

SYSTEM 2000

For PE and PVC pipes



Page
F 2

System 2000 valves

Assembly instructions
E2 valve socket-socket for PE and PVC pipes
E2 valve flange-socket for PE and PVC pipes

Page F 2/2
Page F 2/3
Page F 2/5



Page
F 3

System 2000 Combi-T

All socket tee with one integral E2 valve for PE and PVC pipes Page F 3/1



Page
F 4

System 2000 flange/fitting

Flange for PE and PVC pipes
Connector
Syno2000 connector
Duck foot bend
End cap

Page F 4/1
Page F 4/2
Page E 3/2
Page F 4/2
Page F 4/2

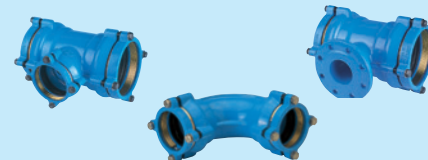


Page
F 5

System 2000 fittings

All socket tee
Double socket tee with flanged branch
Bend 90°, 45°, 30°, 11°

Page F 5/1
Page F 5/1
Page F 5/2



SYSTEM 2000

For PE and PVC pipes



Accessories

Handwheels	Page M 4/1
Extension spindles	Page M 2/1
Surface boxes	Page M 3/1
Base plate	Page M 3/7
Adapter and coupling socket	Page M 4/3
Operating cap	Page M 4/1
Spindle extension	Page M 4/1
Actuator	Page M 4/3
Position indicator	Page M 4/2
Bolts	Page M 4/4
HAWAK headstock	Page M 5/1
Flat gasket	Page M 7/1
Direction indicator	Page M 4/1
Blanking cap	Page M 4/1
Mounting spray	Page M 7/2
Support liner	Page M 6/2

Spare parts

E2 valve bonnet	Page P 2/1
E2 valve wedge	Page P 2/1
E2 valve flat gasket	Page P 2/2

Technical information

Tightening torques for flange assembly	Page R 3/1
--	------------

Application examples



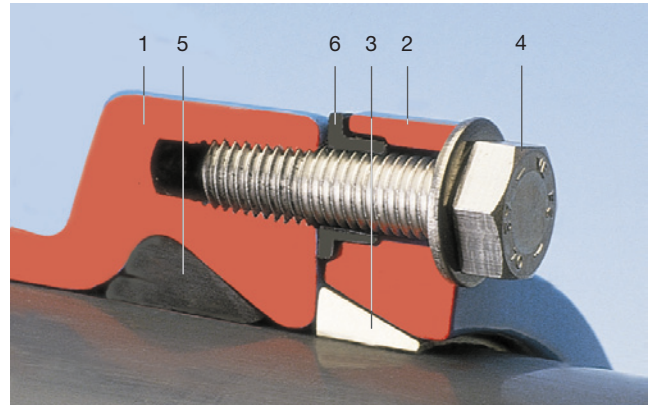
SYSTEM 2000

For PE and PVC pipes



Design features

- Using a lip seal ring for sealing the pipe allows for easier insertion of the pipe into the System 2000 socket
- The pipe restraining system is required for pushing the pipe into the seal and chamfer with an appropriate tool
- For PE pipes with thin walls (\geq SDR 21) and low internal pressure we recommend using a support liner
- Suitable for **PE pipes 80/100**, EN 12201, DIN 8074
- For **PVC pipes** according to EN ISO 1452-2



Push socket for PE- (PE 80/100, EN 12201, DIN 8074)
and PVC pipe (EN ISO 1452-2) - absolutely restraint

Material | Technical features

- 1,2 **Body (1) and lock ring (2)**
made of ductile iron, epoxy powder coated
- 3 **Grip ring** made of brass (from DN 300 bronze)
- 4 **Hexagonal bolts** made of stainless steel
- 5 **Lip seal ring** made of elastomer
- 6 **Spacer bushes** made of PE

Additional information

- **Assembly instructions:** see page F 2/2
- **Tensile test:** see page F 2/2
- **Tightening torque System 2000 - lock ring** see page R 3/1

SYSTEM 2000

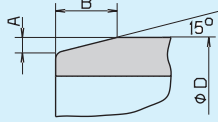
Assembly instructions



ASSEMBLY INSTRUCTIONS:

For flange adapters:
bolt the flange to the mating flange
first

Chamfer the pipe -
use lubricant no. 3443
(see M 7/2)
Do not use oil!

