

ABS PIPE SYSTEMS

ABS (Acrylonitrile Butadiene Styrene) is highly rated as thermoplastic pipework system and is used in many applications such as food and beverage processing as well as water and sewerage treatment and many other industries. ABS has good chemical resistance with high impact strength.

ABS is non toxic and conforms to the toxicological requirements of the British Plastic Federation, British Industrial Biological Research Association Code of Practice for food usage 45/5. It also fulfils the EEC requirements for plastic materials in contact with foodstuffs. ABS systems are lightweight, rigid and easy to install using a solvent cement.

WRc APPROVAL

Water Bylaws Scheme
- approved product
for potable water.



STANDARDS

Individual products are in compliance with appropriate British Standards.

Fittings (inch size)	BS 5392 Part 1
Pipe (inch size)	BS 5392 Part 2
Fittings (mm size)	DIN 8063, KIWA 549, ISO
Pipe (mm size)	DIN 16890, 16891
Threaded fittings	BS 21, DIN 2999, ISO 727

CHEMICAL RESISTANCE

ABS has good resistance to most diluted inorganic acids, salts, animal fats and oils and organic acids. It is not resistant to organic solvents, alcohol, petrol, acetic acid or vegetable oils. Recommendations can be given by our Technical Department regarding the resistance of ABS to specific chemicals.

SOLVENT WELDING - Make sure that the inside of the piping is properly ventilated during the drying time of the cement

PRESSURE RATINGS FITTINGS & VALVES

Product	Size inches	Pressurerating
Fitting Solvent Cement	1/2 - 4	15 bar
	6	12 bar
	12 1/2 & 8	9 bar
Valves	3/8 - 2	15 bar
	2 1/2 - 4	9 bar

All pressure ratings are at 20° C.

TEMPERATURE & PRESSURE RELATIONSHIP

Temp °C	Class C bar	Class D bar	Class E bar
-40	9.0	12.0	15.0
-20	9.0	12.0	15.0
0	9.0	12.0	15.0
20	9.0	12.0	15.0
30	7.5	10.0	12.5
40	6.1	8.1	10.1
50	4.6	6.1	7.7
60	3.2	4.2	5.3
70	1.8	2.4	3.0
80	0.6	0.7	0.9

TEMPERATURE AND PRESSURE

It is suitable for use over a wide temperature range from -40° C to +80° C at pressures up to 15 bar. Please consult the above temperature/pressure relationship chart for specific ratings.

It is important to remember that if the temperature is increased above 20° C then the pressure must be reduced.

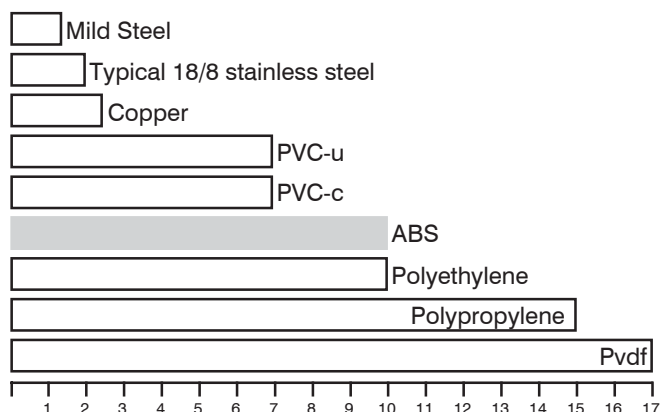
ABS IN SUB-ZERO TEMPERATURES

ABS Pipe system are suitable for temperatures as low as -40° C, however it is necessary as with any other pipeline to take preventative measures to ensure the pipeline fluid does not freeze, as freezing would cause subsequent damage to the system.

THERMAL EXPANSION

The thermal coefficient of linear expansion for ABS is $10.1 \times 10^{-5} / ^\circ\text{C}$.

It is necessary in certain situations to make special provision for this expansion and contraction. Thermal expansion of ABS is compared with other materials, in the following chart.



