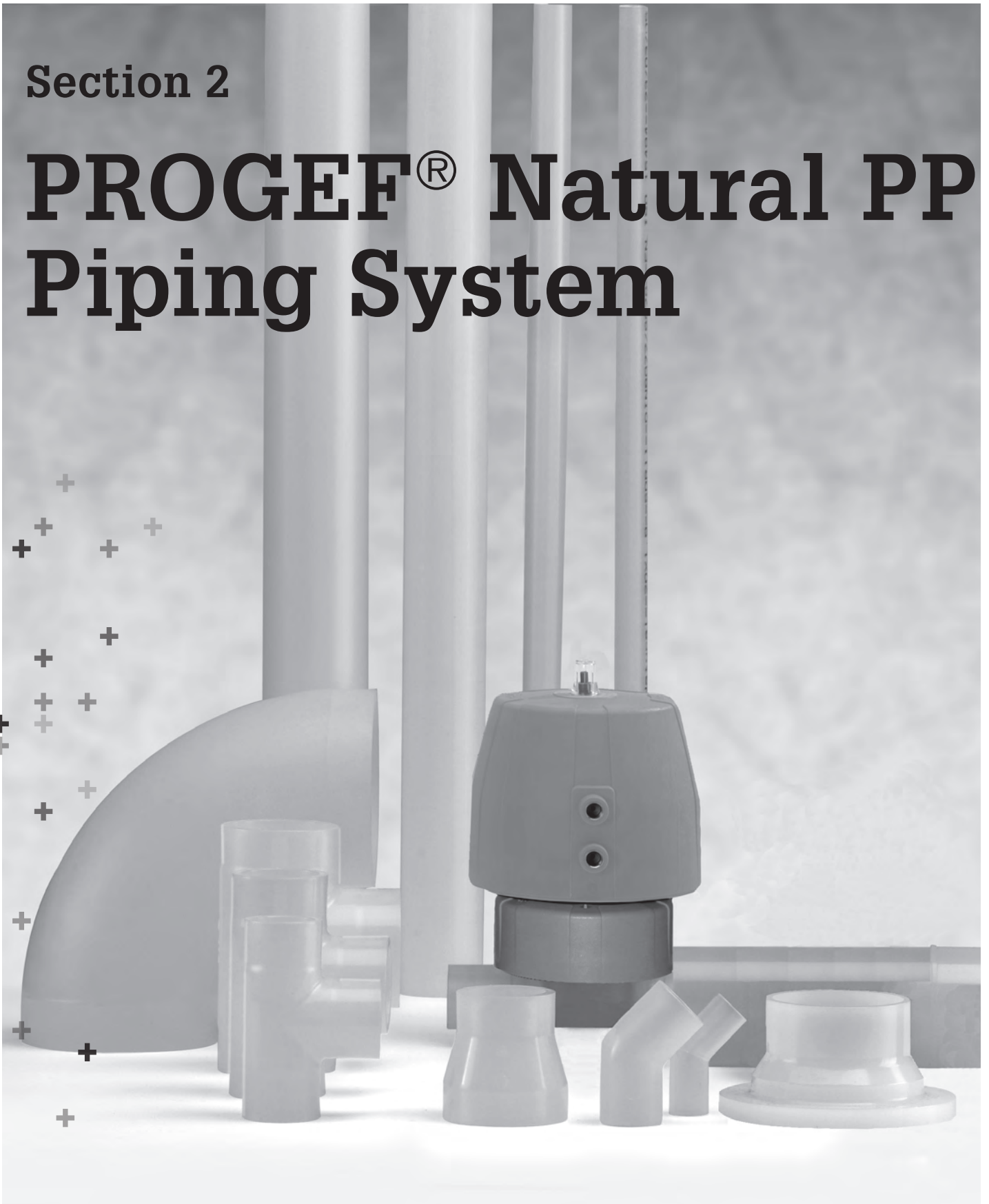


Section 2

PROGEF[®] Natural PP Piping System



PROGEF Natural – System Specification

Material	Polypropylene Random Copolymer
Color	Unpigmented, translucent
Density	~0.90 g/cm ³ (ISO 1183 / ASTM D 792)
Surface tension	30–35 mJ/m ²
Linear expansion coefficient	0.16–0.18 mm/mK (DIN 53752))
E-modulus	900 N/mm ² (ISO 527 / ASTM D 790)
Thermal conductivity	0.23 W/mK (EN 12664)
Surface resistivity	> 10 ¹⁶ Ω (IEC 60093)
Dimension	d 20–d 90 in accordance with EN ISO 15494
Pressure Rating	Pipes/Fittings/Diaphragm valves: d 20–d 63 SDR11, PN10 (150 PSI), c = 2.0 d 75–d 110 SDR17.6, PN6 (90 PSI), c = 2.0
Temperature Rating	from 0 °C to 80 °C (<60 °C for valves) (32 °F–176 °F)
Production	Fittings/valves: injection molded Pipes: extruded
Surface Finish	Inner surface Ra ≤ 1 μm (39 μin)
Marking	Fittings, pipes and valves are embossed with a permanent identification during the production process to ensure full traceability: Lot No Material Dimension Pressure Rating
Testing and Inspection (EN ISO 15494)	Inclusions Visual inspection Surface finish Dimension tolerance Pressure testing Full product range passed the Initial Type Test (ITT)
Approvals/Conformance ⁽¹⁾	FDA CFR 21 177.1520 USP 25 class VI (physiological non-toxic)
Welding Technology	BCF Plus, bead and crevice free fusion IR Plus, infrared fusion (DVS 2207-6) Butt fusion (DVS 2207-11)
Documentation ⁽²⁾	Certificate of Conformance with FDA, USP EN 10204 2.2 EN 10204 3.1 ASME BPE
Packing	Pipes: Capped & single bagged Fittings/valves: Bulk bagged; quantities vary
Labeling	Brand Name Product Description Code Number Material Dimension CE-labeling Approvals
Main Applications	Uses include cost effective, pure distribution of DI-water and critical biological fluids where chemical sanitization is needed. Bead and Crevice Free jointing and minimal metallic leachout ensure the highest product quality.

