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Technical data

All data complies with the actual technical data at time of print of this publication. All dimensions are in mm, unless otherwise stated. Akatherm cannot be held responsible for printing errors and temporary changes in this price list.

For more information contact our Technical Support.

Article group

Every article in this price list is given an article group (AG) which refers to a discount group given in the Akatherm terms and conditions.

Packing quantity

In this price list packing quantities (q) are clearly marked.

Inspection certificate

Inspection certificates can be issued and have to be requested at time of ordering. Akatherm will charge €15,- handling fee per position.

Electronic price list

This price list is also in digital form available as an Excel-version for electronic ordering systems and a pdf-version for PC use.

Distribution

The Akatherm pressure system is sold through a network of distributors. The contact details of the distributor in your country can be requested at the Customer Service department or can be found on our website: www.akatherm.com.

Storage

Fittings need to be stored in a dry environment. We recommend to keep the fittings as long as possible in the original packing to prevent pollution.

Return goods

Products can only be returned after Akatherm BV has expressly given its consent in writing. A 25% handling fee will be charged.

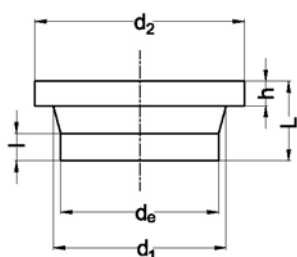
ABBREVIATIONS

AG	article group
Art. Nr.	article number
DN	nominal size
d_e	outside diameter
e	wall thickness of a pipe
G	cylindrical pipe threads where pressure-tight joints are not made on the threads ISO 228
L	length of fitting
I	length of spigot
q	package quantity
R	male pipe threads where pressure-tight joints are made on the threads ISO 7
R_p	cylindrical female pipe threads where pressure-tight joints are made on the threads ISO 7
R_c	conical female pipe threads where pressure-tight joints are made on the threads ISO 7
SDR	ratio between outer diameter / wall thickness
NEN	national standard in The Netherlands
EN	European standard
ISO	international standard
DIN	national standard in Germany
S	class indication $ISO-S = (SDR-1)/2$

PP-H pressure fittings

Stub flange short
QBM
for butt-welding

PP-H
SDR 17
water 6 bar



d _e	Art. Nr.	q	€	AG	h	l	d ₁	d ₂	L
40	47 04 02 206	30	3,48	PA	11	24	50	78	50
50	47 05 02 206	25	4,10	PA	12	21	61	88	50
63	47 06 02 206	15	5,00	PA	14	16	75	102	50
75	47 07 02 206	10	5,90	PA	16	14	89	122	50
90	47 09 02 206	5	8,64	PA	17	33	105	138	80
110	47 11 02 206	5	10,99	PA	18	27	125	158	80
125	47 12 02 206	5	13,49	PA	18	42	132	158	80
140	47 14 02 206	4	15,69	PA	18	34	155	188	80
160	47 16 02 206	4	19,39	PA	18	34	175	212	80
180	47 18 02 206	3	28,33	PA	20	60	182	212	80
200	47 20 02 206	2	35,42	PA	24	36	232	268	100
225	47 22 02 206	2	39,69	PA	24	46	235	268	100
250	47 25 02 206	1	56,72	PA	25	35	285	320	100
280	47 28 02 206	1	62,31	PA	25	45	291	320	100
315	47 31 02 206	1	76,07	PA	25	35	335	370	100
355	47 35 02 206	1	149,93	PB	30	30	373	430	120
400	47 40 02 206	1	303,00	PB	33	42	427	482	120
450	47 45 02 206	1	357,07	PB	46	14	514	585	120
500	47 50 02 206	1	440,21	PB	46	24	530	585	120
560	47 56 02 206	1	526,93	PB	50	10	615	685	120
630	47 63 02 206	1	610,23	PB	50	30	642	685	120
710	47 71 02 206	1	896,22	PL	50	20	737	800	120
800	47 80 02 206	1	1299,71	PL	52	18	840	905	120

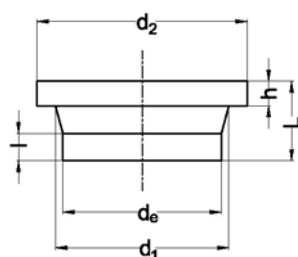
* fabrication on order, returning not possible

With grooved jointing face.

PP-H pressure fittings

Stub flange short
QBM
for butt-welding

PP-H
SDR 11
water 10 bar



d _e	Art. Nr.	q	€	AG	h	l	d ₁	d ₂	L
20	47 01 02 210	50	2,57	PA	7	30	27	45	50
25	47 02 02 210	30	2,57	PA	9	26	33	58	50
32	47 03 02 210	30	3,05	PA	10	25	40	68	50
40	47 04 02 210	30	3,63	PA	11	24	50	78	50
50	47 05 02 210	25	4,46	PA	12	21	61	88	50
63	47 06 02 210	15	5,57	PA	14	16	75	102	50
75	47 07 02 210	10	6,59	PA	16	14	89	122	50
90	47 09 02 210	5	9,43	PA	17	33	105	138	80
110	47 11 02 210	5	12,14	PA	18	27	125	158	80
125	47 12 02 210	5	14,64	PA	18	42	132	158	80
140	47 14 02 210	4	17,09	PA	18	34	155	188	80
160	47 16 02 210	4	21,55	PA	18	34	175	212	80
180	47 18 02 210	3	33,47	PA	20	60	182	212	80
200	47 20 02 210	2	36,84	PA	24	36	232	268	100
225	47 22 02 210	2	41,06	PA	24	46	235	268	100
250	47 25 02 210	1	62,31	PA	25	35	285	320	100
280	47 28 02 210	1	68,07	PA	25	45	291	320	100
315	47 31 02 210	1	80,20	PA	25	35	335	370	100
355	47 35 02 210	1	163,75	PB	30	30	373	430	120
400	47 40 02 210	1	322,56	PB	33	42	427	482	120
450	47 45 02 210	1	377,82	PB	46	14	514	585	120
500	47 50 02 210	1	478,46	PB	46	24	530	585	120
560	47 56 02 210	1	620,73	PB	50	10	615	685	120
630	47 63 02 210	1	739,40	PB	50	30	642	685	120

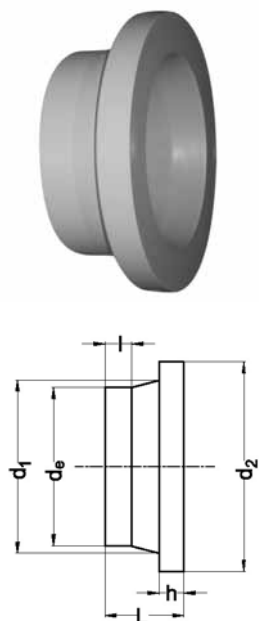
With grooved jointing face.

PP-H pressure fittings

Stub flange short

QBXM - for FIP butterfly valve type FE and FK
for butt-welding

PP-H
SDR 17
water 6 bar



d _e /DN	Art. Nr.	q	€	AG	h	l	d ₁	d ₂	L
50/40	47 05 72 206	1	5,15	PB	12	21	61	88	50
63/50	47 06 72 206	1	6,28	PB	14	16	75	102	50
75/65	47 07 72 206	1	7,42	PB	16	14	89	122	50
90/80	47 09 72 206	1	10,85	PB	17	33	105	138	80
110/100	47 11 72 206	1	13,81	PB	18	27	125	158	80
125/100	47 12 72 206	1	16,88	PB	18	42	132	158	80
140/125	47 14 72 206	1	19,62	PB	18	34	155	188	80
160/150	47 16 72 206	1	24,31	PB	18	34	175	212	80
180/150	47 18 72 206	1	35,49	PB	20	60	182	212	80
200/200	47 20 73 206	1	44,28	PB	24	36	232	268	100
225/200	47 22 72 206	1	49,64	PB	24	46	235	268	100
250/250	47 25 73 206	1	70,98	PB	25	35	285	320	100
280/250	47 28 72 206	1	77,94	PB	25	45	291	320	100
315/300	47 31 73 206	1	95,16	PB	25	35	335	370	100

* machined for free movement of disc

With flat jointing face.

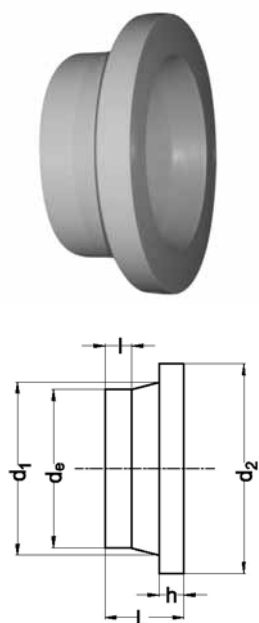
Suitable for installation on both sides of the butterfly valve.

Dimensions are adapted to the profile backing ring for stub flange.

Stub flange short

QBXM - for FIP butterfly valve type FE and FK
for butt-welding

PP-H
SDR 11
water 10 bar



d _e /DN	Art. Nr.	q	€	AG	h	l	d ₁	d ₂	L
50/40	47 05 72 210	1	5,60	PB	12	21	61	88	50
63/50	47 06 72 210	1	6,96	PB	14	16	75	102	50
75/65	47 07 72 210	1	8,34	PB	16	14	89	122	50
90/80	47 09 72 210	1	11,87	PB	17	33	105	138	80
110/100	47 11 72 210	1	15,75	PB	18	27	125	158	80
125/100	47 12 72 210	1	18,38	PB	25	25	132	158	80
140/125	47 14 72 210	1	21,45	PB	25	27	155	188	80
160/150	47 16 73 210	1	27,05	PB	25	34	175	212	80
180/150	47 18 72 210	1	41,88	PB	30	60	182	212	80
200/200	47 20 73 210	1	46,10	PB	32	36	232	268	100
225/200	47 22 73 210	1	51,35	PB	32	46	235	268	100
250/250	47 25 73 210	1	77,94	PB	35	35	285	320	100
280/250	47 28 73 210	1	85,12	PB	35	45	291	320	100
315/300	47 31 73 210	1	100,31	PB	35	35	335	370	100

* machined for free movement of disc

With flat jointing face.

