen free

Sealed fittings

Multi-way



Multi-way fitting - Sealed fittings

Asymmetrical 4 junction compression fitting. These fittings are designed for use with all types of unslit Harnessflex conduit, maintaining maximum conduit bore.

1. IP67 Sealing bush

Protects against the ingress of water and dust.

2. Cap-nut retention ring

Ensures integrity of assembly under extreme vibration.

3. Smooth contoured internal form

Protects cables from damage during installation.

4. Integral mounting bracket

Provides secure external fixing point.

5. Removable IP67 inspection lid

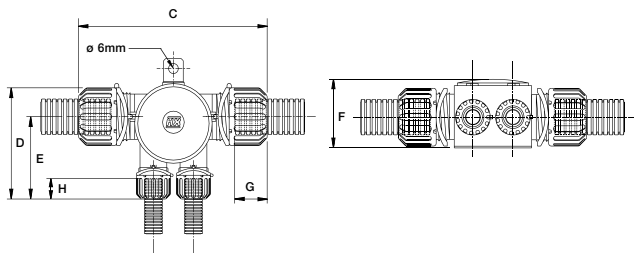
Provides easy access to cables during installation.

Multi-way fitting - Sealed fittings

	Multi-way fitting Part No.	Cap nut		Sealing bush		Conduit size (NC)		Conduit size (NW)	
		A	B	A	B	A	B	A	B
	TPM2512	CN21	CN07	SRN21	SRN07	25	10	22	8.5
	TPM2512	CN21	CN09	SRN21	SRN09	25	12	22	10
	TPM2512	CN28	CN07	SRN28	SRN07	28	10	23	8.5
	TPM2512	CN28	CN09	SRN28	SRN09	28	12	23	10

NOTE: Order Multi-way fitting, cap nuts and sealing bushes separately

Multi-way fitting Part No.	C	D	E	F	G	H
TPM2512	105	74	55	40	21	17



NOTE: Dimensions refer to an overall assembly

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved (NC conduits ONLY)		For use with: All conduits in the Harnessflex range	-40°C to +150°C	Very high
CE Mark to the Low Voltage Directive			Fire performance	
RoHS Compliant to 2011/65/EU	IP40	N/A	Self extinguishing	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP67	Yes	Low smoke toxicity	
	IP68	Yes (2 bar 30mins)	Halogen free	



Sealed fittings

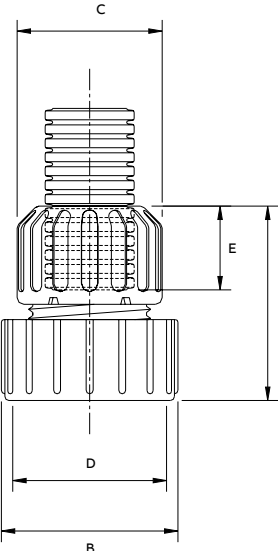
Circular UNEF connector interfaces



Circular UNEF connector interfaces - Sealed fittings

Straight compression type fittings providing connection between UNEF style circular connections and conduit systems. These fittings are designed for use with all types of unslit Harnessflex conduit, maintaining maximum conduit bore.

Circular UNEF connector interfaces - Sealed fittings

	Interface body Part No.	Cap nut	Sealing bush	Face sealing washer	Conduit size		Thread size
					NC	NW	
	MPA01	CN07	SRN07	SWPG07	10	8.5	5/8"-24 UNEF
	MPA01	CN09	SRN09	SWPG07	12	10	5/8"-24 UNEF
	MPA03	CN16	SRN16	SWM20	20	17	1"-20 UNEF
	MPA04	CN16	SRN16	SWPG16	20	17	13/16"-18 UNEF
	MPA08	CN07	SRN07	SWPG09	10	8.5	3/4"-20 UNEF
	MPA08	CN09	SRN09	SWPG09	12	10	3/4"-20 UNEF
NOTE: Order interface bodies, cap nuts, sealing bushes and sealing washers separately Specials available upon request, please contact our technical team for further details							
	Interface body Part No.	Nominal dimensions (mm)			Thread size		E (mm)
		A	B	C	D		
	MPA01	30	24	23	5/8"-24 UNEF		17
	MPA03	33	36	31	1"-20 UNEF		20
	MPA04	32	37	31	13/16"-18 UNEF		20
	MPA08	30	32	23	3/4"-20 UNEF		17