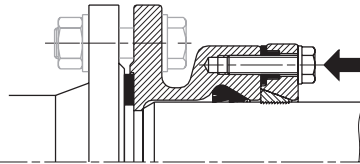
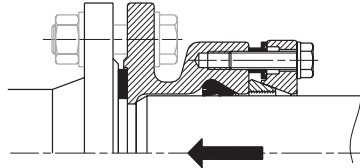
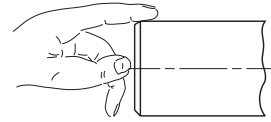
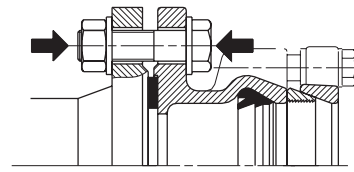


Ø D	A	B
63 - 40	2,5	10
160 - 180	4,0	16
200 - 225	5,0	20
250 - 315	7,0	25
355 - 450	9,0	35
500 - 630	10,0	40

Push the pipe to the end of the socket

For PE pipes with thin walls (\geq SDR 21) and low internal pressure we recommend using a support liner

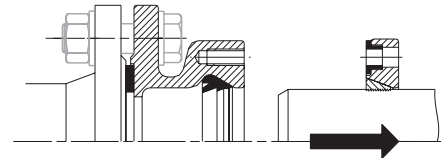
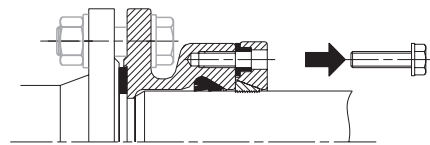
Tighten the lock ring bolts crosswise until lock ring is tight on bushes.
Max. tightening torque for lock ring see page R 3/1



DISMANTLING INSTRUCTIONS

Loosen and remove lock ring bolts

Twist and withdraw the pipe



TENSILE TEST:

The following maximum tensile loads have been established

Test data: HAWLE test laboratory tensile testing machine

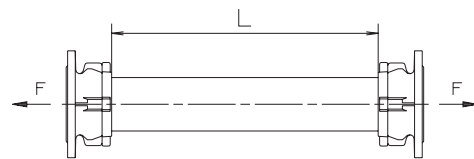
HDPE pipe (PE 80) DIN 8074 - EN 12201 | PN 10

Data established by use of a support liner and under 0 bar internal pressure
Room temperature: 23° C

Speed of tensile test (mm/min.): 0.1 x the free pipe length (L)

The table shows the maximum end load capacity of a System 2000 connection,
compared with the effective theoretical loads in a PE pipeline with 10 bar

A System 2000 connection provides a safety factor of **4 to 6 times!**



Ø pipe	Theoretical tensile load - (kN*) at 10 bar internal pressure	Max. tensile load (kN*) established in tests
63	3,15	20
75	4,42	28
90	6,37	38
110	9,50	56
125	12,27	63
140	15,40	66
160	20,10	98
180	25,45	130
200	31,40	145
225	39,80	153
250	49,10	233
280	61,60	215
315	77,80	270

*1 kN = 100 kp

SYSTEM 2000

E2 valve socket-socket for PE and PVC pipes, PN 10 | PN 16



Design features

- Resilient seated gate valve with smooth straight-through bore
- With sockets for PE and PVC pipes
- One extension spindle for several dimensions
- Suitable for operation by automatic actuators
- Easy retrofitting for position indicator and automatic actuator on the standard bonnet (DN 50 to DN 200)

To set-up an actuator or a position indicator, remove the centering flange and insert position indicator or actuator with adapter (DN 250 to DN 350)

Standard version: without handwheel and extension spindle

Special versions: on request

Suitable accessories

Suitable accessories: see page F 1/2

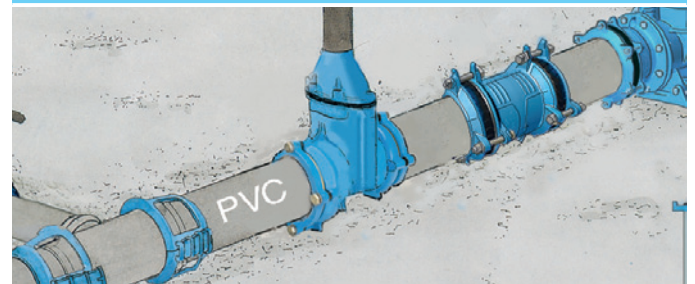
Handwheel:		No. 7800
Extension spindle:	rigid	No. 9000E2
	telescopic	No. 9500E2
Surfaces boxes:	rigid	No. 1750
	telescopic	No. 2050, No. 2051K No. 9920
Actuator:		No. 9920
Adapter for actuator (E2 adapter):		No. 8630E2
Base plate:	No. 3481, No. 3482	
Sealing cap:	No. 2156, No. 2157, No. 2158	
Spindle extension:	No. 7820, No. 7825	
Position indicator:	No. 2170E2	
HAWAK pillar:	No. 9894, No. 9895	