Suitable for installation on both sides of the butterfly valve.

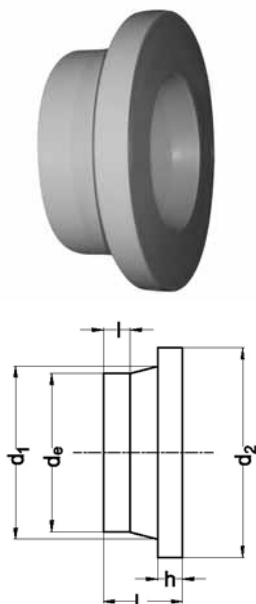
Dimensions are adapted to the profile backing ring for stub flange.

PP-H pressure fittings

Stub flange short

QBXN - for entrance side FIP check valve type CR and FR
for butt-welding

PP-H
SDR 17
water 6 bar



d _e /DN	Art. Nr.	q	€	AG	h	l	d ₁	d ₂	L
50/40	47 05 72 206	1	5,15	PB	12	21	61	88	50
63/50	47 06 72 206	1	6,28	PB	14	16	75	102	50
75/65	47 07 72 206	1	7,42	PB	16	14	89	122	50
90/80	47 09 72 206	1	10,85	PB	17	33	105	138	80
110/100	47 11 72 206	1	13,81	PB	18	27	125	158	80
125/100	47 12 72 206	1	16,88	PB	18	42	132	158	80
140/125	47 14 72 206	1	19,62	PB	18	34	155	188	80
160/150	47 16 72 206	1	24,31	PB	18	34	175	212	80
180/150	47 18 72 206	1	35,49	PB	20	60	182	212	80
200/200	47 20 72 206	1	44,28	PB	24	36	232	268	100
225/200	47 22 72 206	1	49,64	PB	24	46	235	268	100
250/250	47 25 72 206	1	70,98	PB	25	35	285	320	100
280/250	47 28 72 206	1	77,94	PB	25	45	291	320	100
315/300	47 31 72 206	1	95,16	PB	25	35	335	370	100

With flat jointing face.

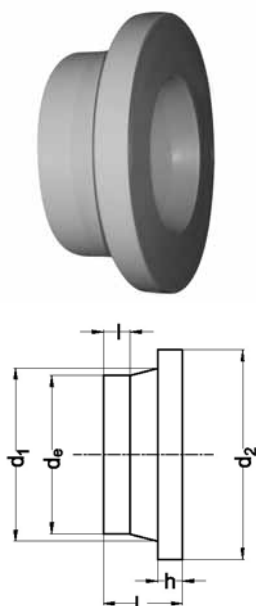
Suitable for installation on entrance side. Install stub flange extended CR/FR on exit side.

Dimensions are adapted to the profile backing ring for stub flange.

Stub flange short

QBXN - for entrance side FIP check valve type CR and FR
for butt-welding

PP-H
SDR 11
water 10 bar



d _e /DN	Art. Nr.	q	€	AG	h	l	d ₁	d ₂	L
50/40	47 05 72 210	1	5,60	PB	12	21	61	88	50
63/50	47 06 72 210	1	6,96	PB	14	16	75	102	50
75/65	47 07 72 210	1	8,34	PB	16	14	89	122	50
90/80	47 09 72 210	1	11,87	PB	17	33	105	138	80
110/100	47 11 72 210	1	15,75	PB	18	27	125	158	80
125/100	47 12 72 210	1	18,38	PB	25	25	132	158	80
140/125	47 14 72 210	1	21,45	PB	25	27	155	188	80
160/150	47 16 72 210	1	27,05	PB	25	34	175	212	80
180/150	47 18 72 210	1	41,88	PB	30	60	182	212	80
200/200	47 20 72 210	1	46,10	PB	32	36	232	268	100
225/200	47 22 72 210	1	51,35	PB	32	46	235	268	100
250/250	47 25 72 210	1	77,94	PB	35	35	285	320	100
280/250	47 28 72 210	1	85,12	PB	35	45	291	320	100
315/300	47 31 72 210	1	100,31	PB	35	35	335	370	100

With flat jointing face.

Suitable for installation on entrance side. Install stub flange extended CR/FR on exit side.

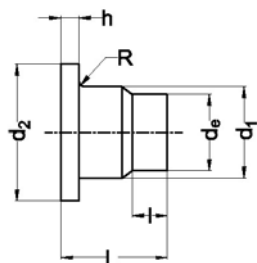
Dimensions are adapted to the profile backing ring for stub flange.

PP-H pressure fittings

Stub flange extended short

QBXM - for exit side FIP check valve type CR and FR
for butt-welding

PP-H
SDR 17
water 6 bar



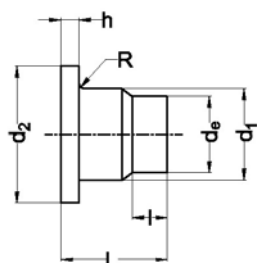
d _e /DN	Art. Nr.	q	€	AG	D	D2	d ₁	l ₁	l ₂	L
50/40	47 05 71 206	1	42,00	PC	90	61	45	20	12	50
63/50	47 06 71 206	1	48,71	PC	105	75	60	20	14	54
75/65	47 07 71 206	1	60,31	PC	125	89	75	20	16	58
90/80	47 09 71 206	1	63,98	PC	138	105	90	40	17	92
110/100	47 11 71 206	1	80,22	PC	160	125	106	40	18	92
140/125	47 14 71 206	1	119,53	PC	190	155	130	40	18	100
160/150	47 16 71 206	1	151,53	PC	215	175	154	40	18	120
225/200	47 22 71 206	1	256,41	PC	270	235	205	40	24	165
280/250	47 28 71 206	1	381,66	PC	325	291	255	40	25	195
315/300	47 31 71 206	1	602,92	PC	375	335	290	40	25	250

With flat jointing face. Extended for free movement of disc.
Suitable for installation on exit side. Install stub flange short CR/FR on entrance side.
Dimensions are adapted to the profile backing ring for stub flange.
Fabrication on order.

Stub flange extended short

QBXM - for exit side FIP check valve type CR and FR
for butt-welding

PP-H
SDR 11
water 10 bar



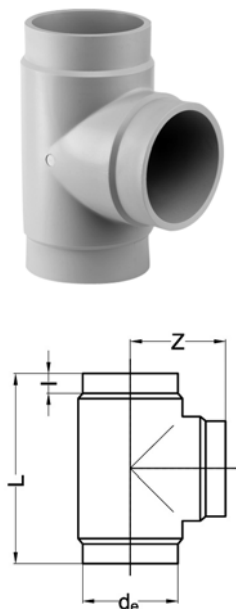
d _e /DN	Art. Nr.	q	€	AG	D	D2	d ₁	l ₁	l ₂	L
50/40	47 05 71 210	1	42,00	PC	90	61	45	20	12	50
63/50	47 06 71 210	1	48,71	PC	105	75	60	20	14	56
75/65	47 07 71 210	1	60,31	PC	125	89	75	20	16	65
90/80	47 09 71 210	1	63,98	PC	138	105	85	35	17	92
110/100	47 11 71 210	1	80,22	PC	160	125	106	35	18	92
140/125	47 14 71 210	1	119,53	PC	190	155	130	40	18	110
160/150	47 16 71 210	1	151,53	PC	215	175	154	40	18	120
225/200	47 22 71 210	1	256,41	PC	270	235	206	56	26	180
280/250	47 28 71 210	1	381,66	PC	325	291	255	40	35	220
315/300	47 31 71 210	1	602,92	PC	375	335	290	40	35	270

With flat jointing face. Extended for free movement of disc.
Suitable for installation on exit side. Install stub flange short CR/FR on entrance side.
Dimensions are adapted to the profile backing ring for stub flange.
Fabrication on order.

PP-H pressure fittings

Tee 90° short
TBM
for butt-welding

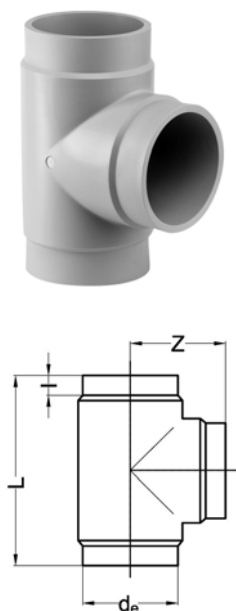
PP-H
SDR 17
water 6 bar



d _e	Art. Nr.	q	€	AG	L	Z	I
40	39 04 01 206	20	3,40	PA	88	44	16
50	39 05 01 206	10	5,44	PA	116	58	21
63	39 06 01 206	10	7,40	PA	146	73	24
75	39 07 01 206	10	15,09	PA	170	85	28
90	39 09 01 206	10	21,53	PA	200	100	23
110	39 11 01 206	5	35,74	PA	249	121	50
125	39 12 01 206	5	49,52	PA	262	132	47
140	39 14 01 206	4	58,46	PA	293	145	48
160	39 16 01 206	2	109,92	PA	318	160	55
180	39 18 01 206	1	135,02	PA	356	175	59
200	39 20 01 206	1	184,38	PA	385	194	55
225	39 22 01 206	1	216,47	PA	442	212	59
250	39 25 01 206	1	287,27	PA	465	232	70
280	39 28 01 206	1	324,70	PA	536	268	80
315	39 31 01 206	1	431,87	PA	530	263	75
355	39 35 01 206	1	746,78	PB	658	330	95
400	39 40 01 206	1	1020,68	PB	690	345	104
450	39 45 01 206	1	1419,43	PB	890	450	130
500	39 50 01 206	1	1826,65	PB	895	450	130