*NOTE: Dimensions refer to overall assembly

Sealed fittings

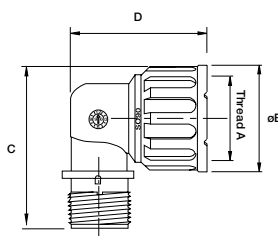
Solenoid connector interfaces

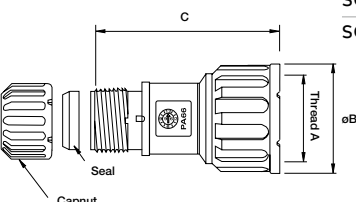


Solenoid connector interfaces - Sealed fittings

Screw-thread straight and elbow connectable interfaces for circular solenoids, sensors and switches. These fittings are designed for use with all types of unslit Harnessflex conduit, maintaining maximum conduit bore.

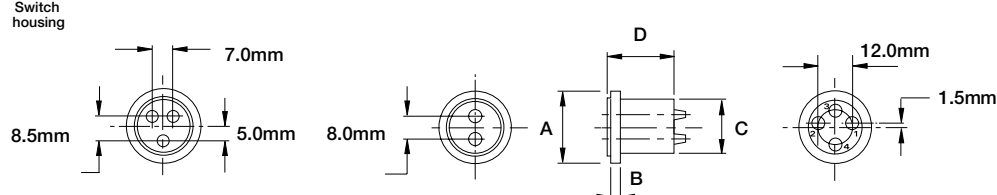
Solenoid connector interfaces - Sealed fittings

	Elbow fitting Part No.	Thread A	Nominal dimensions (mm)			Nut colour
			B	C	D	
	SC-M24-90	M24 x 1.0mm	31.3	8.5	40.5	Black
	SC-M27-90	M27 x 1.0mm	34.0	40.4	0.5	Grey

	Straight fitting Part No.	Thread A	Nominal dimensions (mm)			Nut colour
			B	C	D	
	SC-M24-S	M24 x 1.0mm	31	53	–	Black
	SC-M27-S	M27 x 1.0mm	34	54	–	Grey

RSG Housing - Sealed fittings

Part No.	Suitable for connector type	Number of pins	Nominal dimensions (mm)			
			A	B	C	D
RSG02	M27	2	25.0	3.5	18.7	23
RSG03	M27	3	25.3	3.5	18.0	21
RSG04	M27	4	25.3	3.5	18.7	23
RSG05	M24	2	22.5	3.5	18.0	23
RSG06	M24	3	22.3	3.5	18.0	21



Sealed fittings

Reducing sealing bushes



Reducing sealing bushes - Sealed fitting

	Cap nut Part No.	R/S bushes Part No.	From conduit size		To conduit size	
			NC	NW	NC	NW
	CN09-08	RSB12-08	12	10	08	7.5
	CN11-08	RSB16-08	16	13	08	7.5
	CN11-12	RSB16-12	16	13	12	10.0
	CN16-08	RSB20-08	20	17	08	7.5
	CN16-12	RSB20-12	20	17	12	10.0
	CN16-16	RSB20-16	20	17	16	13.0
	CN21-12	RSB25-12	25	22	12	10.0
	CN21-16	RSB25-16	25	22	16	13.0
	CN21-20	RSB25-20	25	22	20	17.0
	CN21-12	RSB28-12	28	23	12	10.0
	CN21-16	RSB28-16	28	23	16	13.0
	CN21-20	RSB28-20	28	23	20	17.0
	CN32-20	RSB32-20	32	29	20	17.0
	CN32-25	RSB32-25	32	29	25	22.0
	CN32-28	RSB32-28	32	29	28	23.0

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved		For use with: All conduits in the Harnessflex range	-40°C to +150°C	Very high
CE Mark to the Low Voltage Directive			Fire performance	
RoHS Compliant to 2011/65/EU	IP40	N/A	Self extinguishing	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP67	Yes	Low smoke toxicity	
	IP68	N/A	Halogen free	



Sealed fittings

Cable glands



Cable glands - Sealed fittings

Straight compression type cable glands incorporating fixed male threads to provide secure cable connections through knockouts and threaded entries.

