

sealed fittings

A wide range of sealed fittings rated at IP66, 67, 68 (2 bar 30 mins) & 69K are available and complete the product offering for vehicle wiring applications.

quality & standards

Manufacturing is controlled in accordance with BS EN ISO 9001 whilst ongoing testing & approval to international standards, eg: UL recognition, TUV & LCIE, provides any additional confidence required to specify appropriate Harnessflex products across the widest variety of automotive applications including hazardous or aggressive environments.

Conduit has the following approvals,

- FMVSS 302 Flammability specification for conduit.
- NFR13-903 French automotive conduit specification.
- UL Recognised American electrical conduit specification.

Sealed Fittings have the following approvals when used with NC solid conduit,

- NFR13-903
- UL Recognised

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

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.

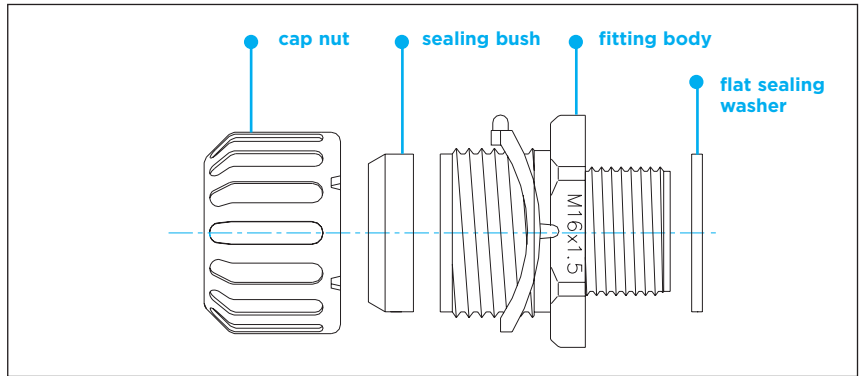


hints & tips

1. The anti-vibration spring clips can be released easily if access is needed - no tool required.
2. In order to maintain the IP rating of the sealed fittings face sealing washers must be used with all threaded fittings.
3. By using an SC swivel clamping ring (page 61), an IP40 rotating joint can be achieved.
4. Our sealed T & X pieces and our sealed manifolds have inspection covers, which can be removed during installation to aid cable routing.



straight fitting configurations



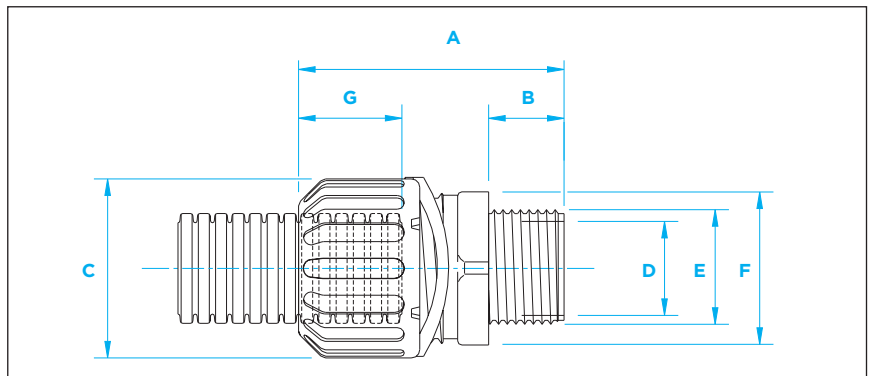
Description

Straight compression type fittings incorporating fixed or swivel male threads to provide connection to knockouts and threaded entries.

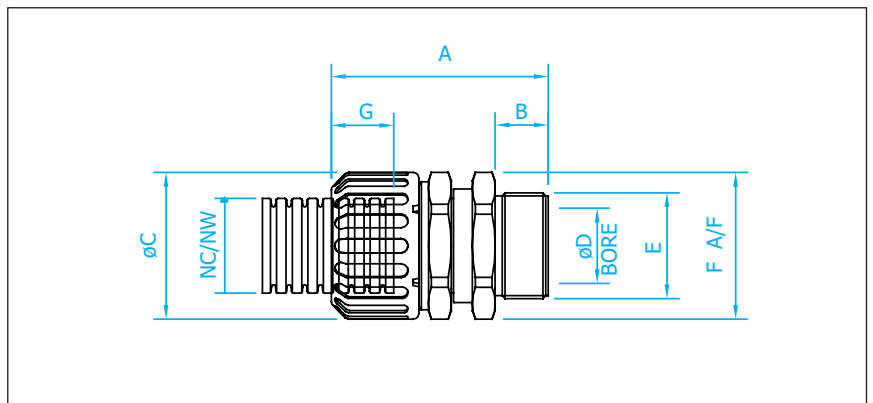
These fittings are designed for use with all types of slit and unslit conduit thus maintaining maximum conduit bore.

See page 58 for details on reducing options which enable each straight fitting to accommodate a variety of conduit sizes.

straight fitting dimensions



straight swivel fitting dimensions



configurations/part numbers (metric versions)

Part no. fitting body	cap nut	sealing bush	conduit sizes		thread size
			(NC)	(NW)	
AB12-M16	CN07	SRN07	10	8.5	M16x1.5
AB12-M20	CN07	SRN07	10	8.5	M20x1.5
AB12-M16	CN09	SRN09	12	10	M16x1.5
AB12-M20	CN09	SRN09	12	10	M20x1.5
AB16-M16	CN11	SRN11	16	13	M16x1.5
AB16-M20	CN11	SRN11	16	13	M20x1.5
AB20-M20	CN16	SRN16	20	17	M20x1.5
AB25-M25	CN21	SRN21	25	22	M25x1.5
AB25-M25	CN28	SRN28	28	23	M25x1.5
AB32-M32	CN32	SRN29	32	29	M32x1.5
AB40-M40	CN36	SRN36	40	36	M40x1.5
AB50-M50	CN48	SRN48	50	48	M50x1.5

note: order fitting bodies, cap nuts and sealing bushes separately

configurations/part numbers (PG versions)

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 No.s for NPT and PF threads available on request

configurations/part numbers (swivel metric versions)

ABS12-M16	CN07	SRN07	10	8.5	M16x1.5
ABS12-M20	CN07	SRN07	10	8.5	M20x1.5
ABS12-M16	CN09	SRN09	12	10	M16x1.5
ABS12-M20	CN09	SRN09	12	10	M20x1.5
ABS16-M16	CN11	SRN11	16	13	M16x1.5
ABS16-M20	CN11	SRN11	16	13	M20x1.5
ABS20-M20	CN16	SRN16	20	17	M20x1.5
ABS25-M25	CN21	SRN21	25	22	M25x1.5
ABS25-M25	CN28	SRN28	28	23	M25x1.5
ABS32-M32	CN32	SRN29	32	29	M32x1.5

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.

nominal dimensions (metric versions)

min bore				thread	A/F size	
A	B	C	D	E	F	G
34	12	23	11	M16x1.5	22	17
37	14	23	15	M20x1.5	27	17
34	12	26	11	M16x1.5	22	17
37	14	26	15	M20x1.5	27	17
35	12	26	11	M16x1.5	27	17
37	14	26	15	M20x1.5	27	11
39	14	31	15	M20x1.5	30	20
43	15	39	19	M25x1.5	38	21
43	15	39	19	M25x1.5	38	21
49	16	46	26	M32x1.5	46	27
59	16	58	31	M40x1.5	59	35
59	16	72	41	M50x1.5	73	35

note: dimensions are in mm and refer to an overall assembly

nominal dimensions (PG versions)

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

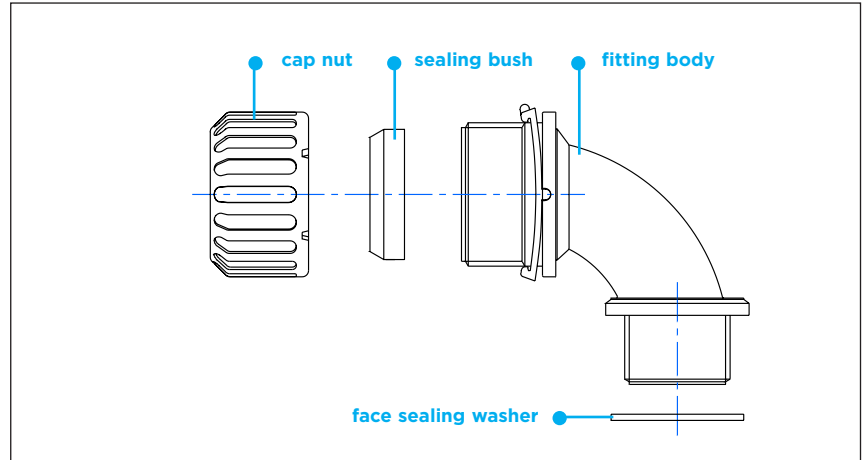
note: dimensions are in mm and refer to an overall assembly

nominal dimensions (swivel metric versions)