⁽¹⁾ For thermoplastic material only

⁽²⁾ On request

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Pipe for IR Plus/BCF Plus Fusion

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IR Plus Fusion/BCF Plus Fusion Fittings

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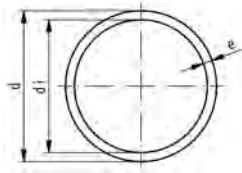


Manual Valves

154

Pipe for IR Plus/BCF Plus Fusion

A



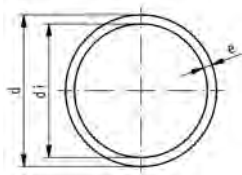
Pipe, PN 10, Natural PP

Model:

- PP-R material, translucent / unpigmented color
- Supplied in 5m lengths
- Single bagged with both ends capped

Note	d (mm)	Part No.	lbs/meter	e (mm)	di (mm)	closest inch (inch)
	20	* 168 480 151	0.236	1.9	16.2	½
	25	* 168 480 152	0.362	2.3	20.4	¾
	32	* 168 480 153	0.575	2.9	26.2	1
	40	* 168 480 154	0.908	3.7	32.6	1 ¼
	50	* 168 480 155	1.407	4.6	40.8	1 ½
	63	* 168 480 156	2.227	5.8	51.4	2

A



Pipe, PN 6, Natural PP

Model:

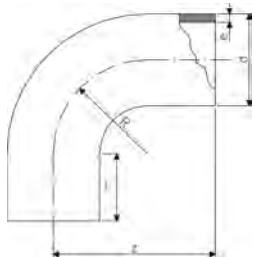
- Material: PP-R unpigmented
- colour: natural
- Supplied in 5m (16.4 foot) length

d (mm)	Part No.	lbs/meter	e (mm)	di (mm)	closest inch (inch)
90	* 168 480 283	2.932	5.1	79.8	3

IR Plus Fusion/BCF Plus Fusion Fittings

A

90° Elbow Sweep Radius, PN 10, Natural PP



d (mm)	FM	Part No.	weight (kg)	z (mm)	L (mm)	R (mm)	e (mm)
20	BCF, IR	728 018 606	0.007	38	23	15	1.9
25	BCF, IR	728 018 607	0.012	42	23	19	2.3
32	BCF, IR	728 018 608	0.026	46	22	24	2.9
40	BCF, IR	^ 728 018 609	0.038	51	21	30	3.7
50	BCF, IR	728 018 610	0.065	58	21	37	4.6
63	BCF, IR	728 018 611	0.115	66	21	45	5.8

A

90° Elbow Sweep Radius, PN 6, Natural PP



d (mm)	FM	Part No.	weight (kg)	L (mm)	L1 (mm)	e (mm)	R (mm)
90	BCF, IR	728 018 413	0.225	100	20	5.1	90

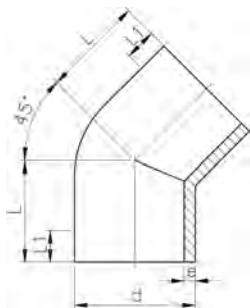
A

45° Elbow, PN 10, Natural PP



d (mm)	FM	Part No.
20	BCF, IR	728 158 506
25	BCF, IR	728 158 507
32	BCF, IR	728 158 508
40	BCF, IR	^ 728 158 509
50	BCF, IR	728 158 510
63	BCF, IR	728 158 511

weight (kg)	L (mm)	L1 (mm)	e (mm)
0.007	32	24	1.9
0.002	34	25	2.3
0.019	36	25	2.9
0.037	39	25	3.7
0.054	42	26	4.6
0.097	47	29	5.8