Cable glands - Sealed fittings

	Metric Part No.	Metric thread A	Cable OD range B (mm)	Nominal dimensions (mm)			
				C	D	E	F
	CGS-M16	M16 x 1.5mm	4.0 - 10.0	9	34.5	21	23.5
	CGS-M20	M20 x 1.5mm	6.0 - 12.0	10	37.0	24	27.0
	CGS-M25	M25 x 1.5mm	13.0 - 18.0	11	40.0	30	33.0
	CGS-M32	M32 x 1.5mm	17.0 - 25.0	12	49.0	41	45.5
	CGS-M40	M40 x 1.5mm	24.0 - 32.0	13	55.0	50	55.5
	PG Part No.	PG thread A	Cable OD range B (mm)	Nominal dimensions (mm)			
				C	D	E	F
	CGS-PG07	PG7	2.0 - 6.5	8	31.0	17	19.0
	CGS-PG09	PG9	4.0 - 10.0	8	33.5	21	23.5
	CGS-PG11	PG11	6.0 - 12.0	8	35.0	24	27.0
	CGS-PG13	PG13.5	6.0 - 12.0	9	36.0	24	27.0
	CGS-PG16	PG16	10.0 - 14.0	10	38.5	27	30.0
	CGS-PG21	PG21	13.0 - 18.0	11	40.0	30	33.0
	CGS-PG29	PG29	17.0 - 25.0	11	48.0	41	45.5

Approvals

CE Mark to the Low Voltage Directive
RoHS Compliant to 2011/65/EU
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC



IP Rating

For use with: N/A
IP40 N/A
IP67 Yes
IP68 N/A

Appropriate fitting

Temperature range

-40°C to +120°C

UV resistance

Very high

Fire performance

Self extinguishing
Low smoke toxicity
Halogen free

Accessories

Locknuts & Face sealing washers



1. Protects cables from damage during installation

With twin location points to assist fixing to conduit or connector.

2. Internal location lip

Provides internal protection during cable installation.

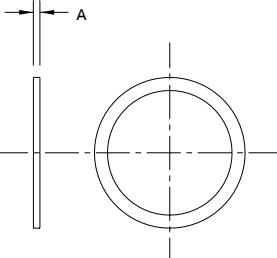
3. Multiple cable carrying capacity

Provides cable breakout facility in situations where sealing is not required.

Locknut

	Part No.	Thread size	Nominal dimensions (mm)			Part No.	Thread size	Nominal dimensions (mm)	
			A	B (A/F)				A	B (A/F)
	LNP-M16	M16 x 1.5mm	7	19		LNP-PG07	PG07	5	19
	LNP-M20	M20 x 1.5mm	8	23		LNP-PG09	PG09	5	22
	LNP-M25	M25 x 1.5mm	9	28		LNP-PG11	PG11	5	24
	LNP-M32	M32 x 1.5mm	9	36		LNP-PG13	PG13.5	6	27
	LNP-M40	M40 x 1.5mm	10	46		LNP-PG16	PG16	6	30
	LNP-M50	M50 x 1.5mm	10	60		LNP-PG21	PG21	7	36
						LNP-PG29	PG29	7	46
						LNP-PG36	PG36	9	56
						LNP-PG48	PG48	9	59

Face sealing washer

	Part No.	Thread	A (mm)	Part No.	Thread size	A (mm)	
	SWM16	M16	1.5	SWPG07	PG07	1.2	
	SWM20	M20	1.5	SWPG09	PG09	1.2	
	SWM25	M25	1.5	SWPG11	PG11	1.2	
	SWM32	M32	1.5	SWPG13	PG13.5	1.2	
	SWM40	M40	1.5	SWPG16	PG16	1.2	
	SWM50	M50	1.5	SWPG21	PG21	1.2	
				SWPG29	PG29	1.2	
				SWPG36	PG36	1.2	
			SWPG48	PG48	1.2		