44.5	11	23	12	M16x1.5	24	17
44.5	11	23	12	M20x1.5	24	17
44.5	11	23	12	M16x1.5	24	17
44.5	11	23	12	M20x1.5	24	17
46.5	12	26	12	M16x1.5	30	20
44.5	11	26	12	M20x1.5	30	20
47	11	31	16	M20x1.5	33	22.5
52	12	39	19	M25x1.5	42.5	22.5
52	12	39	19	M25x1.5	42.5	22.5
58.5	17	46.5	26.5	M32x1.5	51	26

note: dimensions are in mm and refer to an overall assembly

90° elbow configurations



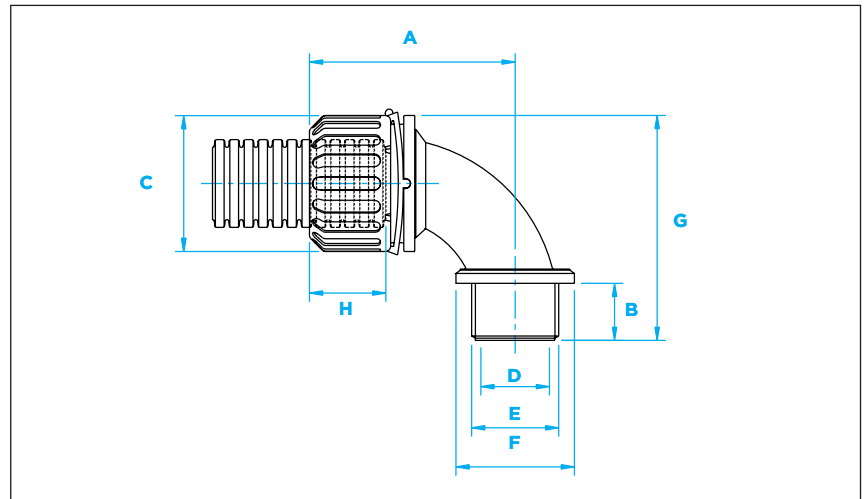
Description

90° compression type fittings incorporating fixed or swivel male threads to provide connection to knockouts and threaded entries.

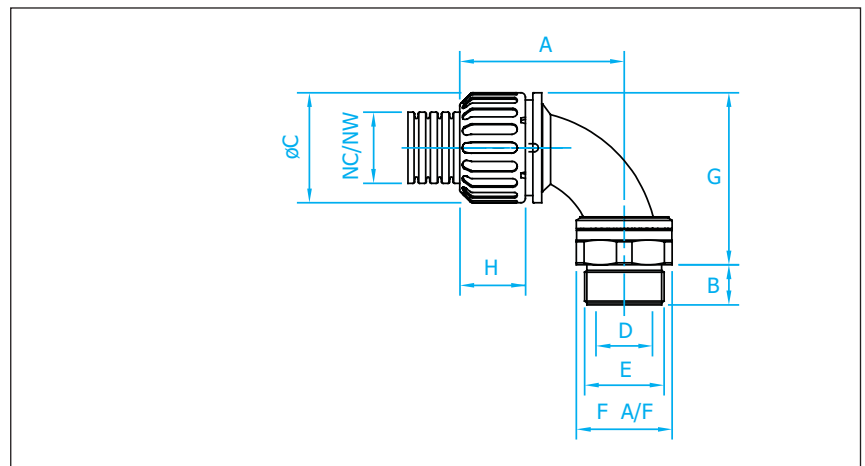
These fittings are designed for use with all types of slit and unslit conduit thus maintaining maximum conduit bore.

See page 58 for details on reducing options which enable each straight fitting to accommodate a variety of conduit sizes.

90° fitting dimensions



90° swivel fitting dimensions



configurations/part numbers (metric versions)

Part no. elbow body	cap nut	sealing bush	face sealing washer	conduit sizes		thread size
				(NC)	(NW)	
AB12-M16-90	CN07	SRN07	SWM16	10	8.5	M16x1.5
AB12-M16-90	CN09	SRN09	SWM16	12	10	M16x1.5
AB12-M20-90	CN09	SRN09	SWM20	12	10	M20x1.5
AB16-M16-90	CN11	SRN11	SWM16	16	13	M16x1.5
AB16-M20-90	CN11	SRN11	SWM20	16	13	M20x1.5
AB20-M20-90	CN16	SRN16	SWM20	20	17	M20x1.5
AB25-M25-90	CN21	SRN21	SWM25	25	22	M25x1.5
AB25-M25-90	CN28	SRN28	SWM25	25	23	M25x1.5
AB32-M32-90	CN32	SRN29	SWM32	32	29	M32x1.5
AB40-M40-90	CN36	SRN36	SWM40	40	37	M40x1.5
AB50-M50-90	CN48	SRN48	SWM50	50	50	M50x1.5

note: order elbow bodies, cap nuts, sealing bushes and face sealing washers separately

nominal dimensions (metric versions)

min bore				thread			
A	B	C	D	E	F	G	H
46	12	23	11	M16x1.5	19	46	17
46	12	23	11	M16x1.5	19	46	17
46	12	23	11	M20x1.5	19	46	17
46	12	26	15	M16x1.5	22	48	17
46	13	26	15	M20x1.5	27	49	17
47	13	31	15	M20x1.5	27	51	20
56	15	39	20	M25x1.5	33	62	21
56	15	39	20	M25x1.5	33	62	21
66	16	46	26	M32x1.5	40	76	27
77	16	59	34	M40x1.5	48	93	35
94	16	72	40	M50x1.5	59	114	35

note: dimensions are in mm and refer to an overall assembly

configurations/part numbers (PG versions)

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
AB16-PG13-90	CN11	SRN13	SWPG13	16	13	PG13.5
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
AB40-PG36-90	CN36	SRN36	SWPG36	40	37	PG36
AB50-PG48-90	CN48	SRN48	SWPG48	50	50	PG48

note: order elbow bodies, cap nuts, sealing bushes and face sealing washers separately

nominal dimensions (PG versions)

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	10	26	14	PG13.5	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
79	12	58	39	PG36	54	89	35
94	12	72	51	PG48	68	110	35

configurations/part numbers (swivel metric versions)

ABS12-M16-90	CN07	SRN07	SWM16	10	8.5	M16x1.5
ABS16-M16-90	CN11	SRN11	SWM16	16	13	M16x1.5
ABS20-M20-90	CN16	SRN16	SWM20	20	17	M20x1.5
ABS25-M25-90	CN21	SRN21	SWM25	25	22	M25x1.5
ABS32-M32-90	CN32	SRN29	SWM32	32	29	M32x1.5
ABS40-M40-90	CN36	SRN36	SWM40	40	37	M40x1.5
ABS50-M50-90	CN48	SRN48	SWM50	50	50	M50x1.5

note: order elbow bodies, cap nuts, sealing bushes and face sealing washers separately.