CARATTERISTICHE GENERALI ABS

L'ABS (Acrilonitrilbutadienstirene) è utilizzato per sistemi di tubazioni in materiale termoplastico per applicazioni chimiche ed alimentari. L'ABS ha buona resistenza chimica ed alta resistenza agli urti. L'ABS non è tossico ed è conforme ai requisiti tossicologici della British Plastic Federation, British Industrial Biological Research Association Code of Practice for food usage 45/5. Esso adempie anche i requisiti EEC per i materiali plastici in contatto con alimenti. I sistemi in ABS sono leggeri, rigidi e facili da installare usando una apposita colla.

APPROVAZIONE WRc

Water Bylaws Scheme
- prodotto approvato per acqua potabile.



STANDARDS

I singoli prodotti sono in conformità con i seguenti relativi British Standards.

Raccordi (in pollici)	BS 5392 Part 1
Tubi (in pollici)	BS 5392 Part 2
Raccordi (in mm)	DIN 8063, KIWA 549, ISO
Tubi (in mm)	DIN 16890, 16891
Raccordi filettati	BS 21, DIN 2999, ISO 727

RESISTENZA CHIMICA

L'ABS ha una buona resistenza verso la maggior parte degli acidi inorganici diluiti, i sali, i grassi e gli olii animali e gli acidi organici. Non è resistente a solventi organici, alcool, petrolio, acido acetico o olii vegetali. Consigli riguardanti la resistenza dell'ABS a specifiche sostanze chimiche possono essere dati dal nostro Ufficio Tecnico.

INCOLLAGGIO - Assicurarsi che anche l'interno della tubazione sia adeguatamente ventilato durante la fase di essiccazione del collante.

PRESSIONE PER RACCORDI E VALVOLE

Prodotto	Pollici	Pressione
Raccordi per incollaggio	1/2 - 4	15 bar
	6	12 bar
	12 1/2 & 8	9 bar
Valvole	3/8 - 2	15 bar
	2 1/2 - 4	9 bar

Tutte le pressioni si intendono a 20° C.

RAPPORTO TRA TEMPERATURA E PRESSIONE

Temp °C	PN 9	PN 12	PN 15
-40	9.0	12.0	15.0
-20	9.0	12.0	15.0
0	9.0	12.0	15.0
20	9.0	12.0	15.0
30	7.5	10.0	12.5
40	6.1	8.1	10.1
50	4.6	6.1	7.7
60	3.2	4.2	5.3
70	1.8	2.4	3.0
80	0.6	0.7	0.9

TEMPERATURA E PRESSIONE

È adatto all'uso nell'ambito di temperature da -40° C a +80° C a pressioni fino a 15 bar.

Consultare la precedente tabella temperatura/pressione per misure specifiche.

È importante ricordare che se la temperatura sale oltre i 20° C, la pressione deve essere ridotta.

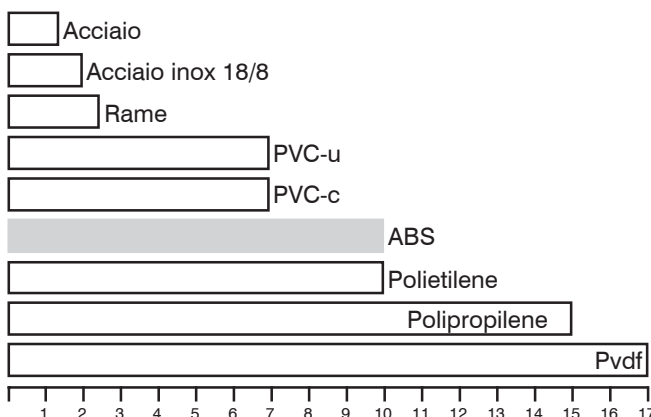
L'ABS CON TEMPERATURE SOTTO LO ZERO

I sistemi di tubazioni in ABS sono adatti per temperature fino a -40° C. Comunque è necessario, come per qualsiasi altro tipo di sistema, prendere precauzioni per assicurare che il fluido non congeli nel condotto, perchè il congelamento causerebbe danni al sistema.