End sleeve

	Part No.	From conduit size		Outlet dia. range (C) (mm)	Nominal dimensions (mm)		
		NC	NW		A	B	D
	ESN12	12	10	4 - 8	28	17	19
	ESN16	16	13	5 - 9	35	17	23
	ESN20	20	17	7 - 14	42	20	28
	ESN25	25	22	9 - 17	50	21	31
	ESN28	28	23	14 - 22	50	21	34
	ESN32	32	29	16 - 32	53	27	40
	ESN40	40	36	16 - 30	56	35	50

**1. Swivel capability**

Converts sealed fittings into freely rotating IP40 fittings for dynamic applications.

2. High pull-off strength

Split C ring design sits tightly into conduit corrugations.

End cap

	Part No.	From conduit size		Outlet dia. range (mm)	Nominal dimensions (mm)		
		NC	NW		A	B	C
	EK03-08	08	7.5	3	19	13	14
	EK05	12	10	5	22	14	17

Smooth entry grommet

	Part No.	From conduit size		A (mm)
		NC	NW	
	SEG12	12	10	8
	SEG20	20	17	16
	GROM08	08	7.5	8
	GROM12	12	10	12

NOTE: Smoothbore. One piece slit insert providing abrasion protection for cables passing through a hinged junction where conduit is not used

Smooth end cap

	Part No.	From conduit size		Nominal dimensions (mm)		
		NC	NW	A	B	C
	CES12	12	10	8.0	15	16
	CES16	16	13	9.5	15	18
	CES20	20	17	13.5	18	25
	CES28	28	23	20.5	20	32
	CES32	32	29	25.7	20	38

NOTE: Push in one piece fitting leaving a smooth exit from conduit when fittings not used

Swivel C ring

	Part No.	From conduit size	
		NC	NW
	SC16HX	16	13
	SC20HX	20	17
	SC28HX	28	23
	SC32HX	32	29
	SC40HX	40	36
	SC50HX	50	48

NOTE: Replaces SRN seal to provide a rotating joint

Accessories

Conduit clip



Conduit clip
One piece non-metallic conduit clips providing secure mounting points for Harnessflex conduit systems. These fittings are designed to snap together over all types of Harnessflex slit and unslit conduit.

- 1. One-piece design**
Overcentre facility holds conduit securely in place during harness fabrication.
- 2. Internal conduit location step**
Prevents lateral movement of conduit even when lid is open.
- 3. Integral hinged lid**
Provides added security when closed and can be removed if not required.
- 4. Integral fixing hole**
Provides centre location point with hexagonal counter-bore for use with captive nuts.

Conduit clip

Part No.	Conduit size		Nominal dimensions (mm)				Fixing hole size E (mm)	A/F counter bore size F (mm)
	NC	NW	A	B	C	D		
HCB08	08	7.5	23	23	13	12	4	8
HCB12	12	10	23	23	13	12	4	8
HCB16	16	13	27	27	15	14	5	9
HCB20	20	17	34	35	20	18	6	10
HCB28	28	23	44	44	23	21	6	10
HCB32	32	29	53	52	27	23	6	10
HCB40	40	36	65	63	32	27	6	10
HCB50	50	48	81	77	39	32	6	10

Accessories

Metallic P-clip



Metallic P-clip

One-piece, metallic P-clips providing secure mounting points for conduit systems within a harness installation. These clips are designed to accomodate all Harnessflex slit and unslit conduits.