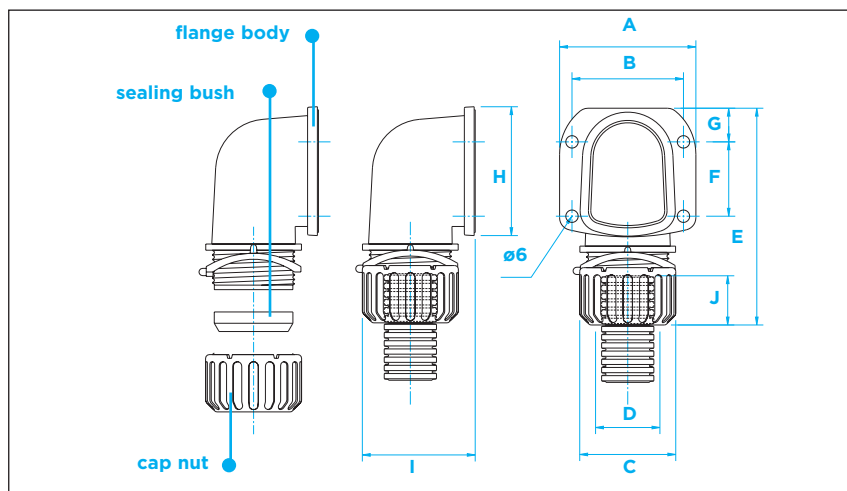
Other thread options available including PF, PG, NPT and UNEF - contact us for further information.

nominal dimensions (swivel metric versions)

45	12	23	12	M16x1.5	24	45	17
46	12	26	12	M16x1.5	24	46	17
48	11	31	16	M20x1.5	27	48	20
56	12	39	19	M25x1.5	34	59	21
66	17	46	26	M32x1.5	42	71	27
76	18	59	35	M40x1.5	54	90	35
92	16	72	45	M50x1.5	70	112	35



90° flange configurations and nominal dimensions



Description

90° elbow compression type fittings providing a 4 hole panel mounting facility.

These fittings are designed for use with all types of slit and unslit conduit thus maintaining maximum conduit bore.

See page 58 for details on reducing options which enable each straight fitting to accommodate a variety of conduit sizes.

Please note:

For extending the capability of sealed fittings, consult us for the following: clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers, thread reducers/enlargers.

configurations/part numbers (metric versions)

Part no. flange body	cap nut	sealing bush	conduit sizes	
			(NC)	(NW)
AB32-F90	CN32	SRN29	32	29
AB40-F90	CN36	SRN36	40	37
AB50-F90	CN48	SRN48	50	50

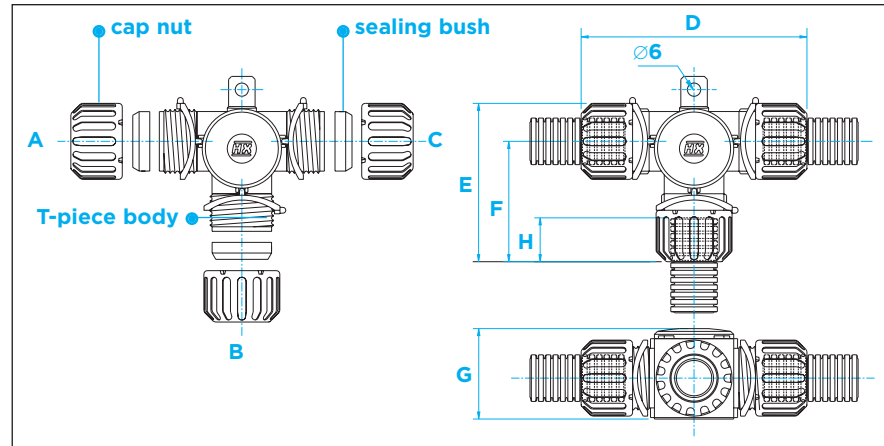
note: order flange bodies, cap nuts and sealing bushes separately

nominal dimensions

Part no. flange body	min bore									
	A	B	C	D	E	F	G	H	I	J
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 are in mm and refer to an overall assembly

T-piece configurations and nominal dimensions



Description

Symmetrical, 3 junction compression type fittings providing a variety of conduit size configurations.

These fittings are designed for use with all types of slit and unslit conduit thus maintaining maximum conduit bore.

See page 58 for details on reducing options which enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, consult us for the following: clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers, thread reducers/enlargers.

configurations/part numbers

Part no. T-piece with bracket	Part no. T-piece no bracket	cap nut	sealing bush	conduit sizes (NC)			conduit sizes (NW)		
				A	B	C	A	B	C
				-	TP12	CN07	SRN07	10	10
-	TP12	CN09	SRN09	12	12	12	10	10	10
-	TP16	CN11	SRN11	16	16	16	13	13	13
TPB20	TP20	CN16	SRN16	20	20	20	17	17	17
TPB28	TP28	CN21	SRN21	25	25	25	22	22	22
TPB28	TP28	CN28	SRN28	28	28	28	23	23	23
TPB32	TP32	CN32	SRN29	32	32	32	29	29	29

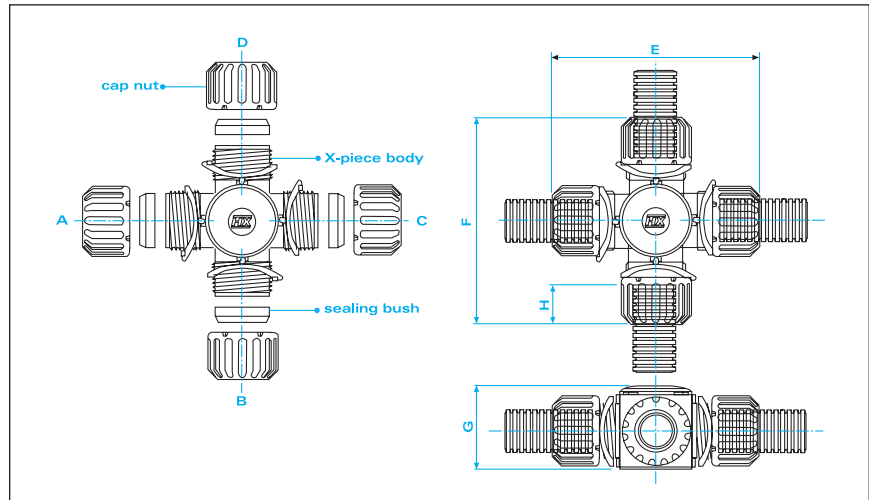
note: order T-piece bodies, cap nuts and sealing bushes separately

nominal dimensions

Part no. T-piece with bracket	Part no. T-piece no bracket	D	E	F	G	H
-	TP12	68	50	39	27	17
-	TP16	69	51	38	31	17
TPB20	TP20	80	58	43	35	20
TPB28	TP28	95	71	52	43	21
TPB32	TP32	109	84	61	51	27

note: dimensions are in mm and refer to an overall assembly

x-piece configurations and dimensions



Description

Symmetrical 4 junction compression type fitting providing a variety of conduit size configurations.

These fittings are designed for use with all types of unslit conduit thus maintaining maximum conduit bore.

See page 58 for details on reducing options which enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, consult us for the following: clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers, thread reducers/enlargers.

x-piece part numbers and dimensions

Part No	X-piece	cap nut	sealing bush	conduit sizes (NC)				conduit sizes (NW)			
				A	B	C	D	A	B	C	D
				XP20	CN16	SRN16	20	20	20	20	17

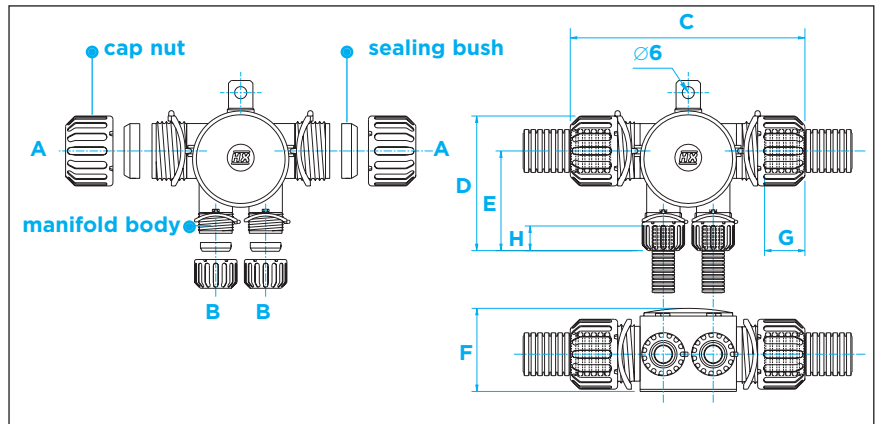
note: order X-piece bodies, cap nuts and sealing bushes separately

X-piece	E	F	G	H
XP20	80	80	35	20

note: dimensions are in mm



manifold configurations and dimensions



Description

Asymmetrical 4 junction compression fitting.