Tee 90° short
TBM
for butt-welding

PP-H
SDR 11
water 10 bar

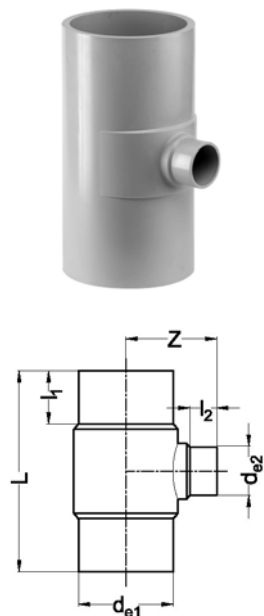


d _e	Art. Nr.	q	€	AG	L	Z	I
20	39 01 01 210	30	2,27	PA	50	25	8
25	39 02 01 210	30	2,27	PA	60	30	10
32	39 03 01 210	20	2,86	PA	72	40	12
40	39 04 01 210	10	4,55	PA	88	44	16
50	39 05 01 210	10	6,13	PA	116	58	21
63	39 06 01 210	10	9,51	PA	146	73	24
75	39 07 01 210	10	19,15	PA	170	85	28
90	39 09 01 210	10	28,60	PA	200	100	23
110	39 11 01 210	5	42,03	PA	249	121	50
125	39 12 01 210	5	57,87	PA	262	132	47
140	39 14 01 210	4	73,32	PA	293	145	48
160	39 16 01 210	2	123,32	PA	318	160	55
180	39 18 01 210	1	158,07	PA	356	175	59
200	39 20 01 210	1	226,52	PA	385	194	55
225	39 22 01 210	1	269,39	PA	442	212	59
250	39 25 01 210	1	342,73	PA	465	232	70
280	39 28 01 210	1	463,38	PA	536	268	80
315	39 31 01 210	1	658,25	PA	530	263	75
355	39 35 01 210	1	884,67	PB	658	330	95
400	39 40 01 210	1	1320,97	PB	690	345	104
450	39 45 01 210	1	1745,22	PB	890	450	130
500	39 50 01 210	1	2230,46	PB	895	450	130

PP-H pressure fittings

Tee 90° reduced short
TRBM - with reduced branch
for butt-welding

PP-H
SDR 17
water 6 bar

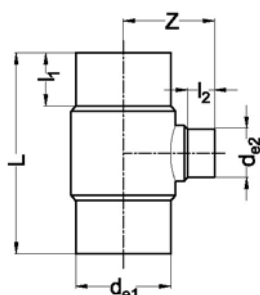


d _{e1} /d _{e2}	Art. Nr.	q	€	AG	L	Z	I ₁	I ₂
63/50	58 06 05 206	1	14,24	PB	220	103	63	56
75/50	58 07 05 206	1	21,59	PB	253	113	70	55
75/63	58 07 06 206	1	21,95	PB	260	117	70	63
90/32	28 09 03 206	1	22,89	PB	213	85	53	23
90/50	28 09 05 206	1	23,51	PB	214	93	53	28
90/63	58 09 06 206	1	30,71	PB	275	137	79	63
90/75	58 09 07 206	1	30,99	PB	278	138	74	70
110/32	28 11 03 206	1	38,33	PB	244	94	66	22
110/50	28 11 05 206	1	39,15	PB	238	103	66	27
110/63	58 11 06 206	1	45,55	PB	315	159	85	66
110/75	58 11 07 206	1	45,55	PB	315	157	82	70
110/90	58 11 09 206	1	46,63	PB	315	155	82	79
125/63	28 12 06 206	1	54,11	PB	271	112	70	31
125/90	28 12 09 206	1	60,52	PB	265	124	72	32
125/110	58 12 11 206	1	63,27	PB	340	170	87	82
140/63	28 14 06 206	1	62,61	PB	300	120	83	32
140/75	28 14 07 206	1	62,90	PB	300	130	81	35
140/90	28 14 09 206	1	63,92	PB	300	130	81	41
140/110	28 14 11 206	1	65,23	PB	300	140	50	47
160/63	58 16 06 206	1	125,36	PB	347	175	98	64
160/75	58 16 07 206	1	129,21	PB	348	179	98	75
160/90	58 16 09 206	1	129,21	PB	349	182	100	81
160/110	58 16 11 206	1	130,41	PB	400	202	98	85
160/125	28 16 12 206	1	121,63	PB	315	150	58	47
180/63	28 18 06 206	1	144,41	PB	358	134	125	30
180/75	28 18 07 206	1	144,41	PB	360	140	112	30
180/90	58 18 09 206	1	174,31	PB	420	200	134	97
180/110	28 18 11 206	1	148,83	PB	365	158	106	48
180/125	28 18 12 206	1	148,83	PB	358	156	92	50
180/160	58 18 16 206	1	174,31	PB	412	204	105	91
200/63	58 20 06 206	1	234,24	PB	550	225	134	80
200/90	58 20 09 206	1	234,24	PB	560	227	134	95
200/110	58 20 11 206	1	234,24	PB	560	245	134	103
200/125	58 20 12 206	1	234,24	PB	550	240	134	110
200/160	58 20 16 206	1	234,24	PB	550	265	134	114
225/75	58 22 07 206	1	294,17	PB	451	226	120	75
225/90	58 22 09 206	1	294,17	PB	450	224	120	79
225/110	58 22 11 206	1	295,17	PB	449	226	120	86
225/125	28 22 12 206	1	236,68	PB	445	180	135	40
225/160	58 22 16 206	1	295,98	PB	498	250	120	98
225/180	58 22 18 206	1	296,49	PB	558	280	134	134
250/110	28 25 11 206	1	310,47	PB	455	197	135	38
250/160	28 25 16 206	1	316,76	PB	460	219	110	58
315/110	58 31 11 206	1	818,11	PB	555	290	170	100
315/160	58 31 16 206	1	818,58	PB	585	315	170	120
315/225	58 31 22 206	1	855,31	PB	650	335	170	145
315/250	58 31 25 206	1	855,31	PB	680	330	170	150

PP-H pressure fittings

Tee 90° reduced short
TRBM - with reduced branch
for butt-welding

PP-H
SDR 11
water 10 bar

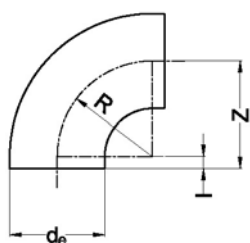


d _{e1} /d _{e2}	Art. Nr.	q	€	AG	L	Z	l ₁	l ₂
63/50	58 06 05 210	1	15,39	PB	220	103	63	56
75/32	58 07 03 210	1	24,13	PB	256	103	70	46
75/50	58 07 05 210	1	24,13	PB	253	113	70	56
75/63	58 07 06 210	1	24,59	PB	260	117	70	63
90/32	28 09 03 210	1	30,51	PB	213	85	53	23
90/50	28 09 05 210	1	31,33	PB	213	109	53	28
90/63	58 09 06 210	1	34,36	PB	275	137	79	64
90/75	58 09 07 210	1	34,64	PB	278	138	73	68
110/32	28 11 03 210	1	45,01	PB	244	94	66	22
110/50	28 11 05 210	1	45,94	PB	244	103	66	27
110/63	58 11 06 210	1	50,96	PB	315	159	87	65
110/75	58 11 07 210	1	50,96	PB	315	157	87	70
110/90	58 11 09 210	1	51,66	PB	315	155	84	79
125/63	28 12 06 210	1	64,29	PB	278	112	70	31
125/90	58 12 09 210	1	70,89	PB	340	170	112	92
125/110	58 12 11 210	1	70,89	PB	340	170	90	83
140/63	28 14 06 210	1	80,65	PB	305	120	83	32
140/75	28 14 07 210	1	80,65	PB	305	130	81	35
140/90	28 14 09 210	1	81,95	PB	305	130	81	41
140/110	28 14 11 210	1	81,95	PB	305	141	50	47
160/63	58 16 06 210	1	139,36	PB	347	175	100	67
160/75	58 16 07 210	1	140,52	PB	348	179	101	76
160/90	58 16 09 210	1	140,52	PB	349	182	101	80
160/110	58 16 11 210	1	144,03	PB	400	202	98	83
160/125	28 16 12 210	1	136,00	PB	335	158	59	48
180/63	28 18 06 210	1	168,85	PB	358	134	125	30
180/75	28 18 07 210	1	168,85	PB	366	148	112	30
180/90	58 18 09 210	1	193,14	PB	420	200	136	95
180/110	58 18 11 210	1	193,14	PB	430	206	130	97
180/125	28 18 12 210	1	174,27	PB	366	166	96	101
180/160	58 18 16 210	1	193,14	PB	412	204	105	94
200/63	58 20 06 210	1	259,86	PB	550	225	134	80
200/90	58 20 09 210	1	259,86	PB	550	227	134	95
200/110	58 20 11 210	1	259,86	PB	560	245	134	103
200/125	58 20 12 210	1	259,86	PB	550	240	134	110
200/160	58 20 16 210	1	259,86	PB	550	265	134	114
225/75	58 22 07 210	1	326,54	PB	451	226	120	75
225/90	58 22 09 210	1	326,54	PB	450	224	120	79
225/110	58 22 11 210	1	327,86	PB	449	226	120	85
225/125	28 22 12 210	1	293,99	PB	456	178	135	40
225/160	58 22 16 210	1	329,02	PB	498	250	120	98
225/180	58 22 18 210	1	330,16	PB	558	280	135	135
250/110	28 25 11 210	1	388,03	PB	450	197	135	38
250/160	28 25 16 210	1	396,00	PB	464	219	110	58
315/110	58 31 11 210	1	889,23	PB	555	290	170	100
315/160	58 31 16 210	1	889,23	PB	585	315	170	120
315/225	58 31 22 210	1	929,67	PB	650	335	170	145
315/250	58 31 25 210	1	929,67	PB	680	330	170	150