Metallic P-clip

	Part No.	Conduit size (mm)		A	B	C	Fixing hole size (mm)	
		NC	NW				D	E
	PCS10	10	8.5	31	13	5	16	1.5
	PCS12	12	10	33	13	5	17	1.5
	PCS16	16	13	36	13	5	19	1.5
	PCS20	20	17	41	13	5	21	1.5
	PCS25	25	22	45	13	5	23	1.5
	PCS32	32	29	53	13	5	27	1.5

Materials: Galvanised steel with rubberised insert

Technical section

Storage recommendation for polyamide products

Storage recommendation for polyamide products Polyamide is widely and successfully used for products in the electrical and electronics industries. Thanks to its excellent mechanical and physical properties over a wide range of application temperatures and its very good weather resistance, polyamide can be used to make products for interior and external use that meet the most stringent of demands.

As a hygroscopic material, polyamide has the ability to absorb moisture in molecular form into the plastic matrix. As the moisture content goes up, product properties may change slightly. Absorbed water acts as a plasticiser reducing strengths and moduli and increasing the toughness of the polyamide.

Although at room temperature the stiffness and strength of PA6 is more reduced by the moisture uptake than those of PA66, this difference can be considered to be non-significant. PA6 absorbs more water than PA66, especially under high humidity conditions. But the resulting dimensional change is still of a similar order.

Figure 1 shows how the moisture content of polyamides comes into balance with the ambient air in a normal climate of 50% relative humidity and 23°C:

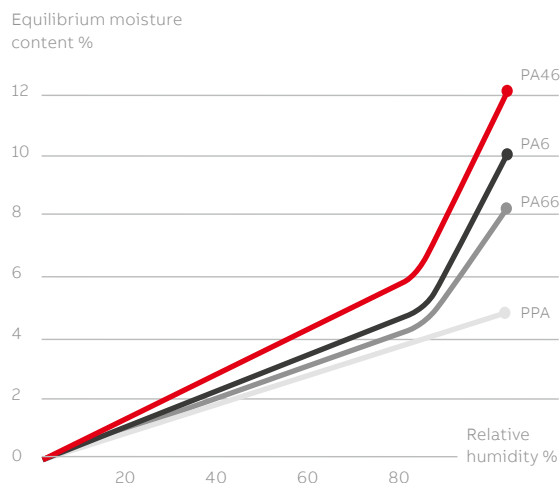
Material	In air (23°C / 50% rh)
Polyamide 6	3.0-3.5% by weight
Polyamide 66	2.5-3.0% by weight

To maintain balanced moisture content, Harnessflex recommends storing products under the following conditions:

Storage temp	Processing temp.	Rel. humidity
18°C to 30°C	>18°C	>30%

At lower processing temperatures and in particular when subjected to unnatural drying, corrugated pipes display increased flexural rigidity.

Figure 1: Moisture content of polyamides



In the very dry winter months the moisture balance may go down slightly as the material releases moisture to the environment (owing to lower relative humidity). Compared to natural outdoor conditions* at around 0°C (40... 80% rh), the humidity in heated rooms may drop by half to below 20% rh if no humidification is present. (Even extremely dry regions such as the Sahara Desert record average humidity of 20% to 60% rh) (*Central European climate).

If products from an outside environment are brought into a heated processing area, the change in climate may suddenly cause temporary de-moisturisation around the edges. After one or two days in the processing area a natural balance will be restored.

Observing this storage recommendation ensures optimum processability and material properties.

Ingress protection

IEC 60529 IP Rating & NEMA 250 / UL50E Enclosures

IP suitability ratings are a system for classifying the degree of protection provided by enclosures of electrical equipment.

Protection against Solid Bodies

Degree of protection for persons against access to hazardous parts inside the enclosure and/or against the ingress of solid foreign objects.