No. 4040E2



Order No.	MOP (PN)	Dimensions/DN Ø pipe A																	
		50	65	80	100	100	125	125	150	150	200	200	200	250	250	300	300	350	400
4040E2	16																		

Application example

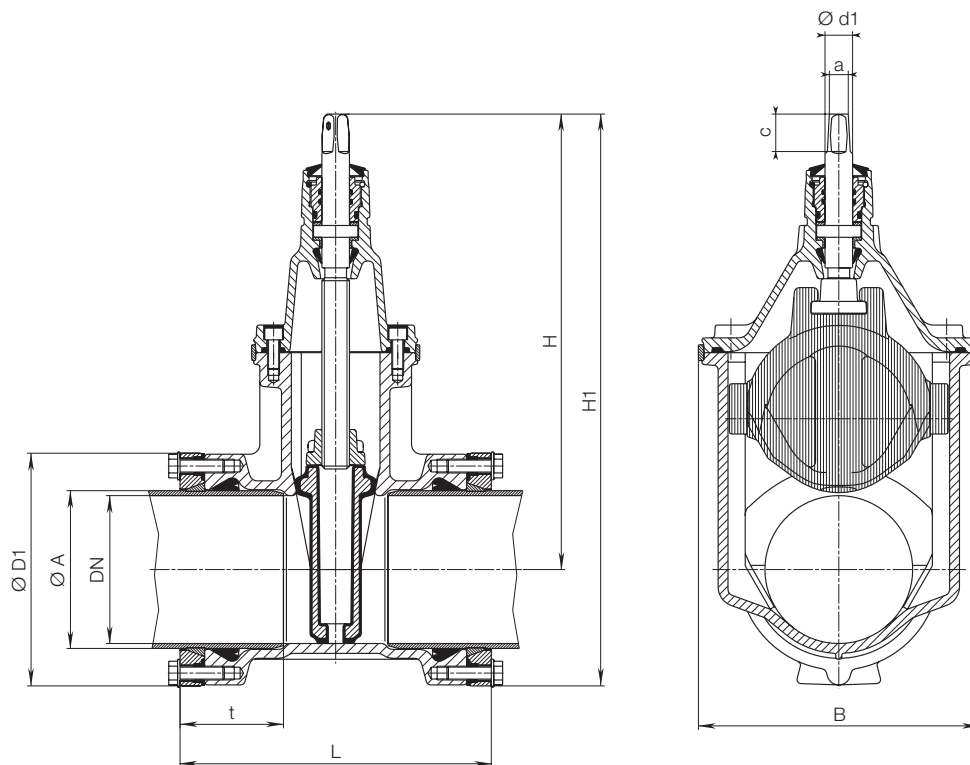


SYSTEM 2000

E2 valve socket-socket for PE and PVC pipes, PN 10 | PN 16



No. 4040E2



DN	Ø pipe A	Valve						Spindle			Weight
		Ø D1	t	H	H1	L	B	a	c	Ø d1	
50	63	124	83	260	322	226	143	14,8	30	22	8,0
65	75	138	85	328	397	240	180	17,3	35	25	14,5
80	90	152	88	336	412	242	180	17,3	35	25	16,5
100	110	174	88	373	460	252	213	19,3	38	25	20,5
	125	195	88	373	470	260	213	19,3	38	25	19,0
125	125	195	90	450	547	280	285	19,3	38	28	32,0
	140	212	96	450	556	278	285	19,3	38	28	34,30
150	160	236	108	462	580	316	285	19,3	38	28	34,30
	180	258	118	462	591	342	285	19,3	38	28	43,5
200	200	284	128	563	705	366	357	24,3	48	32	65,0
	225	314	130	563	720	366	357	24,3	48	32	70,0
	250	347	147	563	738	469	357	24,3	48	32	81,5
250	250	347	147	670	844	400	432	27,3	48	34	104,0
	280	376	150	670	858	420	432	27,3	48	34	113,0
300	315	422	176	753	964	472	518	27,3	48	34	168,0
	355	470	237	753	988	687	518	27,3	48	34	218,6
350	400	516	253	838	1097	744	603	27,3	48	34	278,5