PP-H pressure fittings

Bend 90° short
GBM
for butt-welding

PP-H
SDR 17
water 6 bar

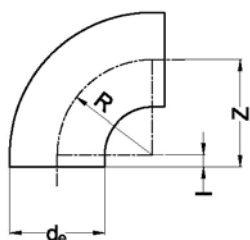


d _e	Art. Nr.	q	€	AG	Z	I	R
40	11 04 91 206	50	3,79	PA	51	7	44
50	11 05 91 206	30	4,75	PA	62	7	55
63	11 06 91 206	15	6,59	PA	77	8	69
75	11 07 91 206	10	9,65	PA	85	10	75
90	11 09 91 206	10	12,59	PA	100	10	90
110	11 11 91 206	10	26,53	PA	120	10	110
125	11 12 91 206	5	33,72	PA	140	15	125
140	11 14 91 206	5	48,97	PA	150	10	140
160	11 16 91 206	5	52,52	PA	180	25	155
180	11 18 91 206	2	66,77	PA	200	25	175
200	11 20 91 206	1	82,69	PA	220	23	197
225	11 22 91 206	1	101,92	PA	250	20	230
250	11 25 91 206	1	172,12	PA	290	25	265
280	11 28 91 206	1	223,69	PA	290	10	280
315	11 31 91 206	1	309,02	PA	340	40	300
355	11 35 91 206	1	563,14	PB	340	40	300
400	11 40 91 206	1	784,19	PB	345	45	300
450	11 45 91 206	1	1025,13	PB	450	50	400
500	11 50 91 206	1	1293,60	PB	450	50	400

$$R \approx 1 \times d_e$$

Bend 90° short
GBM
for butt-welding

PP-H
SDR 11
water 10 bar



d _e	Art. Nr.	q	€	AG	Z	I	R
20	11 01 91 210	100	2,84	PA	27	3	24
25	11 02 91 210	80	2,97	PA	32	5	27
32	11 03 91 210	50	3,06	PA	40	5	35
40	11 04 91 210	50	3,97	PA	51	7	44
50	11 05 91 210	30	5,00	PA	62	7	55
63	11 06 91 210	15	7,14	PA	77	8	69
75	11 07 91 210	10	9,86	PA	85	10	75
90	11 09 91 210	10	14,31	PA	100	10	90
110	11 11 91 210	10	27,23	PA	120	10	110
125	11 12 91 210	5	38,36	PA	140	15	125
140	11 14 91 210	5	51,28	PA	150	10	140
160	11 16 91 210	5	62,48	PA	180	25	155
180	11 18 91 210	2	73,97	PA	200	25	175
200	11 20 91 210	1	110,25	PA	220	23	197
225	11 22 91 210	1	131,50	PA	250	20	230
250	11 25 91 210	1	253,12	PA	290	25	265
280	11 28 91 210	1	329,12	PA	290	10	280
315	11 31 91 210	1	454,37	PA	340	40	300
355	11 35 91 210	1	764,31	PB	340	40	300
400	11 40 91 210	1	1049,61	PB	345	45	300
450	11 45 91 210	1	1377,27	PB	450	50	400
500	11 50 91 210	1	1776,67	PB	450	50	400

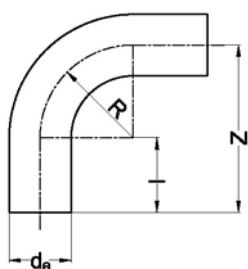
$$R \approx 1 \times d_e$$

PP-H pressure fittings

Bend 90° R = 1 x d_e long

for butt-welding

PP-H
SDR 17
water 6 bar



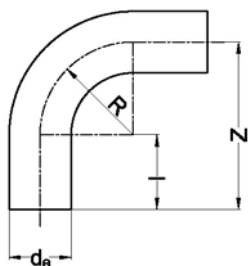
d _e	Art. Nr.	q	€	AG	I	Z	R
63	12 06 91 206	1	13,86	PB	63	128	63
75	12 07 91 206	1	20,27	PB	70	148	75
90	12 09 91 206	1	26,43	PB	71	164	90
110	12 11 91 206	1	55,64	PB	75	188	110
125	12 12 91 206	1	70,64	PB	85	213	125
140	12 14 91 206	1	102,64	PB	90	234	140
160	12 16 91 206	1	113,15	PB	90	254	160
180	12 18 91 206	1	139,94	PB	100	284	180
200	12 20 91 206	1	173,27	PB	108	312	200
225	12 22 91 206	1	213,61	PB	115	344	225

Larger diameters (seamless formed R = 1,5 x d_e) on request.

Bend 90° R = 1 x d_e long

for butt-welding

PP-H
SDR 11
water 10 bar



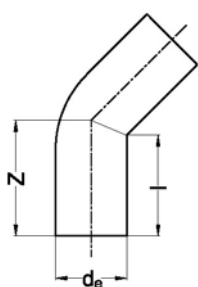
d _e	Art. Nr.	q	€	AG	I	Z	R
20	12 01 91 210	1	5,99	PB	37	59	20
25	12 02 91 210	1	6,23	PB	39	66	25
32	12 03 91 210	1	6,42	PB	44	78	32
40	12 04 91 210	1	8,35	PB	49	91	40
50	12 05 91 210	1	10,47	PB	55	107	50
63	12 06 91 210	1	14,99	PB	63	128	63
75	12 07 91 210	1	20,70	PB	70	148	75
90	12 09 91 210	1	30,00	PB	71	164	90
110	12 11 91 210	1	57,04	PB	75	188	110
125	12 12 91 210	1	80,38	PB	85	213	125
140	12 14 91 210	1	107,47	PB	90	234	140
160	12 16 91 210	1	130,95	PB	90	254	160
180	12 18 91 210	1	155,05	PB	100	284	180
200	12 20 91 210	1	231,02	PB	108	312	200
225	12 22 91 210	1	275,53	PB	115	344	225

Larger diameters (seamless formed R = 1,5 x d_e) on request.

PP-H pressure fittings

Elbow 45° long
HDM
for butt-welding

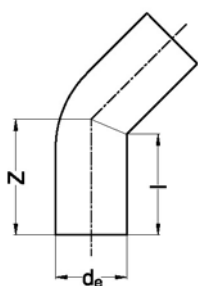
PP-H
SDR 17
water 6 bar



d _e	Art. Nr.	q	€	AG	Z	I
63	13 06 46 206	1	14,45	PB	82	56
75	13 07 46 206	1	17,82	PB	96	75
90	13 09 46 206	1	22,50	PB	120	84
110	13 11 46 206	1	43,08	PB	129	91
125	13 12 46 206	1	53,09	PB	147	101
140	13 14 46 206	1	69,59	PB	153	104
160	13 16 46 206	1	80,52	PB	169	113
180	13 18 46 206	1	87,92	PB	186	120
200	13 20 46 206	1	120,28	PB	201	127
225	13 22 46 206	1	143,48	PB	218	134
250	13 25 46 206	1	277,66	PB	217	155
280	13 28 46 206	1	419,31	PB	232	162
315	13 31 46 206	1	521,44	PB	251	173

Elbow 45° long
HDM
for butt-welding

PP-H
SDR 11
water 10 bar

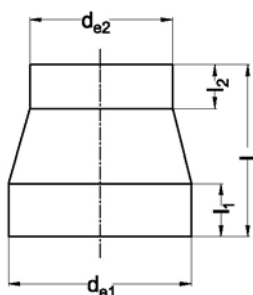


d _e	Art. Nr.	q	€	AG	Z	I
20	13 01 46 210	1	4,77	PB	44	39
25	13 02 46 210	1	5,11	PB	41	35
32	13 03 46 210	1	6,18	PB	48	47
40	13 04 46 210	1	7,73	PB	58	44
50	13 05 46 210	1	8,79	PB	74	54
63	13 06 46 210	1	16,03	PB	82	56
75	13 07 46 210	1	19,92	PB	96	75
90	13 09 46 210	1	24,95	PB	120	84
110	13 11 46 210	1	47,82	PB	129	91
125	13 12 46 210	1	59,09	PB	147	101
140	13 14 46 210	1	77,29	PB	153	104
160	13 16 46 210	1	89,33	PB	169	113
180	13 18 46 210	1	97,80	PB	186	120
200	13 20 46 210	1	133,64	PB	201	127
225	13 22 46 210	1	159,31	PB	218	134
250	13 25 46 210	1	308,53	PB	217	155
280	13 28 46 210	1	465,86	PB	232	162
315	13 31 46 210	1	582,89	PB	251	173