These fittings are designed for use with all types of unslit conduit thus maintaining maximum conduit bore.

Accessories

For extending the capability of sealed fittings, consult us for the following: clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers, thread reducers/enlargers.

configurations/part numbers

Part No.	cap nut		sealing bush		conduit sizes (NC)		conduit sizes (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 manifold bodies, cap nuts and sealing bushes separately

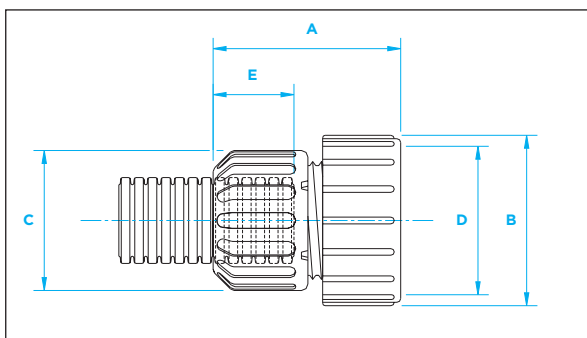
nominal dimensions

manifold body

	C	D	E	F	G	H
TPM2512	105	74	55	40	21	17

note: dimensions are in mm and refer to an overall assembly

circular connector interface dimensions



Description

Straight compression type fittings providing connection between military style circular connections and conduit systems.

These fittings are designed for use with all types of unslit conduit thus maintaining maximum conduit bore.

See page 58 for details on reducing options which enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, consult us for the following: clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers, thread reducers/enlargers.

configurations/part numbers

Part No. interface body	cap nut	sealing bush	face sealing washer	conduit sizes (NC) (NW)		thread size
MPA01	CN07	SRN07	SWPG07	10	8.5	5/8"-24 UNEF
MPA01	CN09	SRN09	SWPG07	12	10	5/8"-24 UNEF
MPA02	CN07	SRN07	SWM16	10	8.5	7/8"-24 UNEF
MPA02	CN09	SRN09	SWM16	12	10	7/8"-24 UNEF
MPA03	CN16	SRN16	SWM20	20	17	1"-20 UNEF
MPA04	CN16	SRN16	SWPG16	20	17	1 3/16"-18 UNEF
MPA05	CN21	SRN21	SWM25	25	22	1 7/16"-18 UNEF
MPA05	CN28	SRN28	SWM25	28	23	1 7/16"-18 UNEF
MPA06	CN07	SRN07	SWM20	10	8.5	1"-20 UNEF
MPA06	CN09	SRN09	SWM20	12	10	1"-20 UNEF
MPA07	CN07	SRN07	SWPG16	10	8.5	1 3/16"-18 UNEF
MPA07	CN09	SRN09	SWPG16	12	10	1 3/16"-18 UNEF
MPA08	CN07	SRN07	SWPG09	10	8.5	3/4"-20 UNEF
MPA08	CN09	SRN09	SWPG09	12	10	3/4"-20 UNEF
MPA10	CN07	SRN07	SWPG09	10	8.5	1 1/16"-24 UNEF
MPA10	CN09	SRN09	SWPG09	12	10	1 1/16"-24 UNEF
MPA11	CN16	SRN16	-	20	17	1 5/16"-20 UNEF

note: order interface bodies, cap nuts, sealing bushes and sealing washers separately

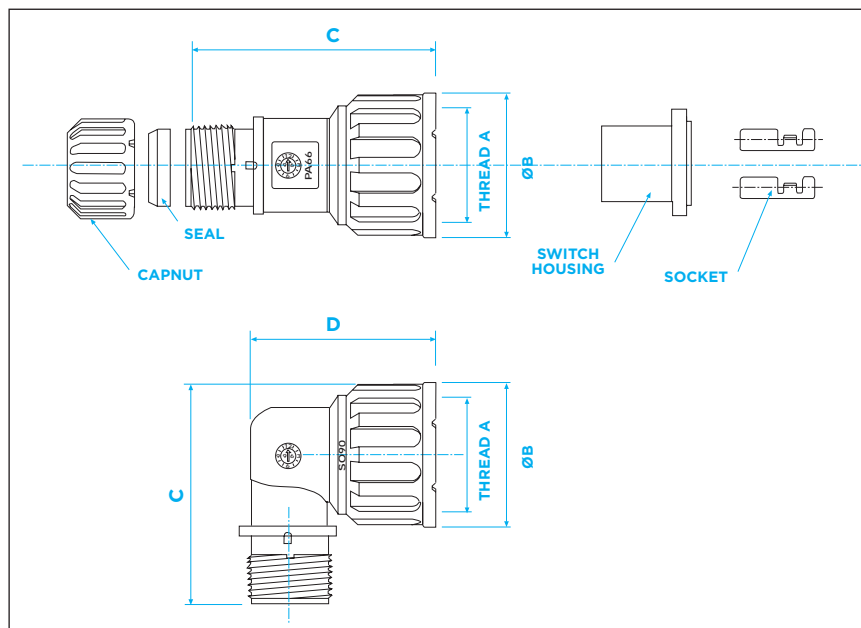
nominal dimensions

Part No. interface body	thread size				
	A	B	C	D	E
MPA01	30	24	23	5/8"-24 UNEF	17
MPA02	30	32	23	7/8"-24 UNEF	17
MPA03	33	36	31	1"-20 UNEF	20
MPA04	32	37	31	1 3/16"-18 UNEF	20
MPA05	37	44	39	1 7/16"-18 UNEF	21
MPA06	33	35	23	1"-20 UNEF	17
MPA07	30	37	23	1 3/16"-18 UNEF	17
MPA08	30	32	23	3/4"-20 UNEF	17
MPA10	34	32	23	1 1/16"-24 UNEF	17
MPA11	32	35	31	1 5/16"-20 UNEF	20

note: dimensions are in mm and refer to an overall assembly



solenoid interface dimensions



Description

Screw-thread straight and elbow connectable interfaces for circular solenoids, sensors and switches.

These fittings are designed for use with all types of unslit conduit thus maintaining maximum conduit bore.

See page 58 for details on reducing options which enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, consult us for the following: clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers, thread reducers/enlargers.

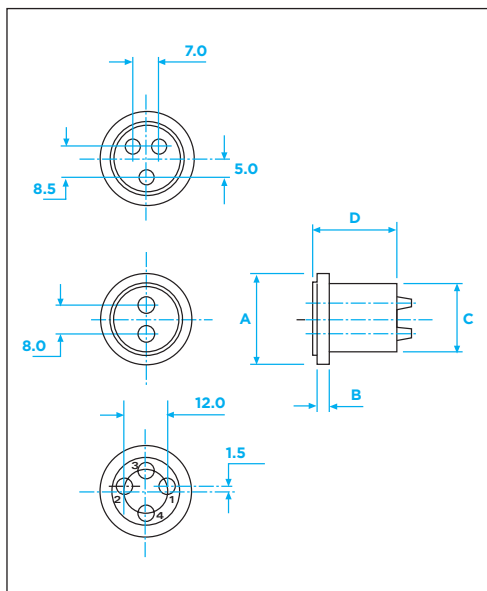
nominal dimensions

Part No. Elbow Fitting	thread	nominal dimensions			Nut Colour
		A	B	C	
MPB08-90	16S BAYONET	34	43	40.5	Black
SC-M24-90	M24x1.0	31	38.5	40.5	Black
SC-M27-90	M27x1.0	34	40	40.5	Grey

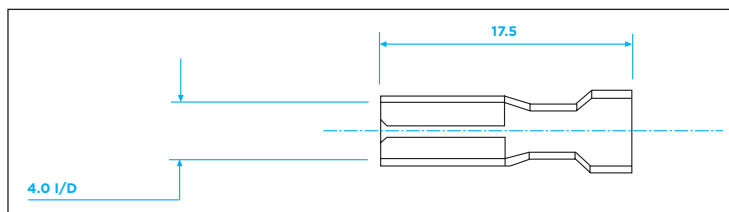
Part No. Straight Fitting	A	B	C	D	Nut Colour
SC-M24-S	M24x1.0	31	53	-	Black
SC-M27-S	M27x1.0	34	54	-	Grey