SYSTEM 2000

E2 valve flange-socket for PE and PVC pipes, PN 10 | PN 16



Design features

- Resilient seated gate valve with smooth straight-through bore
- With socket for high-tensile connection with PE and PVC pipes
- Flange sized according to EN 1092-2, drilled according to EN 1092-2 | PN 10 standard; EN 1092-2 | PN 16 DN 200 - DN 250 please specify on order - other standards on request
- One extension spindle for several dimensions
- Suitable for operation by automatic actuators
- Easy retrofitting for position indicator and automatic actuator on the standard bonnet (DN 50 to DN 200)

To set-up an actuator or a position indicator, remove the centering flange and insert position indicator or actuator with adapter (DN 250 to DN 300)

Standard version: without handwheel and extension spindle

Special versions: on request

No. 4041E2



Suitable accessories

Suitable accessories: see page F 1/2

Handwheel:		No. 7800
Extension spindle:	rigid	No. 9000E2
	telescopic	No. 9500E2
Surfaces boxes:	rigid	No. 1750
	telescopic	No. 2050, No. 2051K
Actuator:		No. 9920
Adapter for actuator (E2 adapter):		No. 8630E2
Base plate:		No. 3481, No. 3482
Sealing cap:		No. 2156, No. 2157, No. 2158
Spindle extension:		No. 7820, No. 7825
Position indicator:		No. 2170E2
Bolts:		No. 8810, No. 8830 No. 8840
Flat gasket:		No. 3390, No. 3470
HAWAK pillar:		No. 9894, No. 9895

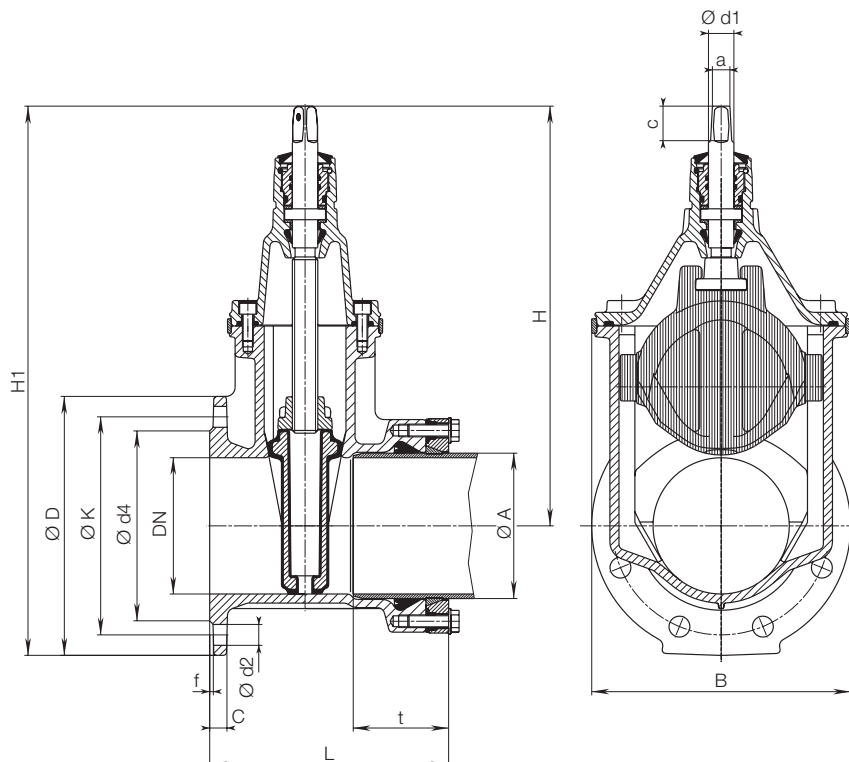
Order No.	MOP (PN)	Dimension/DN Øpipe A												
		50	65	80	100	100	125	150	150	200	200	250	250	300
4041E2	16	63	75	90	110	125	140	160	180	200	225	250	280	315