PP-H pressure fittings

Reducer concentric short
RBM
for butt-welding

PP-H
SDR 17
water 6 bar



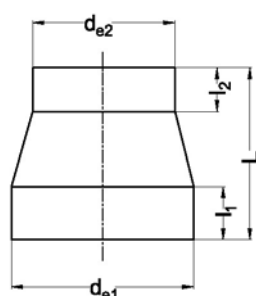
d _{e1} /d _{e2}	Art. Nr.	q	€	AG	L	l ₁	l ₂
50/32	17 05 03 206	25	5,02	PV	55	12	12
50/40	17 05 04 206	25	5,02	PV	55	12	12
63/32	17 06 03 206	15	6,03	PV	65	16	12
63/40	17 06 04 206	15	6,03	PV	65	16	12
63/50	17 06 05 206	15	6,03	PV	65	16	12
75/32	17 07 03 206	5	7,79	PV	80	19	12
75/40	17 07 04 206	5	7,79	PV	71	19	12
75/50	17 07 05 206	5	7,79	PV	71	19	12
75/63	17 07 06 206	5	7,79	PV	71	19	16
90/50	17 09 05 206	5	8,69	PV	80	22	12
90/63	17 09 06 206	5	8,69	PV	80	22	16
90/75	17 09 07 206	5	8,69	PV	80	22	19
110/50	17 11 05 206	5	11,06	PV	105	28	12
110/63	17 11 06 206	5	11,06	PV	97	28	16
110/75	17 11 07 206	5	11,06	PV	97	28	19
110/90	17 11 09 206	5	11,06	PV	97	28	22
125/63	17 12 06 206	5	14,20	PV	112	30	16
125/75	17 12 07 206	5	14,20	PV	108	32	19
125/90	17 12 09 206	5	14,20	PV	108	32	22
125/110	17 12 11 206	5	14,20	PV	108	32	28
140/75	17 14 07 206	4	17,19	PV	123	35	19
140/90	17 14 09 206	4	17,19	PV	115	35	22
140/110	17 14 11 206	4	17,19	PV	115	35	28
140/125	17 14 12 206	4	17,19	PV	115	35	32
160/90	17 16 09 206	4	20,09	PV	135	40	22
160/110	17 16 11 206	4	20,09	PV	124	40	28
160/125	17 16 12 206	4	20,09	PV	124	40	32
160/140	17 16 14 206	4	20,09	PV	124	40	35
180/90	17 18 09 206	2	31,54	PV	157	45	22
180/110	17 18 11 206	2	29,70	PV	157	45	28
180/125	17 18 12 206	2	27,42	PV	136	45	32
180/140	17 18 14 206	2	26,00	PV	136	45	35
180/160	17 18 16 206	2	24,80	PV	136	45	40
200/140	17 20 14 206	2	71,13	PV	154	50	35
200/160	17 20 16 206	2	62,90	PV	151	50	40
200/180	17 20 18 206	2	56,26	PV	151	50	45
225/140	17 22 14 206	2	84,90	PV	160	60	50
225/160	17 22 16 206	2	72,89	PV	171	55	40
225/180	17 22 18 206	2	69,41	PV	171	55	45
225/200	17 22 20 206	2	61,13	PV	171	55	50
250/160	17 25 16 206	1	97,36	PV	194	60	40
250/180	17 25 18 206	1	90,05	PV	182	60	45
250/200	17 25 20 206	1	82,86	PV	182	60	50
250/225	17 25 22 206	1	78,57	PV	182	60	55
280/200	17 28 20 206	1	108,37	PV	200	85	70
280/225	17 28 22 206	1	101,05	PV	200	85	72
280/250	17 28 25 206	1	98,40	PV	200	85	80
315/200	17 31 20 206	1	138,31	PV	230	95	85
315/225	17 31 22 206	1	122,36	PV	230	95	88
315/250	17 31 25 206	1	111,51	PV	230	95	95
315/280	17 31 28 206	1	104,42	PV	230	95	107

* machined version

PP-H pressure fittings

Reducer concentric short
RBM
for butt-welding

PP-H
SDR 11
water 10 bar



d _{e1} /d _{e2}	Art. Nr.	q	€	AG	L	l ₁	l ₂
25/20	17 02 01 210	30	3,78	PV	37	12	12
32/20	17 03 01 210	30	4,39	PV	43	12	12
32/25	17 03 02 210	30	4,39	PV	43	12	12
40/20	17 04 01 210	25	5,02	PV	50	12	12
40/25	17 04 02 210	25	5,02	PV	50	12	12
40/32	17 04 03 210	25	5,02	PV	50	12	12
50/25	17 05 02 210	25	5,25	PV	55	12	12
50/32	17 05 03 210	25	5,25	PV	55	12	12
50/40	17 05 04 210	25	5,25	PV	55	12	12
63/32	17 06 03 210	15	6,37	PV	65	16	12
63/40	17 06 04 210	15	6,37	PV	65	16	12
63/50	17 06 05 210	15	6,37	PV	65	16	12
75/32	17 07 03 210	5	8,17	PV	80	19	12
75/40	17 07 04 210	5	8,17	PV	71	19	12
75/50	17 07 05 210	5	8,17	PV	71	19	12
75/63	17 07 06 210	5	8,17	PV	71	19	16
90/50	17 09 05 210	5	9,06	PV	80	22	12
90/63	17 09 06 210	5	9,06	PV	80	22	16
90/75	17 09 07 210	5	9,06	PV	80	22	19
110/50	17 11 05 210	5	11,57	PV	105	28	12
110/63	17 11 06 210	5	11,57	PV	97	28	16
110/75	17 11 07 210	5	11,57	PV	97	28	19
110/90	17 11 09 210	5	11,57	PV	97	28	22
125/63	17 12 06 210	5	14,88	PV	112	30	16
125/75	17 12 07 210	5	14,88	PV	108	32	19
125/90	17 12 09 210	5	14,88	PV	108	32	22
125/110	17 12 11 210	5	14,88	PV	108	32	28
140/75	17 14 07 210	4	18,01	PV	123	35	19
140/90	17 14 09 210	4	18,01	PV	115	35	22
140/110	17 14 11 210	4	18,01	PV	115	35	28
140/125	17 14 12 210	4	18,01	PV	115	35	32
160/90	17 16 09 210	4	21,13	PV	135	40	22
160/110	17 16 11 210	4	21,13	PV	124	40	28
160/125	17 16 12 210	4	21,13	PV	124	40	32
160/140	17 16 14 210	4	21,13	PV	124	40	35
180/90	17 18 09 210	2	33,15	PV	157	45	22
180/110	17 18 11 210	2	31,20	PV	157	45	28
180/125	17 18 12 210	2	28,77	PV	136	45	32
180/140	17 18 14 210	2	27,30	PV	136	45	35
180/160	17 18 16 210	2	26,06	PV	136	45	40
200/140	17 20 14 210	2	74,64	PV	154	50	35
200/160	17 20 16 210	2	66,03	PV	151	50	40
200/180	17 20 18 210	2	59,10	PV	151	50	45
225/140	17 22 14 210	2	89,18	PV	160	60	50
225/160	17 22 16 210	2	76,51	PV	171	55	40
225/180	17 22 18 210	2	72,84	PV	171	55	45
225/200	17 22 20 210	2	64,19	PV	171	55	50
250/160	17 25 16 210	1	102,19	PV	194	60	40
250/180	17 25 18 210	1	94,52	PV	182	60	45
250/200	17 25 20 210	1	87,00	PV	182	60	50
250/225	17 25 22 210	1	82,43	PV	182	60	55
280/200	17 28 20 210	1	113,84	PV	200	85	70
280/225	17 28 22 210	1	106,11	PV	200	85	72
280/250	17 28 25 210	1	102,19	PV	200	85	80

-- to be continued --

PP-H pressure fittings

Reducer concentric short - continuation -

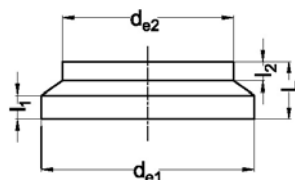
d_{e1}/d_{e2}	Art. Nr.	q	€	AG		L	l₁	l₂
315/200	17 31 20 210	1	145,27	PV	*	230	95	85
315/225	17 31 22 210	1	128,50	PV	*	230	95	88
315/250	17 31 25 210	1	117,05	PV	*	230	95	95
315/280	17 31 28 210	1	109,67	PV	*	230	95	107

* *machined version*

PP-H pressure fittings

Reducer concentric short
RBM
for butt-welding

PP-H
SDR 17
water 6 bar

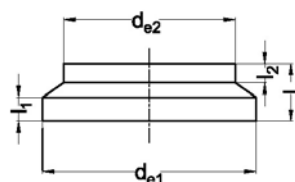


d _{e1} /d _{e2}	Art. Nr.	q	€	AG	L	I ₁	I ₂
355/200	15 35 20 206	1	150,36	PC	160	57	40
355/225	15 35 22 206	1	144,56	PC	140	57	40
355/250	15 35 25 206	1	138,69	PC	130	54	40
355/280	15 35 28 206	1	128,66	PC	120	53	40
355/315	15 35 31 206	1	124,76	PC	110	53	40
400/225	15 40 22 206	1	633,28	PC	160	64	40
400/250	15 40 25 206	1	550,13	PC	150	61	40
400/280	15 40 28 206	1	487,90	PC	140	60	40
400/315	15 40 31 206	1	377,98	PC	120	50	40
400/355	15 40 35 206	1	255,69	PC	110	51	40
450/280	15 45 28 206	1	697,76	PC	160	65	40
450/315	15 45 31 206	1	621,81	PC	140	55	40
450/355	15 45 35 206	1	470,90	PC	130	57	40
450/400	15 45 40 206	1	347,87	PC	120	60	40
500/280	15 50 28 206	1	1102,16	PC	180	80	40
500/315	15 50 31 206	1	821,59	PC	170	71	40
500/355	15 50 35 206	1	725,26	PC	150	62	40
500/400	15 50 40 206	1	625,04	PC	140	65	40
500/450	15 50 45 206	1	567,80	PC	120	60	40
560/355	15 56 35 206	1	1201,98	PC	170	75	40
560/400	15 56 40 206	1	1006,72	PC	160	68	40
560/450	15 56 45 206	1	663,19	PC	140	62	40
560/500	15 56 50 206	1	524,82	PC	130	67	40
630/355	15 63 35 206	1	1617,45	PC	200	80	40
630/400	15 63 40 206	1	1383,66	PC	190	78	40
630/450	15 63 45 206	1	1154,67	PC	170	72	40
630/500	15 63 50 206	1	1106,93	PC	150	67	40
630/560	15 63 56 206	1	710,94	PC	130	64	40