Part No.	Suitable for Connector Type	Number of Pins	Dimensions(mm)			
			A	B	C	D
RSG02	M27	2	25.0	3.5	18.7	23.0
RSG03	M27	3	25.3	3.5	18.0	21.0
RSG04	M27	4	25.3	3.5	18.7	23.0
RSG05	M24	2	22.5	3.5	18.0	23.0
RSG06	M24	3	22.3	3.5	18.0	21.0
RSG02-B	16S Bayonet	2	25.0	5.5	18.7	23.0
RSG03-B	16S Bayonet	3	25.3	5.5	18.0	21.0
RSG04-B	16S Bayonet	4	25.3	5.5	18.7	23.0

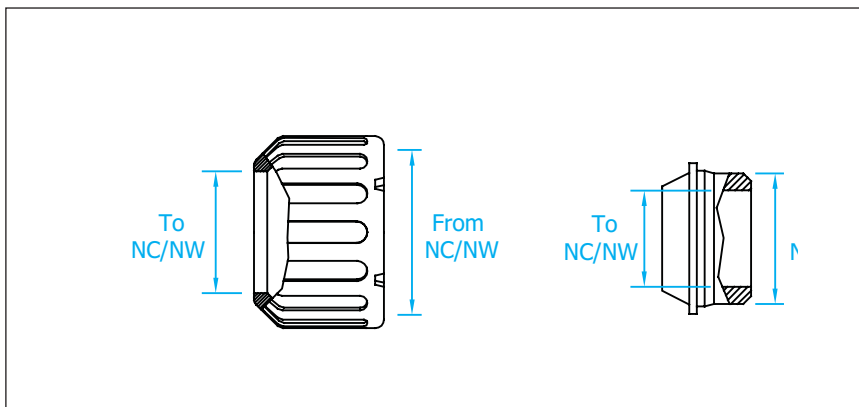
note: dimensions are in mm



RSGP01 Socket Part No. (single) RSGP01 (chain form) RSGP01-C



cap nut and reducing sealing bushes

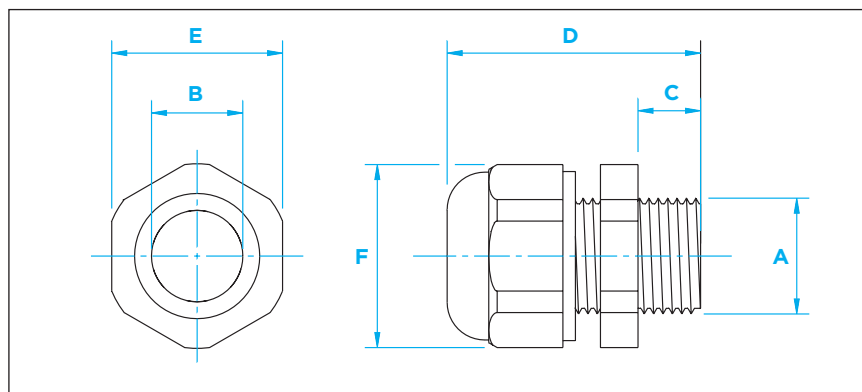


configurations/nominal dimensions/part numbers

Part No.	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
CN16-08	RSB20-08	20	17	08	7.5
CN16-12	RSB20-12	20	17	12	10
CN16-16	RSB20-16	20	17	16	13
CN21-12	RSB25-12	25	22	12	10
CN21-16	RSB25-16	25	22	16	13
CN21-20	RSB25-20	25	22	20	17
CN21-12	RSB28-12	28	23	12	10
CN21-16	RSB28-16	28	23	16	13
CN21-20	RSB28-20	28	23	20	17
CN32-20	RSB32-20	32	29	20	17
CN32-25	RSB32-25	32	29	25	22
CN32-28	RSB32-28	32	29	28	23

note: dimensions are in mm

cable gland configurations



Description

Straight compression type cable glands IP68 5 bar incorporating fixed male threads to provide secure cable connections through knockouts and threaded entries.

Accessories

For extending the capability of Harnessflex cable glands, see page 60 for locknuts, face sealing washers and blanking plugs for unused entries.

configurations/nominal dimensions/part numbers (metric versions)

Part No.	thread	cable OD range		A/F size		
	A	B	C	D	E	F
CGS-M16	M16x1.5	4.0 - 10.0	9	34.5	21	23.5
CGS-M20	M20x1.5	6.0 - 12.0	10	37	24	27
CGS-M25	M25x1.5	13.0 - 18.0	11	40	30	33
CGS-M32	M32x1.5	17.0 - 25.0	12	49	41	45.5
CGS-M40	M40x1.5	24.0 - 32.0	13	55	50	55.5
CGS-M50	M50x1.5	24.0 - 38.5	12	65	60	68
CGS-M63	M63x1.5	35.0 - 44.0	12	67	70	79

notes: dimensions are in mm
OD = outside diameter

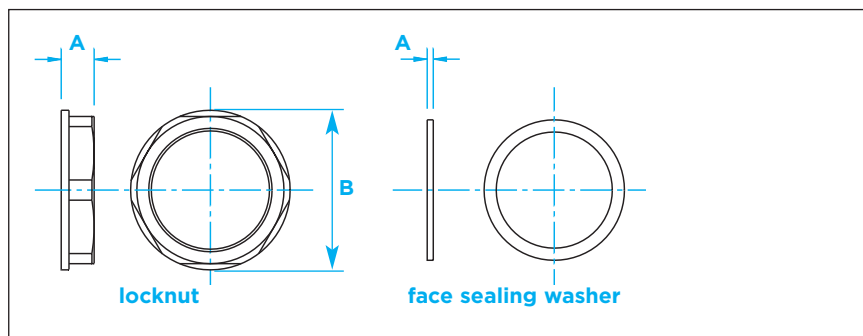
configurations/nominal dimensions/part numbers (PG versions)

CGS-PG07	PG7	2.0 - 6.5	8	31	17	19
CGS-PG09	PG9	4.0 - 10.0	8	33.5	21	23.5
CGS-PG11	PG11	6.0 - 12.0	8	35	24	27
CGS-PG13	PG13.5	6.0 - 12.0	9	36	24	27
CGS-PG16	PG16	10.0 - 14.0	10	38.5	27	30
CGS-PG21	PG21	13.0 - 18.0	11	40	30	33
CGS-PG29	PG29	17.0 - 25.0	11	48	41	45.5
CGS-PG36	PG36	24.0 - 32.0	13	55	50	55.5

notes: dimensions are in mm
OD = outside diameter



locknut & face sealing washer dimensions



Part No.	Thread size	A	B (A/F)
LNP-M16	M16x1.5	7	19
LNP-M20	M20x1.5	8	23
LNP-M25	M25x1.5	9	28
LNP-M32	M32x1.5	9	36
LNP-M40	M40x1.5	10	46
LNP-M50	M50x1.5	10	60

Part No.	Thread size	A	B (A/F)
LNP-PG07	PG07	5	19
LNP-PG09	PG09	5	22
LNP-PG11	PG11	5	24
LNP-PG13	PG13.5	6	27
LNP-PG16	PG16	6	30
LNP-PG21	PG21	7	36
LNP-PG29	PG29	7	46
LNP-PG36	PG36	9	56
LNP-PG48	PG48	9	59

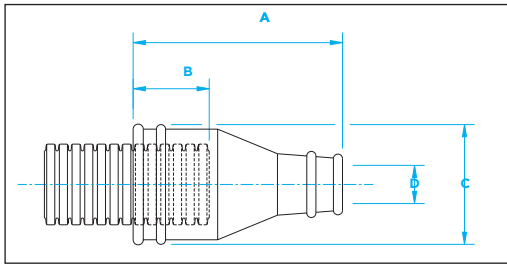
face sealing washer

Part No.	Thread	A
SWM16	M16	1.5
SWM20	M20	1.5
SWM25	M25	1.5
SWM32	M32	1.5
SWM40	M40	1.5
SWM50	M50	1.5

Part No.	Thread size	A
SWPG07	PG07	1.2
SWPG09	PG09	1.2
SWPG11	PG11	1.2
SWPG13	PG13.5	1.2
SWPG16	PG16	1.2
SWPG21	PG21	1.2
SWPG29	PG29	1.2
SWPG36	PG36	1.2
SWPG48	PG48	1.2