ESPANSIONE TERMICA

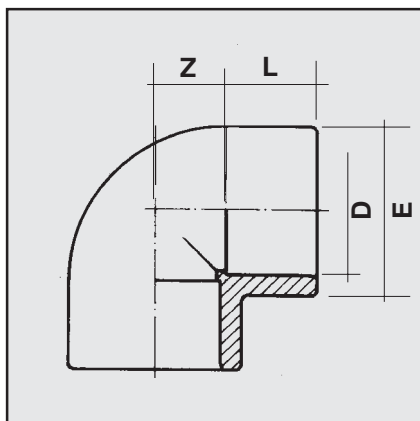
Il coefficiente termico di espansione lineare per l'ABS è $10.1 \times 10^{-5} / ^\circ\text{C}$.

È necessario in certe situazioni prendere speciali provvedimenti per l'espansione e la contrazione. L'espansione termica dell'ABS è comparata con quella di altri materiali nel grafico seguente:



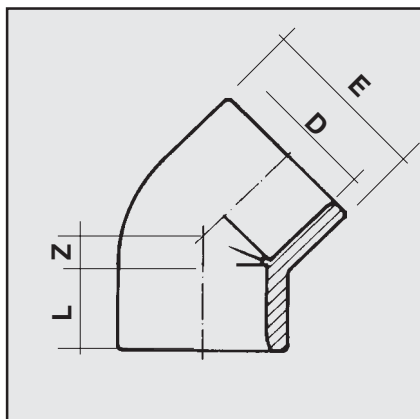
SOLVENT CEMENT FITTINGS (inches)
 RACCORDI PER INCOLLAGGIO (serie in pollici)

A-GOA 90° Elbow
 Gomito a 90°



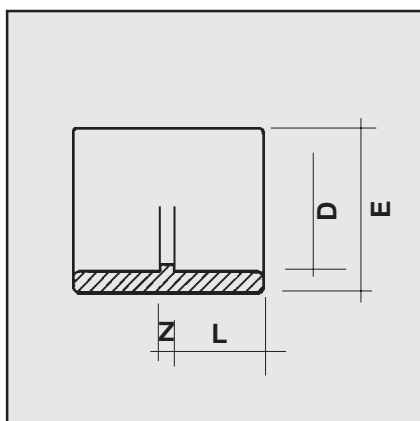
D	L	Z	E	g
½	17	11	27	13
¾	20	14	33	20
1	23	17	41	35
1¼	27	22	51	56
1½	32	26	61	117
2	37	34	75	222
2½	44	39	90	301
3	52	45	107	509
4	63	59	133	948
5	79	68	164	1543
6	93	85	198	2961
8	116	116	258	6567

A-GYA 45° Elbow
 Gomito a 45°



D	L	Z	E	g
½	16	5	27	12
¾	19	6	33	18
1	22	8	41	31
1¼	27	10	52	47
1½	32	12	61	97
2	39	15	75	176
2½	44	18	90	231
3	52	21	107	390
4	63	25	133	649
6	90	36	198	2306
8	112	52	253	3820

A-MAA Socket
 Manicotto

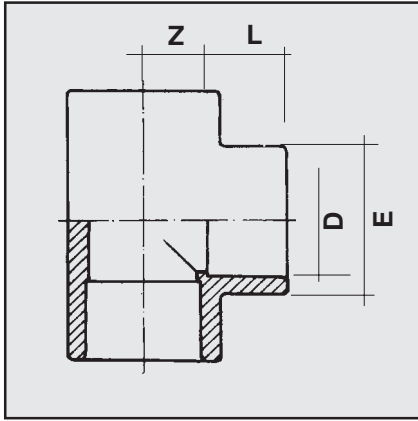


D	L	Z	E	g
½	16	3	27	11
¾	19	3	33	16
1	22	3	41	25
1¼	27	3	52	39
1½	32	3	61	74
2	37	3	75	132
2½	44	4	90	164
3	52	5	107	283
4	67	6	133	526
5	76	8	164	833
6	90	8	198	1294
8	120	10	253	3391

SOLVENT CEMENT FITTINGS (inches)
RACCORDI PER INCOLLAGGIO (serie in pollici)