PP-H pressure fittings

Reducer concentric short
RBM
for butt-welding

PP-H
SDR 11
water 10 bar

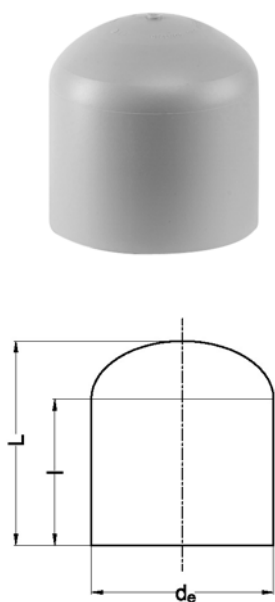


d _{e1} /d _{e2}	Art. Nr.	q	€	AG	L	l ₁	l ₂
355/200	15 35 20 210	1	157,84	PC	160	57	40
355/225	15 35 22 210	1	151,77	PC	140	57	40
355/250	15 35 25 210	1	145,59	PC	130	54	40
355/280	15 35 28 210	1	135,10	PC	120	53	40
355/315	15 35 31 210	1	130,99	PC	110	53	40
400/225	15 40 22 210	1	674,65	PC	160	64	40
400/250	15 40 25 210	1	618,80	PC	150	61	40
400/280	15 40 28 210	1	488,03	PC	140	60	40
400/315	15 40 31 210	1	377,98	PC	120	50	40
400/355	15 40 35 210	1	258,42	PC	110	51	40
450/280	15 45 28 210	1	697,76	PC	160	65	40
450/315	15 45 31 210	1	621,81	PC	140	55	40
450/355	15 45 35 210	1	470,90	PC	130	57	40
450/400	15 45 40 210	1	347,87	PC	120	60	40
500/280	15 50 28 210	1	1133,67	PC	180	80	40
500/315	15 50 31 210	1	844,46	PC	170	71	40
500/355	15 50 35 210	1	777,72	PC	150	62	40
500/400	15 50 40 210	1	682,27	PC	140	65	40
500/450	15 50 45 210	1	615,53	PC	120	60	40
560/355	15 56 35 210	1	1266,97	PC	170	75	40
560/400	15 56 40 210	1	1164,21	PC	160	68	40
560/450	15 56 45 210	1	691,86	PC	140	62	40
560/500	15 56 50 210	1	562,98	PC	130	67	40
630/355	15 63 35 210	1	1741,50	PC	200	80	40
630/400	15 63 40 210	1	1479,09	PC	190	78	40
630/450	15 63 45 210	1	1230,96	PC	170	72	40
630/500	15 63 50 210	1	1145,13	PC	150	67	40
630/560	15 63 56 210	1	958,64	PC	130	64	40

PP-H pressure fittings

End cap long
CBM
for butt-welding

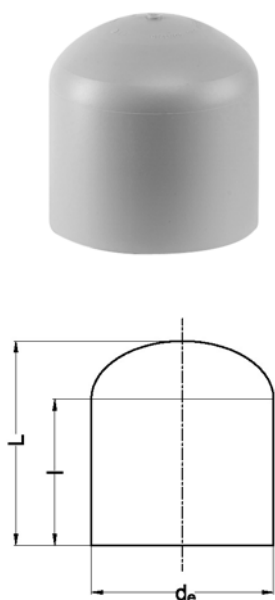
PP-H
SDR 17
water 6 bar



d _e	Art. Nr.	q	€	AG	L	I
63	67 06 08 206	10	10,91	PA	85	62
75	67 07 08 206	5	16,92	PA	95	63
90	67 09 08 206	4	25,69	PA	110	79
110	67 11 08 206	4	34,84	PA	127	88
125	67 12 08 206	2	37,64	PB	124	95
140	67 14 08 206	1	47,08	PB	140	110
160	67 16 08 206	1	52,75	PB	152	121
180	67 18 08 206	1	68,59	PB	169	134
200	67 20 08 206	1	85,44	PB	184	140
225	67 22 08 206	1	101,99	PB	200	160
250	67 25 08 206	1	137,48	PB	230	152
280	67 28 08 206	1	195,28	PB	257	162
315	67 31 08 206	1	261,15	PB	262	167

End cap long
CBM
for butt-welding

PP-H
SDR 11
water 10 bar



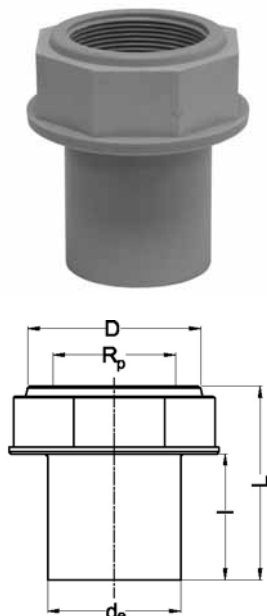
d _e	Art. Nr.	q	€	AG	L	I
20	67 01 08 210	50	3,69	PA	45	35
25	67 02 08 210	30	4,04	PA	52	40
32	67 03 08 210	30	5,11	PA	58	44
40	67 04 08 210	25	6,33	PA	67	50
50	67 05 08 210	15	8,28	PA	75	55
63	67 06 08 210	10	10,92	PA	85	62
75	67 07 08 210	5	16,92	PA	95	63
90	67 09 08 210	4	25,69	PA	110	79
110	67 11 08 210	4	34,84	PA	127	88
125	67 12 08 210	1	37,64	PB	124	95
140	67 14 08 210	1	47,08	PB	140	110
160	67 16 08 210	1	52,75	PB	152	121
180	67 18 08 210	1	68,59	PB	169	134
200	67 20 08 210	1	85,44	PB	184	140
225	67 22 08 210	1	101,99	PB	200	160
250	67 25 08 210	1	152,84	PB	230	152
280	67 28 08 210	1	217,09	PB	257	162
315	67 31 08 210	1	291,87	PB	262	167

PP-H pressure fittings

Adaptor long

DBMM - with female thread
for butt-welding and electrofusion

PP-H
SDR 11
water 5 bar



d_e/R_p	Art. Nr.	q	€	AG	L	I	D	SW
20/1/2"	93 01 78 210	50	7,52	PA	65	40	39	32
25/1/2"	93 02 78 210	30	9,22	PA	65	40	39	32
25/3/4"	93 02 79 210	30	9,74	PA	66	40	49	41
32/1/2"	93 03 78 210	30	10,07	PA	69	44	39	32
32/3/4"	93 03 79 210	30	10,46	PA	70	44	49	41
32/1"	93 03 80 210	30	11,47	PA	72	44	55	46
40/3/4"	93 04 79 210	30	11,72	PA	69	45	49	41
40/1"	93 04 80 210	30	12,65	PA	76	49	55	46
40/1 1/4"	93 04 81 210	30	13,42	PA	80	49	66	55
50/1/2"	93 05 78 210	25	13,34	PA	76	55	50	32
50/1"	93 05 80 210	25	15,05	PA	78	50	55	46
50/1 1/4"	93 05 81 210	25	15,92	PA	85	55	66	55
50/1 1/2"	93 05 82 210	25	16,81	PA	86	55	83	70
63/2"	93 06 83 210	15	19,92	PA	100	63	94	85

SW = size of the jaw.

Thread according to EN 10226 (ISO 7).

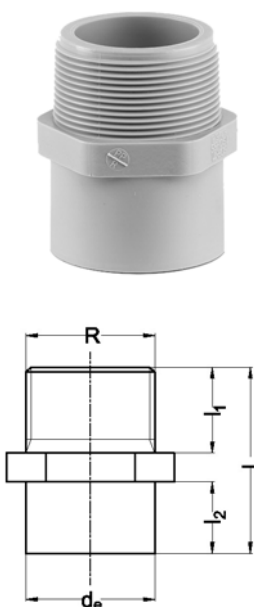
For sealing we advise PTFE tape.

Depending on assembly method and temperature change the maximum operating pressure can be reduced strongly.

Adaptor short

KBFM - with male thread
for butt-welding

PP-H
SDR 11
water 5 bar



d_e/R	Art. Nr.	q	€	AG	L	I_1	I_2
20/1/2"	97 01 78 210	10	6,08	PB	46	19	18
25/3/4"	97 02 79 210	10	7,29	PB	51	22	20
32/1"	97 03 80 210	10	9,21	PB	61	28	24
40/1 1/4"	97 04 81 210	5	11,08	PB	66	29	26
50/1 1/2"	97 05 82 210	5	18,18	PB	74	32	28
63/2"	97 06 83 210	5	22,96	PB	80	35	31

SW = size of the jaw.

Thread according to EN 10226 (ISO 7).

For sealing we advise PTFE tape.

Depending on assembly method and temperature change the maximum operating pressure can be reduced strongly.

PP-H pressure fittings

Union complete short
BBM/C - with EPDM O-ring
for butt-welding

PP-H
SDR 11
water 4 bar

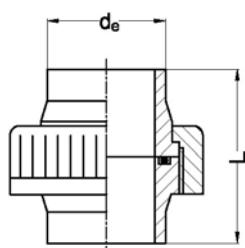


d _e	Art. Nr.	q	€	AG	L
20	43 01 06 210	10	14,53	PD	110
25	43 02 06 210	10	18,09	PD	110
32	43 03 06 210	10	18,63	PD	110
40	43 04 06 210	10	26,42	PD	110
50	43 05 06 210	10	33,02	PD	110
63	43 06 06 210	5	43,33	PD	110
75	43 07 06 210	1	73,82	PD *	110
90	43 09 06 210	1	85,50	PD *	180
110	43 11 06 210	1	105,06	PD *	180

* with PVC nut

Unions complete consist of:
- PP union end and union bush
- PP nut
- EPDM O-ring

The maximum operating pressure will be reduced strongly as a consequence of temperature change.