	0	No protection
	1	Objects greater than 50 mm, accidental touch by hands
	2	Objects greater than 12 mm, accidental touch by fingers
	3	Objects greater than 2.5 mm, e.g. tools/wires
	4	Objects greater than 1 mm, e.g. tools/wires/small wires
	5	Protected against dust - limited ingress (no harmful deposits)
	6	Totally protected against dust (Dust-tight)

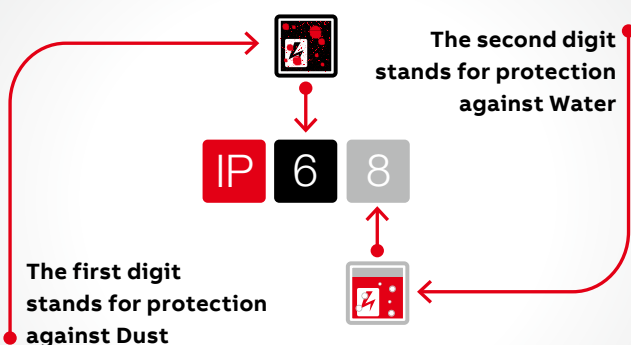
Protection against Water

Degree of protection of equipment inside enclosures against damage from the ingress of water.

	0	No protection
	1	Protected against vertically falling drops of water
	2	Protected against direct sprays of water 15° from vertical
	3	Protected against sprays of water to 60° from vertical
	4	Protected against water sprayed from all directions - limited ingress permitted
	5	Protected against low pressure jets of water from all directions - limited ingress permitted
	6	Protected against strong pressure jets of water, heavy seas - limited ingress permitted
	7	Protection against the effects of immersion between 15cm - 1 m
	8	Protection against long periods of immersion under a quoted pressure, e.g. 2 bar at 24 hours
	9	IP69 Automotive standard DIN40050 and signifies resistance to high pressure jets of water (up to 80bar) from any angle

IP Ratings

The higher the number, the greater the degree of protection; they apply ONLY to properly installed equipment.



Technical section

Nylon (PA) 6

Nylon (PA) 6 - Material data sheet

Properties	Test method	Value	Unit
General			
Density	ISO 1183	1.13	g/cm ³
Melting point	ISO 11357-1/-3	220	°C
Mechanical			
Tensile strength	ISO 527	55 (con)	MPa
Elongation at break	ISO 527	>50 (con)	%
Youngs modulus	ISO 527	3100 (Dry)	MPa
Charpy impact strength	ISO 179	DNB (Dry)	kJ/m ²
Charpy notched impact strength	—	11 (Dry)	kJ/m ²
IZOD impact strength	ISO 180C	DNB (Dry)	kJ/m ²
IZOD notched impact strength	ISO 180A	4 (Dry)	kJ/m ²
Thermal			
Heat distortion temperature-A	ISO 75	100	°C
Heat distortion temperature-B	ISO 75	>200	°C
Flammability			
Flammability	UL94	HB	N/A
Electrical			
Dielectric strength	IEC 243	14 (Dry)	MV/m
Surface resistivity	IEC 93	15 (Dry)	log10Ω
Volume resistivity	IEC 93	15 (Dry)	log10Ω
Comparative tracking index	IEC 112	>600	V

Used on: All Harnessflex NC and CTPA nylon conduits

NOTE: All tests undertaken at 23°C where applicable

Notes

- DNB = Did not break
- Dry = Dry as moulded
- Con = Conditioned 168hrs @ 23°C, 50% RH

Chemical resistance

Nylon 6 Harnessflex conduits are resistant to all underbonnet oils, greases, fuels, cleaning fluids and synthetic fluids. Like all Nylons they are resistant to weak acids but not resistant to strong or oxidizing acids.

Technical section

Peek (Polyetheretherketone)

PEEK (Polyetheretherketone) - Material data sheet

Properties	Test method	Value	Unit
General			
Density	ISO 1183	1.32	g/cm ³
Melting point	DEC	343	°C
Mechanical			
Tensile strength	ISO 527	97	MPa
Elongation at break	ISO 527	<60	%
Youngs modulus	ISO 527	3600	MPa
Charpy impact strength 2mm notch	ISO 179	35	kJ/m ²
Charpy impact 0.25mm notch	ISO179	8.2	kJ/m ²
IZOD impact strength	ISO 180	DNB	kJ/m ²
IZOD impact strength 0.25mm notch	ISO 180	6.4	kJ/m ²
Thermal			
Heat distortion temperature-A	ISO 75	152	°C
Heat distortion temperature-B	ISO 75	-	°C
Flammability			
Flammability	UL94	VO	N/A
Electrical			
Dielectric strength	IEC 243	190	kV/m-1
Surface resistivity	IEC 93	-	-
Volume resistivity	IEC 93	4.9	10 ¹⁶ Ω cm
Comparative tracking index I	IEC 112	150	V