SYSTEM 2000

E2 valve flange-socket for PE and PVC pipes, PN 10 | PN 16



No. 4041E2



DN	MOP (PN)	\varnothing pipe A	Flange			Bolts		Valve					Spindle			Weight
			$\varnothing D$	C	$\varnothing K$	Qty.	Thread	t	H	H1	L	B	a	c	$\varnothing d1$	
50	10 16	63	165	19	125	4	M 16	83	260	342	188	143	14,8	30	22	11,0
65	10 16	75	185	19	145	4	M 16	85	328	420	205	180	17,3	35	25	15,0
80	10 16	90	200	19	160	8	M 16	88	336	436	211	180	17,3	35	25	18,5
100	10 16	110	220	19	180	8	M 16	88	373	483	221	213	19,3	38	25	22,0
	10 16	125	220	19	180	8	M 16	88	373	483	225	213	19,3	38	25	23,0
125	10 16	140	250	19	210	8	M 16	96	450	575	239	285	19,3	38	28	34,5
	10 16	160	285	19	240	8	M 20	108	462	605	263	285	19,3	38	28	39,0
150	10 16	180	285	19	240	8	M 20	118	462	605	276	285	19,3	38	28	41,5
	10 16	200	340	20	295	8 12	M 20	128	563	733	298	357	24,3	48	32	66,0
200	10 16	225	340	20	295	8 12	M 20	130	563	733	298	357	24,3	48	32	73,0
	10 16	250	400	22	350 355	12	M 20 M 24	147	670	870	325	432	27,3	48	34	100,0
250	10 16	280	400	22	350 355	12	M 20 M 24	150	670	870	335	432	27,3	48	34	107,0
	10 16	315	455	24,5	400 410	12	M 20 M 24	176	753	981	371	518	27,3	48	34	150,0

SYSTEM 2000

All socket tee with one integral **E2** valve for PE and PVC pipes



Design features

- Resilient seated gate valve combined with socket T-piece
- With push sockets for high-tensile connection with PE and PVC pipes
- One extension spindle for several dimensions
- Suitable for operation by automatic actuators
- Easy retrofitting for position indicator and automatic actuator on the standard bonnet

Standard version: without handwheel and extension spindle

Special versions: on request

No. 4343E2



Suitable accessories:

Suitable accessories: see page F 1/2

Handwheel:		No. 7800
Extension spindle:	rigid	No. 9000E2
	telescopic	No. 9500E2
Surfaces boxes:	rigid	No. 1750
	telescopic	No. 2050, No. 2051K
Actuator:		No. 9920
Adapter for actuator (E2 adapter):		No. 8630E2
Base plate:		No. 3481, No. 3482
Sealing cap:		No. 2156, No. 2157, No. 2158
Spindle extension:		No. 7820, No. 7825
Position indicator:		No. 2170E2
HAWAK pillar:		No. 9894, No. 9895

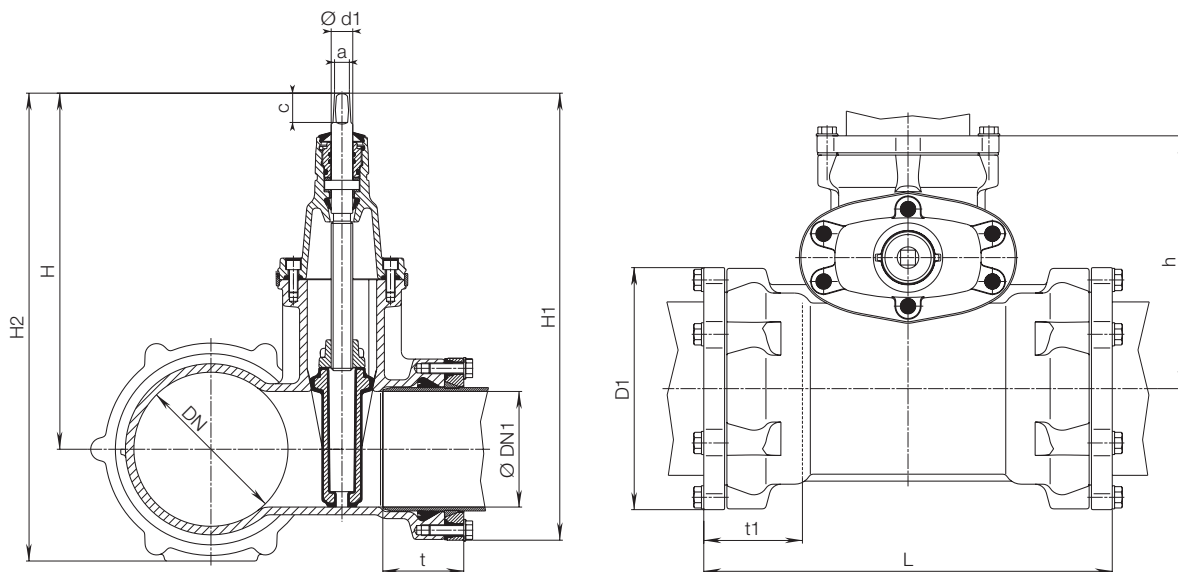
Order No.	MOP (PN)	Valve DN1 / Ø pipe					
		DN/Ø pipe	50 63	80 90	100 110	100 125	150 160
4343E2	16	80/90					
		100/110					
		100/125					
		150/160					
		200/225					