A-TIA

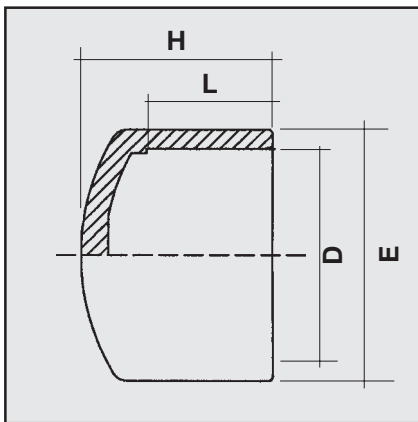
90° Tee
Ti a 90°



D	L	Z	E	g
½	16	11	27	17
¾	19	14	33	27
1	22	17	41	50
1¼	27	21	52	79
1½	32	26	61	116
2	37	33	75	284
2½	44	39	90	394
3	52	45	107	657
4	63	62	133	1131
5	76	71	164	2032
6	93	86	198	3755
8	116	116	258	8453

A-CAA

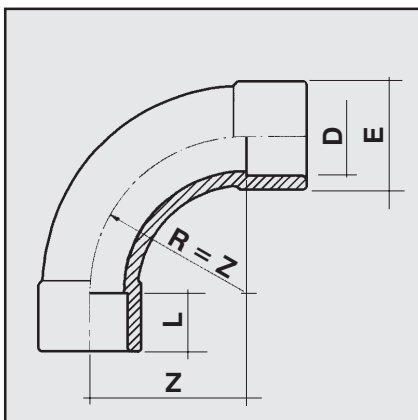
Cap
Calotte
Kappen
Calotta



D	L	H	E	g
½	16	37	27	9
¾	19	31	33	12
1	22	35	41	21
1¼	27	42	52	30
1½	32	47	61	59
2	39	48	75	104
2½	44	59	90	137
3	52	81	107	235
4	63	99	133	397
6	90	132	191	1021
8	119	165	255	2311

A-CUA

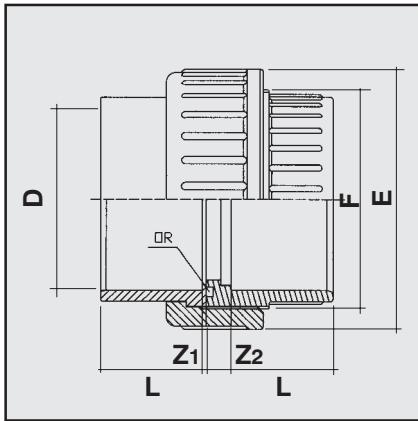
Bend
Curva



D	L	Z	E	g
½	16	40	30	32
¾	19	50	36	55
1	22	64	44	90
1¼	27	80	54	156
1½	32	100	63	256
2	39	126	78	445
2½	44	150	94	777
3	51	180	113	1361
4	61	220	136	2079

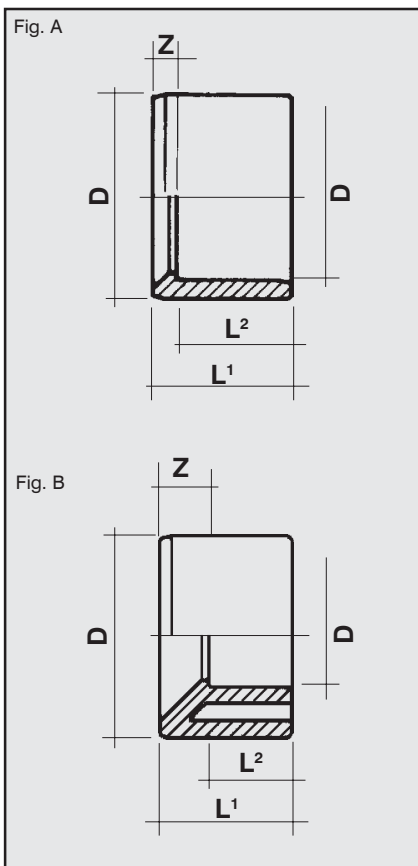
SOLVENT CEMENT FITTINGS (inches)
 RACCORDI PER INCOLLAGGIO (serie in pollici)