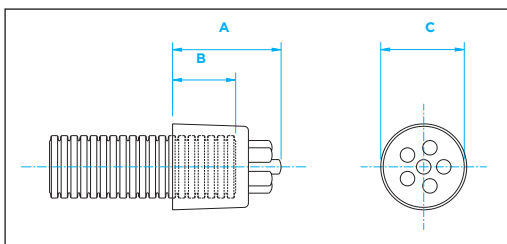
note: dimensions are in mm

end sleeve configurations and dimensions



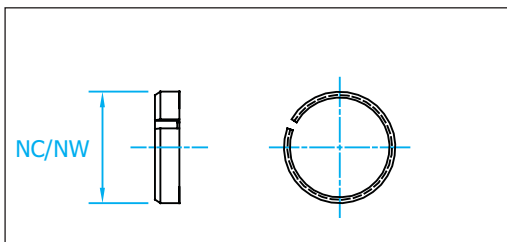
Part No.	Conduit Size		Outlet Dia Range	Nominal dimensions		
	NC	NW		A	B	C
ESN12	12	10	4 - 8	28	17	19
ESN16	16	13	5 - 9	35	17	23
ESN20	20	17	7 - 14	42	20	28
ESN25	25	22	9 - 17	50	21	31
ESN28	28	23	14 - 22	50	21	34
ESN32	32	29	16 - 32	53	27	40
ESN40	40	36	16 - 30	56	35	50

end caps configurations and dimensions



EK03-08	08	7.5	3	19	13	14
EK03-08	10	8.5	3	19	13	14
EK05	12	10	5	22	14	17

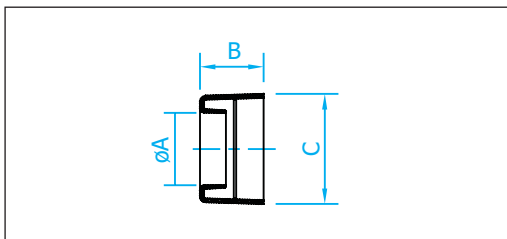
swivel C ring configurations and dimensions



Replaces SRN seal to provide a rotating joint.

SC16	16	13
SC20	20	17
SC28	28	23
SC32	32	29
SC40	40	36
SC50	50	48

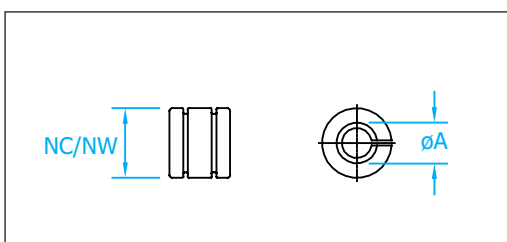
end cap configurations and dimensions



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

CES12	12	10	8	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
CES40	40	36	32.3	25	46
CES50	50	48	43.7	25	58

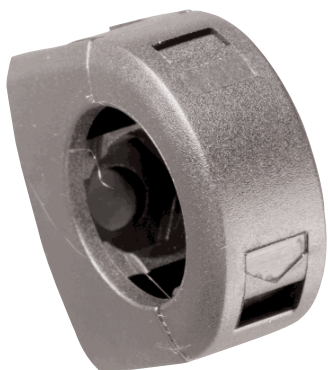
smooth entry grommet configurations and dimensions



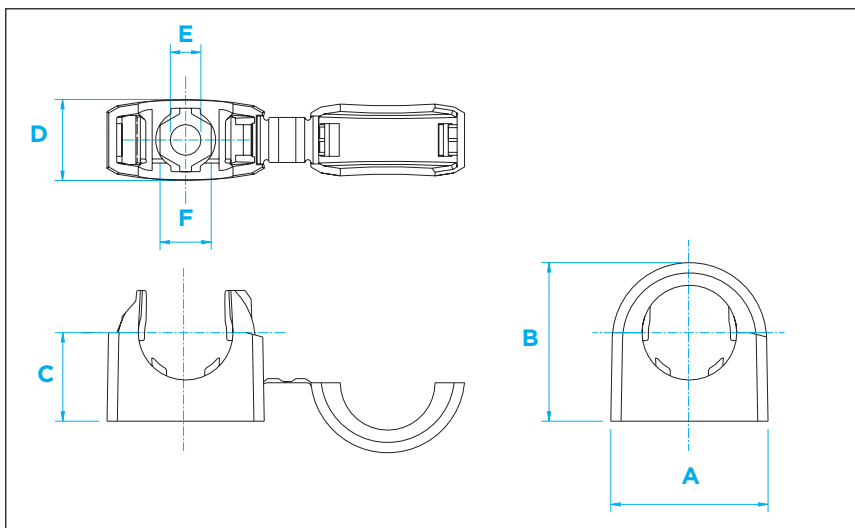
One piece slit insert providing abrasion protection for cables passing through a hinged fitting junction where conduit is not used.

SEG12	12	10	8
SEG20	20	17	16

note: dimensions are in mm



conduit with lid configurations and dimensions



Description

One piece non-metallic conduit clips providing secure mounting points for conduit systems within a Harnessflex system.

These fittings are designed to snap together over all types of slit and unslit conduit thus maintaining maximum conduit bore.

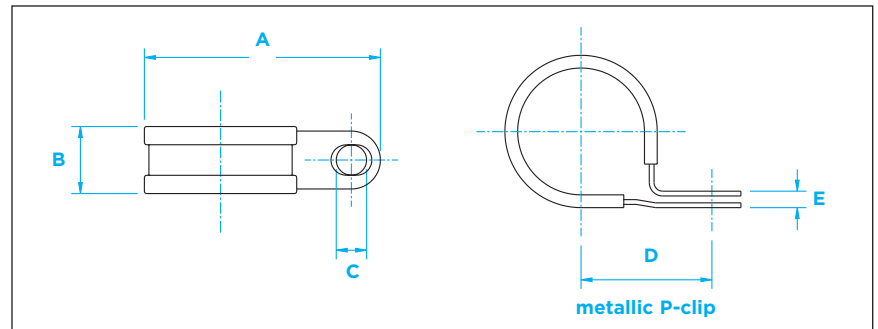
configuration/nominal dimensions/part numbers

Part No. Clip	conduit size		A	B	C	D	fixing	A/F
	(NC)	(NW)					hole size	counter-bore size
							E	F
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

note: dimensions are in mm



metallic P-clip configurations and dimensions



Description

One-piece, metallic P-clips providing secure mounting points for conduit systems within a harness installation

These clips are designed to accommodate all Harnessflex slit and unslit conduits.

configuration/nominal dimensions/part numbers

P-Clip	conduit size		fixing hole size				
	(NC)	(NW)	A	B	C	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
PCS40	40	36	76	25	14	38	2.4
PCS50	50	48	86	25	14	43	2.4

note: dimensions are in mm

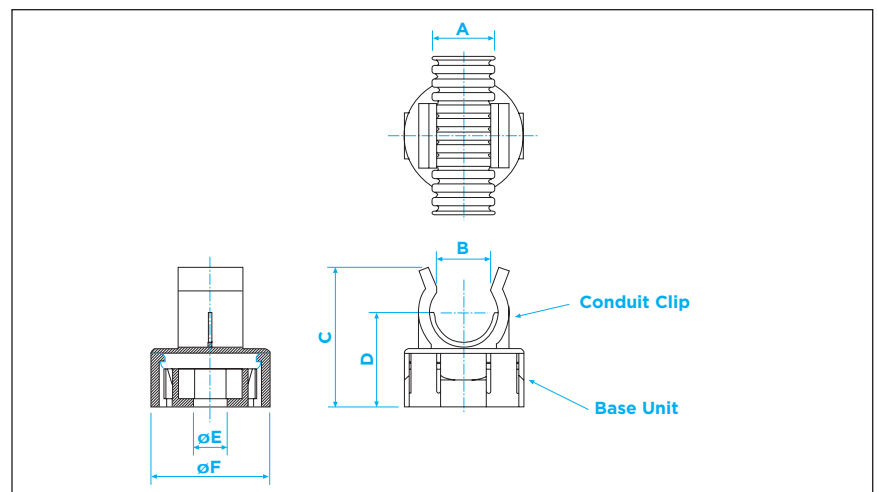
Description

One-piece, non metallic conduit clips providing secure mounting points for conduit systems within a harness installation.

Base unit provides a strong and secure location, while rotating conduit clip prevents detachment through vibration.