SYSTEM 2000

All socket tee with one integral E2 valve for PE and PVC pipes



No. 4343E2



DN Ø pipe	DN 1 Ø pipe	E2 Combi-T					Socket			Spindle			Weight
		H	H1	H2	t	L	t1	D1	h	a	c	Ø d1	
80/90	80/90	336	412	412	88	310	88	150	201	17,3	35	25	21,0
100/110	50/63	260	322	346	83	290	88	172	218	14,8	30	22	17,0
100/110	80/90	336	412	422	88	320	88	172	231	17,3	35	25	23,5
100/110	100/110	373	460	460	88	340	88	172	231	19,3	38	25	25,0
100/125	100/125	373	470	470	88	345	88	193	235	19,3	38	25	31,0
150/160	80/90	336	412	453	88	350	108	234	251	17,3	35	25	27,0
150/160	100/110	373	460	490	88	370	108	234	251	19,3	38	25	36,0
150/160	150/160	462	580	580	108	420	108	234	303	19,3	38	28	51,0
200/225	80/90	336	412	481	88	410	130	312	281	17,3	35	25	48,0
200/225	100/110	373	460	518	88	430	130	312	291	19,3	38	25	53,0

SYSTEM 2000

Flange for PE and PVC pipes



Design features

- With push socket for high-tensile restraint connection with PE and PVC pipes
- Flange sized according to EN 1092-2, drilled according to EN 1092-2 | PN 10 standard; EN 1092-2 | PN 16 DN 200 to DN 600 please specify on order - other standards on request
- With integrated flange seal made of elastomer

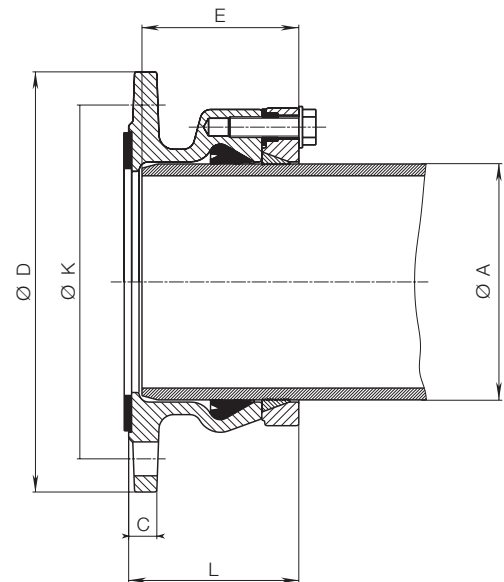
No. 0400



Order No.	MOP (PN)	Dimension/DN														
		50	60	65	80	100	125	150	200	250	300	400	500	600		
0400	16 (DN 50 - DN 150) 10 (DN 200 - DN 600)	Ø pipe A	63	63	63	63	90	110	140	200	250	315	400	500	630	
			75	75	75	110	125	160	225	280	355	450	560			
						90	125	140	180	250						
								160								