Used on: PKC conduit

NOTE: All tests undertaken at 23°C where applicable

Notes

- DNB = Did not break
- This linear aromatic polymer is semi-crystalline and is widely regarded as the highest performance thermoplastic material currently available

A summary of key physical properties is as follows:

High temperature performance

PEEK polymer and compounds typically have a glass transition temperature of 143°C and a melting temperature of 343°C and a Continuous Use Temperature of 260°C (UL 746B).

Wear resistance

PEEK polymer has excellent friction and wear properties exhibiting outstanding wear resistance over wide ranges of pressure, velocity, temperature and counterfacial roughness.

Chemical resistance

PEEK polymer has excellent resistance to a wide range of chemical environments, even at elevated temperatures. The only common environment which dissolves PEEK polymer is concentrated sulphuric acid.

Fire, smoke and toxicity

PEEK polymer is highly stable and requires no flame-retardant additives to achieve a V-0 rating at 1.4mm thickness. The composition and inherent purity of the material results in extremely low smoke and toxic gas emission in fire situations.

Hydrolysis resistance

PEEK polymer and compounds are not chemically attacked by water or pressurized steam. Components which are constructed from these materials retain a high level of mechanical properties when continuously conditioned in water at elevated temperatures and pressures.

Electrical properties

The electrical properties of PEEK™ polymer are maintained over a wide frequency and temperature.

Technical section

Nylon (PA) 66 - Heat stabilised

Nylon (PA) 66 - Heat Stabilised - Material data sheet

Properties		Test method	Value	Unit
General				
Density		ISO 1183	1.14	g/cm ³
Melting point		ISO 1218	263	°C
Mechanical				
Tensile strength		ISO 527	95 (Dry)	MPa
Elongation at break		ISO 527	23 (Dry)	%
Youngs modulus		ISO 527	3400 (Dry)	MPa
Flexural modulus		ISO 178	2850 (Dry)	MPa
Charpy impact strength		ISO 179	DNB (Dry)	kJ/m ²
Charpy notched impact strength		–	6 (Dry)	kJ/m ²
IZOD impact strength		ISO 180C	DNB (Dry)	kJ/m ²
IZOD notched impact strength		ISO 180A	5 (Dry)	kJ/m ²
Thermal				
Heat distortion temperature-A	@1.8Mpa	ISO 75-2	85	°C
Heat distortion temperature-B	@ 0.45MPa	ISO 75-2	230	°C
Flammability				
Flammability		ISO 527	95 (Dry)	MPa
Glow wire flammability	@ 1.5mm	IEC 695-2-1/2	850 (Con)	°C
Electrical				
Dielectric strength		IEC 243	60 (Dry)	MV/m
Surface resistivity		IEC 60093	1E+15	Ω
Volume resistivity		IEC 60093	1E+15	Ω.cm
Comparative tracking index		IEC 60112	600	V