A-BOA Union with O-Ring
 Bocchettone con O-Ring



D	L	Z ¹	Z ²	F	E	g
½	16	3	10	1"	42	31
¾	19	3	10	1¼"	52	49
1	22	3	10	1½"	59	67
1¼	27	3	12	2"	72	115
1½	32	3	14	2¼"	79	164
2	39	3	18	2¾"	96	288
2½	44	3	18	3½"	119	434
3	52	5	18	4"	134	599
4	63	5	18	5"	163	876

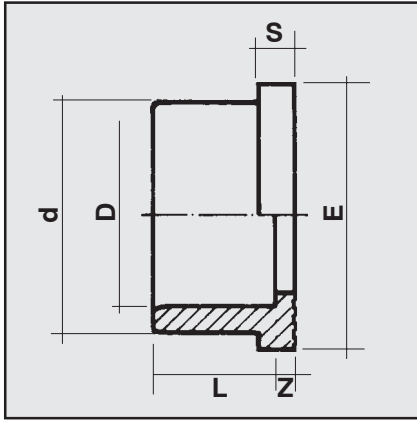
A-RCA Reducing bush
 Riduzione maschio/femmina corta



D x D	L ¹	L ²	Z	FIG.	g
¾ x ½	19	16	3	A	6
1 x ½	22	16	6	B	16
1 x ¾	22	19	3	A	10
1¼ x 1	27	23	4	A	20
1½ x ¾	32	20	12	B	39
1½ x 1	32	23	9	B	42
1½ x 1¼	32	27	5	A	22
2 x 1	39	23	16	B	69
2 x 1¼	39	27	12	B	71
2 x 1½	39	32	7	A	54
2½ x 1½	45	31	14	B	93
2½ x 2	44	39	5	A	95
3 x 1½	52	32	20	B	169
3 x 2	52	39	13	B	143
3 x 2½	52	44	8	A	96
4 x 2	63	39	24	B	336
4 x 3	63	52	11	A	258
5 x 4	77	65	12	A	415
6 x 4	90	63	27	B	745
8 x 6	118	91	27	B	1559

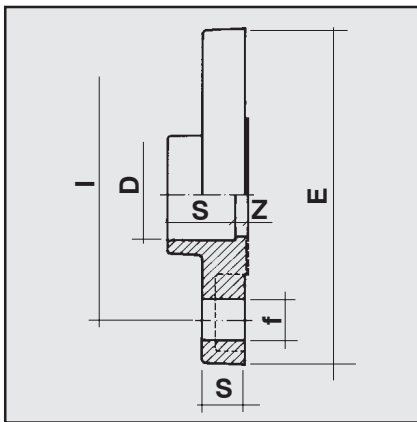
SOLVENT CEMENT FITTINGS (inches)
RACCORDI PER INCOLLAGGIO (serie in pollici)

A-QRA Stub serrated
Collare per flange rigato



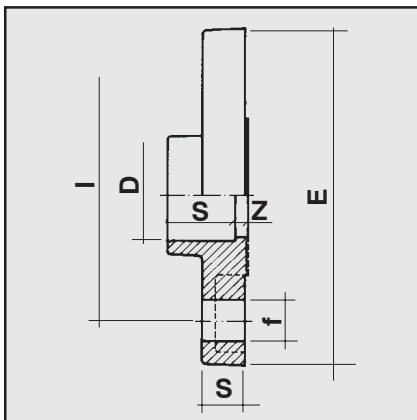
D	L	Z	d	S	E	g
1	22	3	41	7	50	18
1½	32	3	61	8	73	50
2	39	3	76	9	90	91
2½	44	3	90	10	106	118
3	52	5	108	11	125	209
4	63	5	134	12	155	330
5	76	5	165	13	188	563
6	88	6	197	14	218	816
8	119	7	248	19	274	1580

A-FFA Fixed flange BS 10 Table E
Flangia fissa BS 10 Table E



D	L	Z	E	I	S	g
½	16	4	95	67	8	70
¾	19	4	105	73	9	105
1	22	4	115	83	16	145
1½	32	4	150	98	17	270
2	38	4	165	115	20	380
3	51	7	200	146	22	526
4	61	5	220	178	23	663