Union complete short
BBM/C - with FPM O-ring
for butt-welding

PP-H
SDR 11
water 4 bar

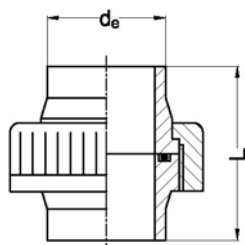


d _e	Art. Nr.	q	€	AG	L
20	43 01 07 210	10	16,24	PD	110
25	43 02 07 210	10	20,35	PD	110
32	43 03 07 210	10	20,60	PD	110
40	43 04 07 210	10	31,17	PD	110
50	43 05 07 210	10	38,17	PD	110
63	43 06 07 210	5	49,27	PD	110
75	43 07 07 210	1	93,85	PD *	110
90	43 09 07 210	1	107,40	PD *	180
110	43 11 07 210	1	143,84	PD *	180

* with PVC nut

Unions complete consist of:
- PP union end and union bush
- PP nut
- FPM O-ring

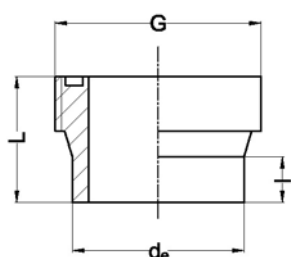
The maximum operating pressure will be reduced strongly as a consequence of temperature change.
Collectioning on order.



PP-H pressure fittings

Union bush short
F-BBM/C
for butt-welding

PP-H
SDR 11

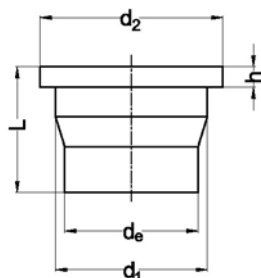


d _e	Art. Nr.	q	€	AG	L	I	G
20	83 01 01 210	30	5,81	PD	55	13	1"
25	83 02 01 210	30	7,27	PD	55	13	1¼"
32	83 03 01 210	30	7,27	PD	55	14	1½"
40	83 04 01 210	30	10,83	PD	55	16	2"
50	83 05 01 210	25	10,83	PD	55	18	2¼"
63	83 06 01 210	15	12,81	PD	55	20	2¾"
75	83 07 01 210	5	21,85	PD	55	24	3½"
90	83 09 01 210	5	28,55	PD	90	25	4"
110	83 11 01 210	5	34,86	PD	90	28	5"

Thread according to EN-ISO 228.

Union end short
Q-BBM/C
for butt-welding

PP-H
SDR 11

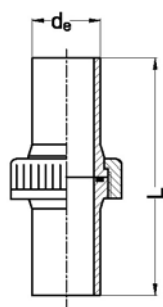


d _e	Art. Nr.	q	€	AG	L	h	d ₁	d ₂
20	84 01 01 210	30	3,83	PD	55	5	25,0	30
25	84 02 01 210	30	4,88	PD	55	6	33,5	38,5
32	84 03 01 210	30	4,88	PD	55	6	38,0	44,5
40	84 04 01 210	30	8,19	PD	55	7	49,5	56,2
50	84 05 01 210	25	8,19	PD	55	7	55,0	62,2
63	84 06 01 210	15	8,99	PD	55	8	70,0	78,3
75	84 07 01 210	5	15,35	PD	55	9	82,5	96,5
90	84 09 01 210	5	20,98	PD	90	10	97,5	109,5
110	84 11 01 210	5	27,28	PD	90	11	117,5	134,5

PP-H pressure fittings

Union complete long
BBM/L - with EPDM O-ring
for butt-welding and electrofusion

PP-H
SDR 11
water 4 bar



d _e	Art. Nr.	q	€	AG	L
20	43 01 10 210	10	14,53	PD	190
25	43 02 10 210	10	18,09	PD	190
32	43 03 10 210	10	18,63	PD	190
40	43 04 10 210	10	26,42	PD	190
50	43 05 10 210	10	33,02	PD	190
63	43 06 10 210	5	43,33	PD	190
75	43 07 10 210	1	74,88	PD *	260
90	43 09 10 210	1	88,60	PD *	300
110	43 11 10 210	1	107,32	PD *	340

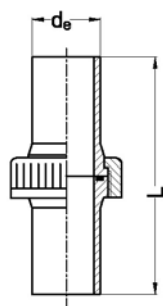
* with PVC nut

Unions complete consist of:
- PP union end and union bush
- PP nut
- EPDM O-ring

The maximum operating pressure will be reduced strongly as a consequence of temperature change.

Union complete long
BBM/L - with FPM O-ring
for butt-welding and electrofusion

PP-H
SDR 11
water 4 bar



d _e	Art. Nr.	q	€	AG	L
20	43 01 11 210	10	16,24	PD	190
25	43 02 11 210	10	20,35	PD	190
32	43 03 11 210	10	20,60	PD	190
40	43 04 11 210	10	31,17	PD	190
50	43 05 11 210	10	38,17	PD	190
63	43 06 11 210	5	49,27	PD	190
75	43 07 11 210	1	94,94	PD *	260
90	43 09 11 210	1	110,63	PD *	300
110	43 11 11 210	1	146,15	PD *	340

* with PVC nut

Unions complete consist of:
- PP union end and union bush
- PP nut
- FPM O-ring

The maximum operating pressure will be reduced strongly as a consequence of temperature change.
Collectioning on order.

PP-H pressure fittings

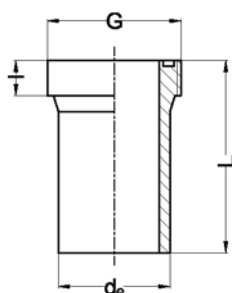
Union bush long

F-BBM/L

for butt-welding and electrofusion

PP-H

SDR 11



d _e	Art. Nr.	q	€	AG	L	I	G
20	83 01 05 210	30	6,69	PD	95	13	1"
25	83 02 05 210	30	8,36	PD	95	13	1¼"
32	83 03 05 210	30	8,36	PD	95	14	1½"
40	83 04 05 210	30	12,46	PD	95	16	2"
50	83 05 05 210	25	12,46	PD	95	18	2¼"
63	83 06 05 210	15	14,74	PD	95	20	2¾"
75	83 07 05 210	5	23,57	PD	130	24	3½"
90	83 09 05 210	5	30,17	PD	150	25	4"
110	83 11 05 210	5	34,48	PD	170	28	5"

Thread according to EN-ISO 228.

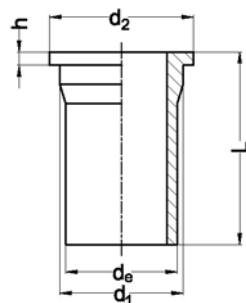
Union end long

Q-BBM/L

for butt-welding and electrofusion

PP-H

SDR 11



d _e	Art. Nr.	q	€	AG	L	h	d ₁	d ₂
20	84 01 05 210	30	3,83	PD	95	5	25	30,0
25	84 02 05 210	30	4,62	PD	95	6	33,5	38,5
32	84 03 05 210	30	5,68	PD	95	6	38	44,5
40	84 04 05 210	30	7,40	PD	95	7	49,5	56,2
50	84 05 05 210	25	7,79	PD	95	7	55	62,2
63	84 06 05 210	15	11,22	PD	95	8	70	78,3
75	84 07 05 210	5	15,92	PD	130	9	82,5	96,5
90	84 09 05 210	5	22,23	PD	150	10	97,5	109,5
110	84 11 05 210	5	28,91	PD	170	11	117,5	134,5

PP-H pressure fittings

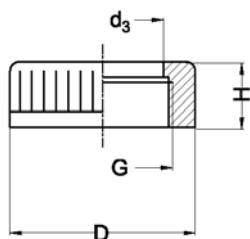
Union nut
for PP union end

PP-H



d _e	Art. Nr.	q	€	AG	D	G	d ₃	H
20	85 01 00 210	1	7,27	PD	43	1 "	27	24
25	85 02 00 210	1	7,52	PD	53	1¼ "	36	27
32	85 03 00 210	1	8,86	PD	60	1½ "	41	30
40	85 04 00 210	1	12,15	PD	74	2 "	53	32
50	85 05 00 210	1	18,75	PD	80	2¼ "	59	36
63	85 06 00 210	1	30,11	PD	103	2¾ "	74	39
75	85 07 00 410	1	25,95	ED	122	3½ "	83	43
90	85 09 00 410	1	29,02	ED	139	4 "	98	49
110	85 11 00 410	1	33,80	ED	164	5 "	118	55

Thread according to EN-ISO 228.