*DN 200-600, PN 16 on request

Flange DN	Ø pipe A	Ø D	Ø K	C	L	E	Bolts		Weight
							Qty	Thread	
50	63	165	125	19	90	80	4	M 16	3,7
60	63	175	135	19	90	80	4	M 16	3,8
60	75	175	138	19	92	82	4	M 16	4,0
65	63	185	145	19	90	80	4	M 16	4,3
65	75	185	145	19	92	82	4	M 16	4,6
80	63	200	160	19	90	80	8	M 16	4,7
80	75	200	160	19	92	82	8	M 16	4,8
80	90	200	160	19	95	85	8	M 16	5,5
100	90	220	180	19	95	85	8	M 16	6,8
100	110	220	180	19	95	85	8	M 16	6,3
100	125	220	180	19	97	87	8	M 16	6,6
125	110	250	210	19	95	85	8	M 16	7,7
125	125	250	210	19	97	87	8	M 16	7,8
125	140	250	210	19	103	93	8	M 16	10,3
125	160	250	210	19	145	110	8	M 16	11,5
150	140	285	240	19	103	93	8	M 20	11,3
150	160	285	240	19	115	105	8	M 20	10,5
150	180	285	240	19	125	115	8	M 20	12,5
200	200	340	295	20	135	125	8	M 20	16,8
200	225	340	295	20	138	128	8	M 20	18,0
200	250	340	295	20	225	145	8	M 20	27,0
250	250	400	350	22	155	145	12	M 20	28,4
250	280	400	350	22	158	148	12	M 20	29,0
300	315	455	400	25	184	174	12	M 20	43,0
300	355	455	400	25	277	237	12	M 20	63,0
400	400	565	515	25	242	230	16	M 24	76,5
400	450	565	515	25	302	260	16	M 24	84,0
500	500	715	620	32	365	346	20	M 27	144,0
500	560	715	620	32	450	372	20	M 27	167,0
600	630	840	725	36	459	399	20	M 27	256,0



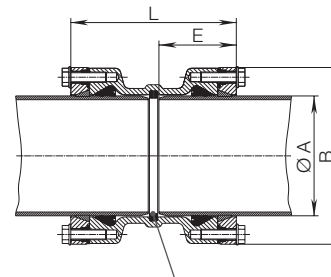
SYSTEM 2000

Fittings for PE and PVC pipes



Ø pipe A	L	E	B	Weight
63	171	80	124	3,6
75	175	82	138	4,3
90	181	85	152	5,8
110	181	85	172	6,5
125	185	87	193	8,2
140	197	93	210	9,0
160	221	105	236	12,0
180	241	113	258	19,0
200	261	125	284	24,0
225	265	128	314	28,0
250	300	145	347	34,0
280	306	148	376	40,5
315	358	174	422	62,5
355	464	237	472	98,0

Connector No. 0430

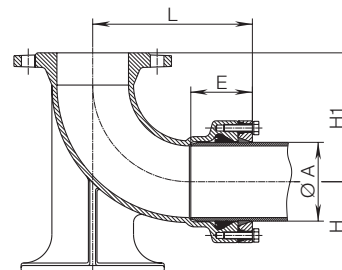


Caution! When using as coupling valve: **remove stop ring** and steeply chamfer pipe (see assembly instructions)

Order No.	MOP (PN)	Dimension Ø pipe A														
		63	75	90	110	125	140	160	180	200	225	250	280	315	355	
0430	16															

DN	Ø pipe A	L	E	H	H1	Weight
80	90	210	85	110	165	12,7
80	110	223	85	110	165	14,2
100	110	223	85	125	180	16,0

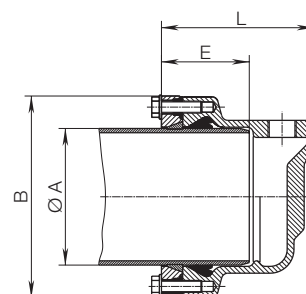
Duck foot bend No. 5045



Order No.	MOP (PN)	Dimension/DN Ø pipe A		
		80 90	80 110	100 110
5045	16			

Ø pipe A	L	E	B	Weight
63	106	80	124	2,7
75	138	82	138	3,2
90	141	85	152	4,6
110	159	85	172	6,4
125	162	87	193	6,1
140	169	93	210	7,7
160	180	105	236	8,6
180	192	113	258	11,7
200	203	125	284	14,5
225	207	128	314	16,5
250	225	145	347	20,5
280	228	148	376	25,0
315	254	174	422	33,5

End cap No. 8075



Optionally with or without axial or radial thread outlet 1" - 2"

Order No.	MOP (PN)	Dimension Ø pipe A												
		63	75	90	110	125	140	160	180	200	225	250	280	315
8075	16													