These clips are designed to snap together and securely locate Harnessflex slit and unslit conduits.

modular conduit clip



nominal dimensions

Conduit Clip	Base Unit		A	B	C	D	E	F	Colour
MCS22-08	MCB22	NC08	NW7.5	7	22	16	6.2	22	Black
MCS22-12	MCB22	NC12	NW10	10	25	17.5	6.2	22	Grey

note: dimensions are in mm.

Order base unit and conduit clip separately.

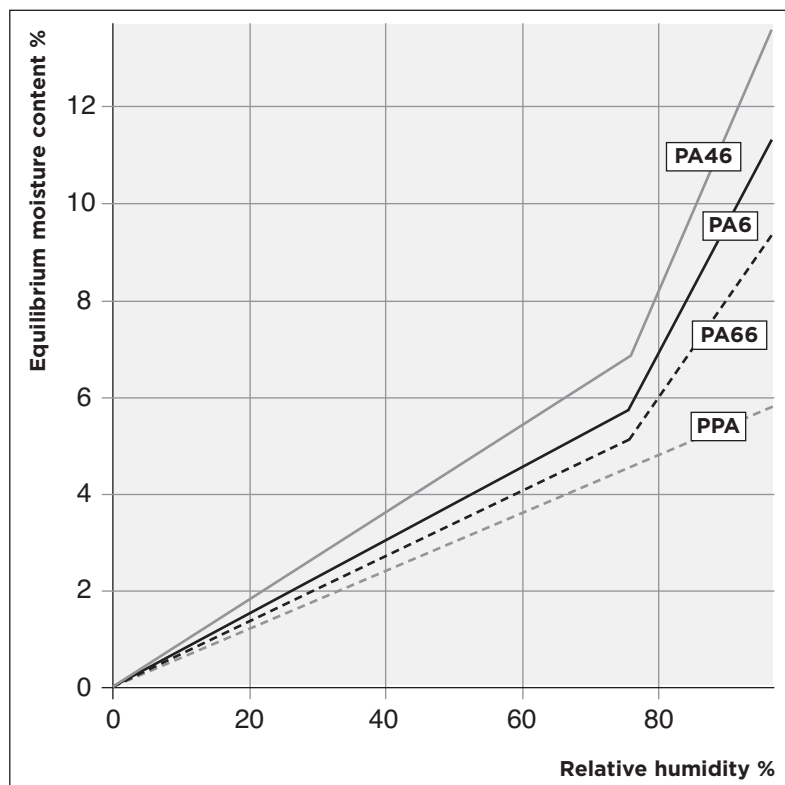
Storage recommendation for polyamide products

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.

The following chart 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.

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 (IP) Rating according to EN 60529/DIN 40050

IP suitability ratings are a system for classifying the degree of protection provided by enclosures of electrical equipment. The higher the number, the greater the degree of protection; they apply ONLY to properly installed equipment. The numerals stand for the following:

IP 6 8

The first digit stands for:
Protection against Dust



IP 6 8

The second digit stands for:
Protection against Water



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 up to 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
	9k IP69k Automotive standard DIN40050 and signifies resistance to high pressure jets of water (up to 80bar) from any angle.

16-90-DTP04	34	ABS25-M25	49	C108-90-WPTD2	39	C112-90-AT4PL	30	C116-AT12PL	30	CTPA20	8
16-FC114	36	ABS32-M32	49	C108-AM2	29	C112-90-AT6PL	30	C116-AT8PL	30	CTPA20-S	9
AB12-M12-90	49	BP72585	43	C108-AM3	29	C112-90-BC2	37	C116-DT12	33	CTPA25	8
AB12-M16	49	C125-A31	26	C108-AM4	29	C112-90-BC4	37	C116-FC114	36	CTPA25-S	9
AB12-M16-90	49	C128-DBC40	37	C108-AS1	28	C112-90-DT12	33	C116-LK29	40	CTPA28	8
AB12-M16-90	51	C1120-CCU100	43	C108-AS2	28	C112-90-DT2	33	C117-FC110	36	CTPA28-S	9
AB12-M20	49	CES 40	61	C108-AS3	28	C112-90-DT3	33	C1201220-DRC50	35	CTPA32	8
AB12-PG09	49	CES12	61	C108-AS4	28	C112-90-DT4	33	C120-A31	31	CTPA32-S	9
AB12-PG09-90	51	CES16	61	C108-AT2PL	30	C112--90-DT6	33	C120-A31	26	CTPA40	8
AB12-PG11	49	CES20	61	C108-AT3PL	30	C112-90-DT8	33	C120-AT20PL	30	CTPA40-S	9
AB12-PG13	49	CES32	61	C108-AT4PL	30	C112-90-DT8	33	C120-CCU119	43	CTPA50	8
AB16-M16	49	CGS-M16	59	C108-AT6PL	30	C112-90-DTP04	34	C1251225-DRC50	35	DSPP08	13
AB16-M16-90	49	CGS-M20	59	C108-BC2	37	C112-90-FC104	36	C1252825-DRC50	35	DSPP12	13
AB16-M16-90	51	CGS-M25	59	C108-BC3	37	C112-90-FC114	36	C125-A31	31	DSPP16	13
AB16-M20-90	49	CGS-M32	59	C108-BC4	37	C112-90-K2C	50	C125-FC150	36	DSPP20	13
AB16-PG11	49	CGS-M40	59	C108-DT2	33	C112-90-K3C	40	C128-BC40	37	DSPP28	13
AB16-PG11-90	51	CGS-M50	59	C108-DT3	33	C112-90-MMP2	39	C128-CCU131	43	DSPP32	13
AB16-PG13	49	CGS-M63	59	C108-DT4	33	C112-90-MP2	39	C128-CCU138	43	DSPP40	13
AB16-PG13-90	51	C108-72585	43	C108-DT6	33	C112-90-MP2	39	C132-A31	31	DSPP50	13
AB20-M20	49	C108-90-AM2	29	C108-FC102	36	C112-90-MP3	39	C132-A31	26	EK03-08	61
AB20-M20-90	49	C108-90-AM3	29	C108-FC103	36	C112-90-MP3	39	CN09-08	58	EK05	61
AB20-M20-90	51	C108-90-AM4	29	C108-FC104	36	C112-90-WP2	39	CN11-08	58	EPS0820	17
AB20-PG16	49	C108-90-AS1	28	C108-GT153	39	C112-90-WP2	39	CN11-12	58	EPS0S08	17
AB20-PG16-90	51	C108-90-AS2	28	C108-MF2	41	C112-90-X01	29	CN16-08	58	EPS1608	17
AB25-M25	49	C108-90-AS3	28	C108-MMP2	39	C112-AM2	29	CN16-16	58	EPS2012	17
AB25-M25-90	49	C108-90-AS4	28	C108-MP2	39	C112-AM3	29	CN21-12	58	EPS2016	17
AB25-M25-90	51	C108-90-AT2PL	30	C108-MP3	39	C112-AM4	29	CN21-16	58	EPS2020	17
AB25-PG21	49	C108-90-AT3PL	30	C108-PTD2	39	C112-AS1	28	CN21-20	58	EPS2520	17
AB25-PG21-90	51	C108-90-AT4PL	30	C108-SU4	44	C112-AS2	28	CN32-20	58	EPS2525	17
AB32-F90	52	C108-90-AT6PL	30	C108-WP2	39	C112-AS3	28	CN32-25	58	EPS2812	17
AB32-F90	52	C108-90-BC2	37	C108-WP2	39	C112-AS4	28	CN32-28	58	EPS2816	17
AB32-M32	49	C108-90-BC3	37	C110-90-AM2	29	C112-AT12PL	30	CPC08	11	EPS2820	17
AB32-M32-90	49	C108-90-BC4	37	C110-90-AM3	29	C112-AT4PL	30	CPC12	11	EPS2820	17
AB32-M32-90	51	C108-90-DT2	33	C110-90-AM4	29	C112-AT6PL	30	CPC16	11	EPS2825	17
AB32-PG29	49	C108-90-DT3	33	C110-90-AS2	28	C112-AT8PL	30	CPC20	11	EPS2828	17
AB32-PG29-90	51	C108-90-DT4	33	C110-90-AS3	28	C112-BC2	37	CPC25	11	EPS287025	17
AB40-F90	52	C108-90-DT6	33	C110-90-AS4	28	C112-BC3	37	CPC28	11	ESN12	61
AB40-F90	52	C108-90-FC102	36	C110-AM2	29	C112-BC4	37	CPC32	11	ESN16	61
AB40-M40	49	C108-90-FC102	36	C110-AM3	29	C112-DT2	33	CPC40	11	ESN20	61
AB40-M40-90	49	C108-90-FC103	36	C110-AM4	29	C112-DT3	33	CPC50	11	ESN25	61
AB40-M40-90	51	C108-90-FC104	36	C110-AS3	28	C112-DT4	33	CPS341212	22	ESN28	61
AB40-PG36-90	51	C108-90-FC114	36	C110-AS4	28	C112-DT6	33	CPS421212	22	ESN32	61
AB50-F90	52	C108-90-FCS02	36	C110-MF2	41	C112-DT8	33	CPS421616	22	ESN40	61
AB50-F90	52	c108-90-k2c	40	C1121212-DRC50	35	C112-FC102	36	CPS421620	22	ESPI612	17
AB50-M50	49	C108-90-K3C	40	C1122812-DRC50	35	C112-FC103	36	CPS422020	22	HCB08	62
AB50-M50-90	49	C108-90-MMP2	39	C112-90-AM2	29	C112-FC104	36	CTPA08	8	HCB12	62
AB50-M50-90	51	C108-90-MP2	39	C112-90-AM3	29	C112-FC114	36	CTPA08-S	9	HCB16	62
AB50-PG48	49	C108-90-MP2	39	C112-90-AM4	29	C112-MF2	41	CTPA10	8	HCB20	62
AB50-PG48-90	51	C108-90-MP3	39	C112-90-AS2	28	C112-X01	29	CTPA10-S	9	HCB28	62
ABS12-M16	49	C108-90-MP3	39	C112-90-AS3	28	C116-90-DT12	33	CTPA12	8	HCB40	62
ABS12-M20	49	C108-90-SU4	44	C112-90-AS4	28	C116-90-DT8	33	CTPA12-S	9	HCB50	62
ABS16-M16	49	C108-90-WP2	39	C112-90-AT2PL	30	C116-90-FC114	36	CTPA16	8	HNC08	10
ABS20-M20	49	C108-90-WP2	39	C112-90-AT3PL	30	C116-A31	31	CTPA16-S	9	HNC12	10