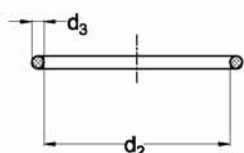
PP-H pressure fittings

O-ring
for PP union end

EPDM



d _e	Art. Nr.	q	€	AG	d ₂	d ₃
20	48 01 09 000	1	1,92	ED	21,8	3,5
25	48 02 09 000	1	1,92	ED	28,2	3,5
32	48 03 09 000	1	3,99	ED	34,5	3,5
40	48 04 09 000	1	3,99	ED	43,8	5,3
50	48 05 09 000	1	3,99	ED	50,2	5,3
63	48 06 09 000	1	4,12	ED	66,1	5,3
75	48 07 09 000	1	5,06	ED	78,8	5,3
90	48 09 09 000	1	8,64	ED	94,6	5,3
110	48 11 09 000	1	9,20	ED	113,7	7,0

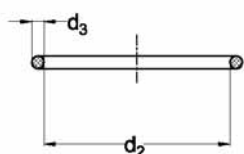


O-ring
for PP union end

FPM



d _e	Art. Nr.	q	€	AG	d ₂	d ₃
20	48 01 07 000	1	5,34	ED	21,8	3,5
25	48 02 07 000	1	6,30	ED	28,2	3,5
32	48 03 07 000	1	7,54	ED	34,5	3,5
40	48 04 07 000	1	12,20	ED	43,8	5,3
50	48 05 07 000	1	13,16	ED	50,2	5,3
63	48 06 07 000	1	14,94	ED	66,1	5,3
75	48 07 07 000	1	23,99	ED	78,8	5,3
90	48 09 07 000	1	28,52	ED	94,6	5,3
110	48 11 07 000	1	52,24	ED	113,7	7,0



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General conditions Akatherm BV

1. Applicability

These General Terms and Conditions apply to all offers made by and/or agreements with Akatherm, at Panningen, Peel en Maas Municipality, The Netherlands, hereinafter referred to as Akatherm. Applicability of the purchaser's Terms and Conditions, including their Purchase Terms and Conditions are explicitly excluded, unless Akatherm has accepted in part or in whole in writing the applicability of the purchaser's Terms and Conditions.

2. Acceptance

All offers from Akatherm shall be without obligation, unless expressly stated otherwise in the offer. Agreements shall only be deemed to be effective from the moment that they are accepted or confirmed in writing by Akatherm.

3. Delivery

3.1 Unless explicitly otherwise agreed deliveries will take place ex works (EXW), at Panningen, the Netherlands, from which moment onwards the goods will be at the purchaser's risk. All delivery conditions shall apply in accordance with the Incoterms 2000.

3.2 Delivery periods shall be laid down per transaction. The delivery period shall commence from the moment the acceptance or confirmation of the order is sent by Akatherm, in accordance with Article 2. If the Purchaser has to put documents at the disposal of Akatherm in order to execute the Agreement, the delivery period shall commence from the moment Akatherm has received the documents from the Purchaser.

3.3 The agreed delivery period can never be regarded as a deadline unless explicitly otherwise agreed in writing. On overdue deliveries, Akatherm should be given a notice of default giving them a reasonable further period to fulfil their obligations. Should they again fail to deliver the goods, the purchaser may cancel the agreement, provided Akatherm is in default. However, Akatherm will never be liable to pay damages with respect to direct or consequential losses save for gross negligence or intentional acts or omissions.

4. Packaging

The Products shall be delivered in packaging material suitable for road transport, at no extra cost. The Purchaser shall not be required to return the packaging material, unless agreed otherwise in writing.

5. Prices

5.1 Prices are ex works (EXW, Incoterms 2000) at Panningen, the Netherlands, including packaging in accordance with clause 4 and excluding VAT and other levies by the authorities, unless otherwise agreed in writing. The prices are expressed in Euro (€).

5.2 Prices shall be based on exchange rates between domestic and foreign currencies, wage costs, raw materials prices, import duties, taxes and other levies, current at the time of the Agreement coming into effect.

5.3 If changes occur in one or several of the factors stated in Article 5.2 as a result of extraordinary circumstances before the delivery of has been made, Akatherm shall be entitled to make reasonable price alterations.

5.4 If the agreed final delivery date is exceeded, price increases made after said delivery date shall not be for the Purchaser's account, unless the delayed delivery is due to circumstances out of the control of Akatherm.

6. Payment

6.1 Unless agreed otherwise, payment shall be due within 30 days of the invoice date. Payment shall be made in full, in Euro and without claiming any compensation, to a Dutch bank in the Netherlands.

6.2 If it is agreed to use a letter of credit (L/C) as a means of payment, the letter of credit shall be a confirmed, irrevocable letter of credit in favour of Akatherm. The letter of credit shall cover the total contract price and shall be obtained by the Purchaser from a major bank within 15 days of the Agreement coming into effect, in accordance with Article 2. Confirmation shall be given by a Dutch bank. The letter of credit shall be subject to the 'Uniform Customs and Practice for Documentary Credits, 1993 Revision', ICC publication no.500.

6.3 Without prejudice to further rights of Akatherm, arising from legislation or the Agreement, the Purchaser shall, in the event of failure to make timely payment, be deemed, without any notice of default or judicial intervention, to be in default, and interest over the amount due shall be charged, equal to the legal interest rate laid down by De Nederlandsche Bank, plus 3%.

6.4 All judicial costs and extra-judicial costs in connection with debt-collection incurred by Akatherm due to untimely payment by the purchaser, including the fees of third parties engaged by Akatherm for the collection of the claim, shall be for the purchaser's account.

7. Security

7.1 Akatherm shall be entitled, before delivery or continuing delivery, to stipulate that sufficient security for the fulfilment of the payment obligations is provided, or payment is made in advance by the Purchaser.

7.2 If the Purchaser refuses to provide the required security, Akatherm shall be entitled, without intervention by a judge, to consider the Agreement as cancelled, and compensation shall be received for any loss and/or damages suffered by Akatherm.

8. Reservation of ownership

8.1 All sold and delivered products shall remain the property of Akatherm until all claims, including collecting charges and interests, Akatherm have on the Purchaser, for whatever reason, have been paid by the Purchaser to Akatherm.

8.2 Until the property is transferred to the Purchaser, he shall not be entitled to transfer ownership of said products, either in their original form, treated or processed, to third parties. Nevertheless, the Purchaser shall be authorised to sell the products on to third parties in the normal execution of his business activities. The Purchaser shall always cooperate to ensure that Akatherm is able to exercise its right of ownership.

9. Quality

Deliveries shall be made in accordance with the agreed specifications. Akatherm shall ensure that the products it supplies comply with the legal safety regulations and approval specification of the country of destination, at the time of delivery.

10. Complaints

10.1 Within 14 days of the Purchaser receiving the products, the Purchaser should check the products and inform Akatherm immediately in writing, stating the order date, invoice number and article number, of any complaints with respect to the quality or quantity of the products. Faults, which can only be detected at a later date, should be brought to the attention of Akatherm within 14 days of the faults being detected. If the Purchaser fails to take the aforementioned into consideration, he shall lose any claim he has on Akatherm with respect of said faults.

10.2 Complaints shall not defer the Purchaser's payments obligations, unless Akatherm expressly gives the Purchaser its consent in writing.

10.3 The products can only be returned for the account and risk of Akatherm after it has expressly given its consent in writing.

11. Guarantee

11.1 Akatherm shall give a 6 month guarantee on the products from the moment of commissioning. If and in so far as the products do not meet the agreed quality standards, Akatherm shall, at its own discretion, either replace the products in question, or take back the products, depending on the extent to which the delivery does not comply with the agreed standards, and credit the purchase price to the Purchaser, provided that the Purchaser has complained within the guarantee period, in accordance with Article 10.

11.2 Akatherm's liability to the purchaser and/or its customers with respect to the products supplied to the purchaser is limited to fulfilling the obligation set out in clause 11.1. Akatherm is not liable for consequential damage or subsequent damage for whatever reasons or whatever nature.

11.3 The purchaser will indemnify Akatherm against claims of third parties with respect to damages in relation to or resulting from the goods supplied by Akatherm.

11.4 All claims on the guarantee shall become null and void if the products are not kept/or handled in accordance with the regulations belonging to the products.

12. Issued information, advice and standards

Information on the processing and use of the products, technical advice and any other data, issued by Akatherm, is limited to the best of its knowledge. Akatherm shall not accept any liability for data it issues. A reference to standards shall only serve as a description of the products, and therefore is not a guarantee obligation towards the Purchaser.

13. Industrial property

13.1 Akatherm shall expressly reserve all rights it has with respect to industrial and intellectual property regarding the products and/or documentation it supplies.

13.2 The Purchaser shall not be permitted to partially or completely alter delivered products, or affix a different brand name to said products, unless consent is expressly given in writing.

14. Force majeure

14.1 Should Akatherm not or partly not be able to fulfil its obligations under the respective agreement as a result of facts and circumstances that are reasonably beyond its control, Akatherm will be entitled to temporarily suspend its obligations towards the purchaser under the respective agreement until these circumstances or facts have ceased to exist. Should these facts or circumstances last for longer than six months, or are reasonably expected to continue, Akatherm will be entitled to cancel in part or in whole

the respective agreement without any judicial intervention, without being obliged to pay any compensation to the other party. Immediately after a force majeure situation has occurred, Akatherm should inform the purchaser of this.

14.2 Included in the facts and circumstances as meant in clause 14.1 are for instance war or similar situations, a state of siege, riots, sabotage, boycott, epidemics, natural disasters or lightning strikes, fire, explosion and leaching of dangerous substances or gases. This also includes work strikes, occupation, blockade, machine breakdown and other business interruptions at Akatherm and/or its suppliers, transport interruption, failure by suppliers and/or haulage companies and measures by the authorities (including a foreign authority) such as a prohibition on transport, import, export or manufacturing and moreover all other matters caused outside the fault or sphere of risk of Akatherm.

15. Applicable law

All offers by and/or agreements with Akatherm and the obligations arising from said offers and/or agreements, to which these Terms and Conditions partially or completely apply, shall only be subject to Dutch law.

16. Settlement of disputes

All disputes between parties, which cannot be resolved in mutual consultation, shall, at the discretion of Akatherm be adjudicated by the competent Dutch judge in the district where Akatherm has its registered office.

17. Headings

Headings placed at the top of each clause serve exclusively to make reading easier. No meaning as to their contents should be given to these headings and in particular they have no effect on the nature and extent of the mutual rights and obligations.

18. Conversion

Should a provision of an agreement or these conditions be regarded as null and void, or be annulled, the parties will be bound to a provision which is, as far as is possible, of like tenor and which is not subject to annulment.