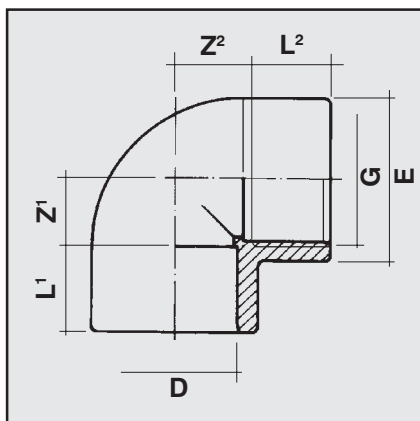
A-FNA Fixed flange BS 4504 NP 10/16
Flangia fissa DIN 8063 PN 10 / 16



D	L	Z	E	I	S	g
½	16	4	95	65	8	70
¾	19	4	105	75	9	105
1	22	4	115	85	16	145
1¼	27	4	140	100	17	220
1½	32	4	150	110	17	270
2	38	4	165	125	20	380
2½	44	4	105	145	19	465
3	51	7	200	160	22	524
4	61	5	220	180	23	666

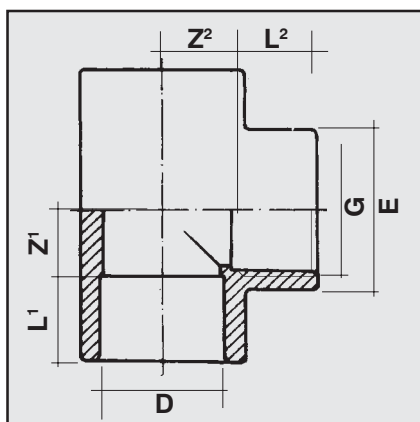
ADAPTOR SET (inches)
SERIE DI PASSAGGIO (serie in pollici)

A-GOC 90° Elbow
Gomito a 90°



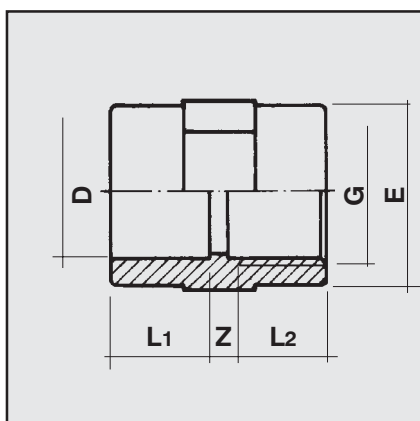
D x G	L ¹	L ²	Z ¹	Z ²	E	g
½" x ½"	16	15,0	11	12,0	28	16
¾" x ¾"	19	16,3	14	16,7	34	28
1" x 1"	22	19,1	17	19,9	42	49
1¼" x 1¼"	27	21,4	21	26,6	51	76
1½" x 1½"	32	21,4	26	36,6	61	163
2" x 2"	39	25,7	33	46,3	75	308
3" x 3"	51	35,3	47	65,7	106	549

A-TIC 90° Tee with threaded central off-take
Ti a 90° con bocca centrale filettata



D x G	L ¹	L ²	Z ¹	Z ²	E	g
½" x ½"	16	15,0	11	12,0	28	25
¾" x ¾"	19	16,3	14	16,7	34	38
1" x 1"	22	19,1	17	19,9	42	69
1¼" x 1¼"	27	21,4	21	26,6	51	106
1½" x 1½"	32	21,4	26	36,6	61	213
2" x 2"	39	25,7	33	46,3	75	380
3" x 3"	51	36,3	47	65,7	106	674

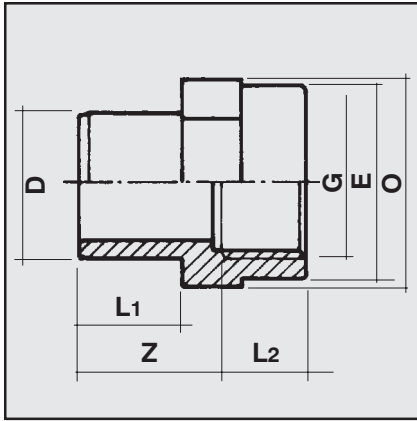
A-MAC Socket
Manicotto



D x G	L ¹	L ²	Z	E	g
½" x ½"	16	15,0	4	28	15
¾" x ¾"	19	16,3	6	34	22
1" x 1"	22	19,1	6	42	37
1¼" x 1¼"	27	21,4	8	50,5	60
1½" x 1½"	32	21,4	13	61	104
2" x 2"	39	25,7	15	80	161
3" x 3"	52	33,3	9	106	343