SYSTEM 2000

Fittings for PE and PVC pipes

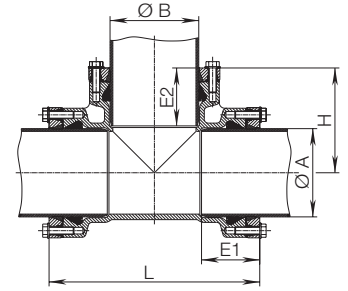


Ø pipe A	Ø B	L	E1	E2	H	Weight
63	63	236	83	83	118	6,0
75	75	250	85	85	125	7,7
90	90	268	85	85	134	9,0
110	63	240	85	80	140	7,7
	90	270	85	85	145	8,9
125	90	274	87	85	150	10,4
	110	294	97	85	150	10,7
140	125	306	90	90	153	15,0
	90	288	93	85	157,5	12,2
	110	305	93	85	160	12,5
160	140	344	96	96	167	19,0
	90	310	105	85	170	14,0
	110	330	105	85	170	14,5
180	125	380			170	19,8
	160	380	105	105	190	16,5
	125	360	113	87	180	24,0
200	180	415	113	113	207,5	29,0
	200	460	128	128	230	35,0
225	90	356	128	85	200	29,5
	110	376	128	128	200	30,0
	225	488	130	130	244	55,0

All socket tee

No. 8515

equal and reduced side outlet



Order No.	MOP (PN)	Dimension Ø pipe										
		Ø pipe A	63	75	90	110	125	140	160	180	200	225
8515	16	Ø pipe B	63	75	90	63	90	90	90	125		90
			90	110	110	110		200	110			
			110	125	140	160	180		225			

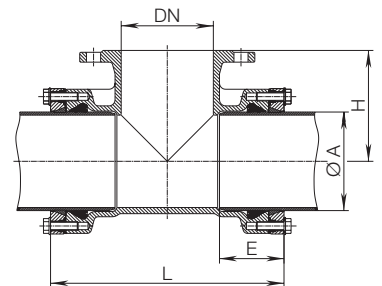
Ø pipe A	DN	L	E	H	Weight
63	50	236	83	100	8,0
75	65	250	85	110	9,0
90	80	268	85	140	11,0
110	50	240	85	150	10,0
	80	270	85	150	11,5
125	100	290	85	150	12,0
	80	274	87	160	14,0
140	100	294	87	160	14,0
	80	288	93	170	15,0
160	100	308	93	170	15,5
	125	334	93	170	16,0
	80	300	105	180	16,5
180	100	320	105	180	17,0
	150	380	105	180	20,0
200	80	310	113	200	23,0
	150	415	113	200	31,0
200	200	480	130	220	47,0
225	80	356	130	220	33,5
	100	376	130	220	33,0
	200	488	130	230	55,0

Double socket tee

with flanged branch

No. 8525

equal and reduced side outlet



Order No.	MOP (PN)	DN	Ø pipe A									
			63	75	90	110	125	140	160	180	200	225
8525	16	DN	50	65	80	50	80	80	80	80	200	80
						80	100	100	100	150		100
						100		125	150	200		

SYSTEM 2000

Fittings for PE and PVC pipes



Ø pipe A	b				E	B	Weight			
	90°	45°	30°	11°			90°	45°	30°	11°
63	153	112			80	124	4,2	4,7		
75	170	120			82	138	5,5	5,0		
90	188	129	115	98	85	152	7,6	6,4	5,8	5,7
110	213	140	122	100	85	172	10,0	7,9	7,2	6,6
125	240	153			87	193	9,8	9,9		
140	246	159			93	210	15,0	13,1		
160	283	181	120	115	105	236	19,5	16,0	15,0	14,5
180	293	191			113	258	26,0	21,0		
200	353	221			125	284	37,5	30,0		
225	355	224	136		128	314	43,0	38,0	32	
250	427	263			145	347	57,0	47,0		
280	430	266			148	376	69,0	55,0		
315	506	313			174	422	100,0	80,0		

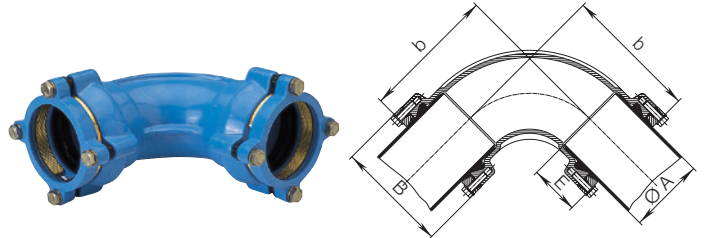
Bend

No. 8535 90°

No. 8545 45°

No. 8555 30°

No. 8557 11°



Order No.	MOP (PN)	Dimension Ø pipe A												
		63	75	90	110	125	140	160	180	200	225	250	280	315
8535 90°	16													
8545 45°														
8555 30°														
8557 11°														