HNC16	10	MPA11	58	PP16	12	SWPG11	60	TPS250820	19	YPS161612	21
HNC20	10	MPB08-90	58	PP20	12	SWPG13	60	TPS250820	19	YPS200808	21
HNC25	10	MPB08-S	58	PP25	12	SWPG16	60	TPS250825	19	YPS201008	21
HNC32	10	MPS100	24	PP28	12	SWPG21	60	TPS251025	19	YPS201208	21
HNC40	10	MPS101	24	PP32	12	SWPG29	60	TPS251220	19	YPS201210	21
HNC50	10	MPS102	24	RSB12-08	58	SWPG36	60	TPS251225	19	YPS201212	21
JPS1212	16	MPS103	24	RSB16-08	58	SWPG48	60	TPS251620	19	YPS201612	21
JPS1212	16	MPS121212-2020	25	RSB16-12	58	SWPG-9	60	TPS251625	19	YPS201616	21
JPS1612	16	MPS122812-2020	25	RSB20-08	58	TP12	53	TPS252020	19	YPS202008	21
JPS1612	16	MPS201220-2020	25	RSB20-12	58	TP16	53	TPS252025	19	YPS202010	21
JPS1616	16	MPS251225-2020	25	RSB20-16	58	TP20	53	TPS252520	19	YPS202012	21
JPS2008	16	MPS252825-2020	25	RSB28-12	58	TP28	53	TPS252525	19	YPS202016	21
JPS2012	16	NC06	6	RSB28-16	58	TP32	53	TPS280820	19	YPS251616	21
JPS2016	16	NC06-S	7	RSB28-20	58	TPB20	53	TPS280828	19	YPS252012	21
JPS2020	16	NC08	6	RSB32-20	58	TPB28	53	TPS281020	19	YPS252016	21
JPS2525	16	NC08-S	7	RSB32-25	58	TPB32	53	TPS281225	19	YPS252020	21
JPS2820	16	NC10	6	RSB32-28	58	TPM2512	55	TPS281228	19	YPS252508	21
JPS2825	16	NC10-S	7	RSG02	58	TPS080808	19	TPS281620	19	YPS252510	21
JPS2828	16	NC12	6	RSG02-B	58	TPS081208	19	TPS281625	19	YPS252512	21
JSP1616	16	NC12-S	7	RSG03	58	TPS081612	19	TPS281628	19	YPS252512	21
JSP2016	16	NC16	6	RSG03-B	58	TPS100808	19	TPS282020	19	YPS252520	21
JSP2020	16	NC16-S	7	RSG04	58	TPS101010	19	TPS282025	19	YPS252525	21
JSP2525	16	NC20	6	RSG04-B	58	TPS101012	19	TPS282028	19	YPS282012	21
JSP2820	16	NC20-S	7	RSG05	58	TPS120808	19	TPS282525	19	YPS282016	21
JSP2825	16	NC25	6	RSG06	58	TPS120812	19	TPS282528	19	YPS282020	21
JSP2828	16	NC25-S	7	SC16	61	TPS121010	19	TPS282828	19	YPS282516	21
K21-LH	44	NC28	6	SC20	61	TPS121012	19	TPS321625	19	YPS282520	21
LNP-M16	60	NC28-S	7	SC28	61	TPS121208	19	TPS322025	19	YPS282525	21
LNP-M20	60	NC32	6	SC32	61	TPS121210	19	TPS322532	19	YPS282808	21
LNP-M25	60	NC32-S	7	SC40	61	TPS121212	19	TPS322532	19	YPS282812	21
LNP-M32	60	NC40	6	SC50	61	TPS121612	19	TPS323225	19	YPS282816	21
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LNP-M50	60	NC50	6	SC-M24-S	58	TPS161012	19	VI12-90-PTD2	39	YPS282828	21
LNP-PG07	60	NC50-S	7	SC-M27-90	58	TPS161016	19	XP20	54	YPS322032	21
LNP-PG09	60	NEPA14-16	43	SC-M27-S	58	TPS161212	19	XPS1208	23	YPS322516	21
LNP-PG11	60	NEPA16-20	43	SEG12	61	TPS161216	19	YOS282825	21	YPS322520	21
LNP-PG13	60	NEPA24-28	43	SEG20	61	TPS161608	19	YPS080808	21	YPS322525	21
LNP-PG16	60	PCS10	63	SEM40	60	TPS161612	19	YPS080812	21	YPS322532	21
LNP-PG21	60	PCS12	63	SR31-101	26	TPS161616	19	YPS081208	21	YPS323216	21
LNP-PG29	60	PCS16	63	ST20-12	45	TPS162012	19	YPS101010	21	YPS323220	21
LNP-PG36	60	PCS20	63	ST20-2x08	45	TPS162016	19	YPS120808	21	YPS323225	21
LNP-PG48	60	PCS32	63	ST25-12	45	TPS200816	19	YPS120810	21	YPS323232	21
MCB22	63	PCS40	63	ST25-1208	45	TPS200820	19	YPS121010	21		
MCS22-08	63	PCS50	63	ST28-4x08	45	TPS201016	19	YPS121208	21		
MCS22-12	63	PG21-LK20	40	ST31-100	26	TPS201020	19	YPS121210	21		
MPA01	58	PKC12	14	ST31-192	26	TPS201216	19	YPS121212	21		
MPA02	58	PKC16	14	STN25-3x08	45	TPS201220	19	YPS160812	21		
MPA03	58	PKC20	14	SWM16	60	TPS201612	19	YPS161010	21		
MPA05	58	PKC25	14	SWM20	60	TPS201616	19	YPS161208	21		
MPA06	58	PKC28	14	SWM25	60	TPS201620	19	YPS161210	21		
MPA07	58	PKC32	14	SWM32	60	TPS202012	19	YPS161212	21		
MPA08	58	PP08	12	SWM50	60	TPS202016	19	YPS161608	21		
MPA10	58	PP12	12	SWPG07	60	TPS202020	19	YPS161610	21		



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