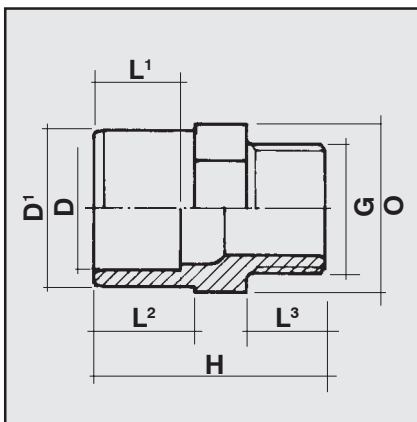
ADAPTOR SET (inches)
SERIE DI PASSAGGIO (serie in pollici)

A-AFC Adaptor with female threading
Adattatore con filettatura femmina



D x G	L ¹	L ²	E	Z	g
½" x ½"	16	15	28	24	19
¾" x ¾"	19	16	34	27	27
1" x 1"	22	19	42	30	43
1¼" x 1¼"	27	21	51	36	68
1½" x 1½"	32	21	58	41	73
2" x 2"	39	25	72	48	115

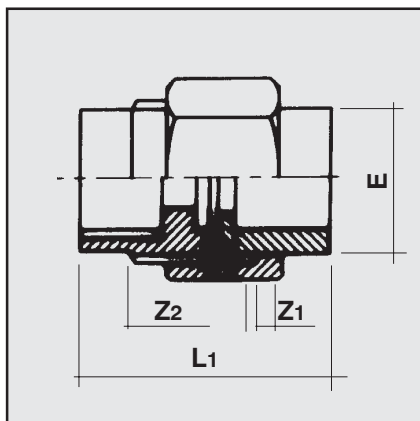
A-AMC Adaptor with male threading
Adattatore con filettatura maschia



D x D ¹ x G	L ¹	L ²	L ³	H	O	g
½ x ¾ x ½	16	19	15	46	30	16
¾ x 1 x ¾	19	22	16	50	36	28
1 x 1¼ x 1	22	27	19	57	46	48
1¼ x 1½ x 1¼	27	32	21	66	55	54
1½ x 2 x 1½	32	39	21	74	65	113
2 x 2½ x 2	39	44	25	84	80	184
3 x - x 3	52		33	113	115	356
4 x - x 4	63		39	120	130	454

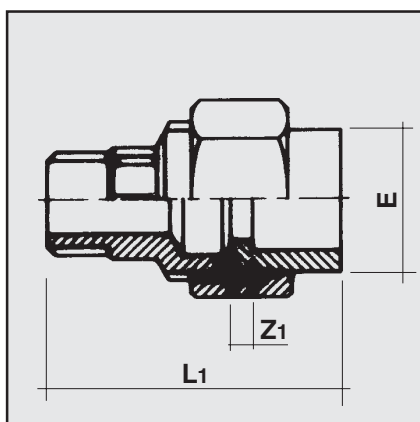
ADAPTOR SET (inches)
SERIE DI PASSAGGIO (serie in pollici)

A-BFC Union brass/ABS F
Bocchettone ottone/ABS F



D	E	L ¹	Z ¹	Z ²	g
½	40	43	3	9	165
¾	48	48	3	10	290
1	55	59	9	11	310
1¼	65	68	10	11	450
1½	78	76	12	12	486
2	88	90	14	14	950
2½	108	95	14	4	1325
3	124	112	16	5	1607

A-BMC Union brass/ABS M
Bocchettone ottone/ABS M



D	E	L ¹	Z ¹	g
½	40	56	3	175
¾	48	67	3	320
1	55	68	9	420
1¼	65	84	10	620
1½	78	92	12	571
2	88	109	14	964
2½	108	127	18	1632
3	122	138	18	2135