All Harnessflex un-reinforced nylon fittings

NOTE: All tests undertaken at 23°C where applicable

Technical section

Nylon (PA) 66 - 30% Glass fibre filled

Nylon (PA) 66 - 30% Glass Fibre Filled - Material data sheet

Properties	Test method	Value	Unit
General			
Density	ISO 1183	1.36	g/cm ³
Moisture absorption ⁽¹⁾	Sim to ISO 62	1.6	%
Mechanical ⁽²⁾			
Tensile stress at yield/break ⁽³⁾	ISO 527	195	N/mm ²
Elongation at break ISO 527 3%	ISO 527	10000	N/mm ²
Modulus of elasticity ⁽⁴⁾			
IZOD notched impact strength – @ +23°C – @ -30°C 10 kJ/m ²	ISO 180/1A	13	kJ/m ²
Thermal			
Heat deflection temperature (HDT)	ISO 75/A	250	°C
Ball pressure test	IEC 60695-10-2	> 200	°C
Flammability			
Flammability (1.6mm thickness)	UL94	HB	
Oxygen index	ISO4589	24	%
Glow wire test extinguishing time ⁽⁵⁾	IEC60695-2-1/1	<15	s
Hot wire ignition (HWI) (1.5mm thickness)	IEC60695-2-20	>15	s
High current arc ignition (HAI) (0.7mm thickness)	IEC60947	>120	No of arcs
Electrical ⁽²⁾			
Dielectric strength	IEC 60243-1	>30	kV/mm
Specific surface resistivity	IEC 60093	10 ¹⁵	Ω
Specific volume resistivity	IEC 60093	10 ¹⁵	Ω.cm
Dielectric constant – @ 100Hz – @ 1MHz	IEC60250	3.8 3.5	
Dissipation factor – @ 100Hz – @ 1MHz	IEC60250	90 160	x10 ⁻⁴ x10 ⁻⁴
Comparative tracking index	IEC 60112	600	V
168h/100°C ref fuel B	–	+91	%

Used on: SC-M27 and SC-M24 Swivel nuts

NOTE: All tests undertaken at 23°C where applicable

(1) Moisture absorption, saturation at +23°C and 50% RH (ref. DIN53495)

(2) Dry as moulded

(3) Test speed 5mm/min

(4) Test speed 1mm/min

(5) Glow wire applied during 30secs, temperature 750°C, thickness 1.6mm

Notes

- DNB = Did not break
- Dry = Dry as moulded
- Con = Conditioned 168hrs @ 23°C, 50% RH

Chemical resistance

Polyamide (Nylon) 66 Harnessflex fittings are resistant to all underbonnet oils, greases, fuels, cleaning and synthetic fluids. Like all Nylons they are resistant to weak acids but not resistant to strong or oxidizing acids.

Technical section

Thermoplastic elastometer TPV



SRN



SWM



SEG



ESN



EK

Thermoplastic Elastomer TPV - Material data sheet

Properties	Test method	Value	Unit
General			
Density	ISO 1183	0.96	g/cm ³
Hardness shore A (5 sec)	ISO 868	56	–
Brittleness temperature	ISO 812	-62	°C
Flammability	UL94	HB	–
Stress/strain properties	ISO 37 (II)	–	–
Flow Direction			
Tensile strength	–	3.8	MPa
Modulus 100%	–	2.7	MPa
Elongation at break cross direction	–	280	%
Tensile strength	–	5.1	MPa
Modulus 100%	–	1.9	MPa
Elongation at break	–	470	%
Tear Strength (cross direction)			
Trouser	ISO 34 A	7	kN/m
Un-nicked angle	ISO 34 B (a)	22	kN/m
Compression set	ISO 815	–	–
72h/23°C	–	22	%
72h/70°C	–	26	%
72h/100°C	–	34	%
Hot Air Ageing			
1000h/125°C - Change in hardness	–	2	pts
Retention tensile strength	–	90	%
Retention - elongation at break	–	96	%
336h/150°C - Change in hardness	–	0	pts
Retention tensile strength	–	90	%
Retention elongation at break	–	87	%
Volume Swell			
72h/100°C water	–	+3	%
168h/100°C ASTM oil 1	–	+43	%
168h/100°C ref fuel B	–	+91	%

Used on: Sealing products

A polypropylene based elastomer designed primarily for demanding automotive applications. This material exhibits excellent compression set, flex fatigue and high and low temperature performance.

NOTE: Tests are conducted on injection moulded plaques. All tests undertaken at 23°C where applicable

Chemical resistance

TPV fittings are resistant to: Water, acids, ethanol, glycerol, methanol and propanol, hydraulic brake fluid and antifreeze. Large volume swell (>60%) is experienced with certain oils and fuels.

Approvals

Individual parts are approved to different standards including NFR 13-903. Others are manufacturer specific or are new developments and may not be approved to certain standards. Please contact the technical office for specific enquiries.

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