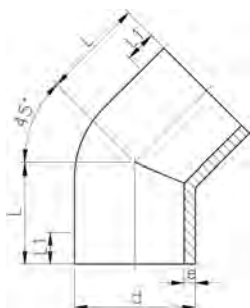
A

45° Elbow, PN 6, Natural PP



d (mm)	FM	Part No.
90	BCF, IR	728 158 413

weight (kg)	L (mm)	L1 (mm)	e (mm)
0.164	57	21	5.1



A



Tee, PN 10, Natural PP

d (mm)	FM	Part No.	weight (lb)	e (mm)	L (mm)	L1 (mm)
20	BCF, IR	728 208 506	0.024	1.9	38	24
25	BCF, IR	728 208 507	0.040	2.3	42	26
32	BCF, IR	728 208 508	0.071	2.9	46	26
40	BCF, IR	^ 728 208 509	0.130	3.7	51	23
50	BCF, IR	728 208 510	0.223	4.6	58	22
63	BCF, IR	728 208 511	0.401	5.8	66	20



A

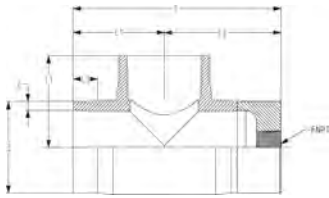


Tee, PN 6, Natural PP

d (mm)	FM	Part No.	weight (kg)	L (mm)	L1 (mm)	e (mm)
90	BCF, IR	728 208 413	0.401	90	20	5.1



B Analytical Threaded Sensor, PN 10/PN 6, Natural PP



d (mm)	FNPT (inch)	FM	Part No.	e (mm)	L (mm)	L1 (mm)	L2 (mm)
50	¼	BCF, IR	* 728 991 840	4.6	135	58	77
50	½	BCF, IR	* 728 991 841	4.6	135	58	77
50	¾	BCF, IR	* 728 991 842	4.6	135	58	77
50	1	BCF, IR	* 728 991 843	4.6	135	58	77
63	¼	BCF, IR	* 728 991 844	5.8	148	66	82
63	½	BCF, IR	* 728 991 845	5.8	148	66	82
63	¾	BCF, IR	* 728 991 846	5.8	148	66	82
63	1	BCF, IR	* 728 991 847	5.8	148	66	82
90	¼	BCF, IR	* 728 991 852	5.1	208	90	118
90	½	BCF, IR	* 728 991 853	5.1	208	90	118
90	¾	BCF, IR	* 728 991 854	5.1	208	90	118
90	1	BCF, IR	* 728 991 855	5.1	208	90	118

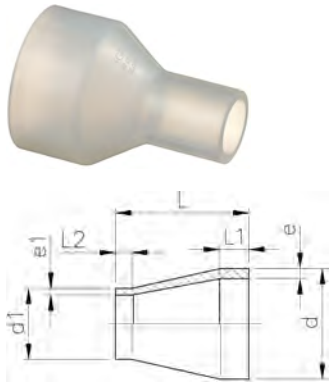
A Reducer, PN 10, Natural PP



d (mm)	d1 (mm)	FM	Part No.	weight (kg)	L (mm)	L1 (mm)	L2 (mm)	e (mm)	e1 (mm)
25	20	BCF, IR	728 908 537	0.007	50	20	20	2.3	1.9
32	20	BCF, IR	728 908 542	0.010	50	20	20	3.0	1.9
32	25	BCF, IR	728 908 541	0.011	50	20	20	3.0	2.3
40	20	BCF, IR	^ 728 908 548	0.015	58	20	23	3.7	1.9
40	25	BCF, IR	^ 728 908 547	0.016	55	20	20	3.7	2.3
40	32	BCF, IR	^ 728 908 546	0.019	55	20	20	3.7	2.9
50	25	BCF, IR	728 908 554	0.025	60	20	20	4.6	2.3
50	32	BCF, IR	728 908 553	0.027	60	20	20	4.6	2.9
50	40	BCF, IR	^ 728 908 552	0.030	60	20	20	4.6	3.7
63	32	BCF, IR	728 908 560	0.043	65	20	20	5.8	2.9
63	40	BCF, IR	^ 728 908 559	0.047	65	20	20	5.8	3.7
63	50	BCF, IR	728 908 558	0.052	65	20	20	5.8	4.6

A Reducer, PN 6, Natural PP

* 90mm side SDR17.6 - 63mm side SDR11



d (mm)	d1 (mm)	FM	Part No.	weight (kg)	L (mm)	L1 (mm)	L2 (mm)	e (mm)	e1 (mm)
* 90	63	BCF, IR	728 908 471	0.087	75	22	19	5.1	5.8

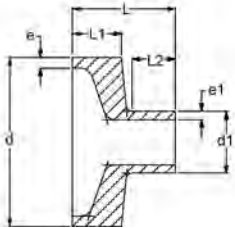
B

Flush Style Reducer, PN 10, Natural PP



d (mm)	d1 (mm)	FM	Part No.
50	20	IR	* 728 909 607
63	20	IR	* 728 909 611
63	25	IR	* 728 909 612

e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)
4.6	1.9	52	24	25
5.8	1.9	52	24	25
5.8	2.3	52	23	26



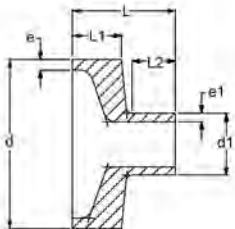
B

Flush Style Reducer, PN 6, Natural PP

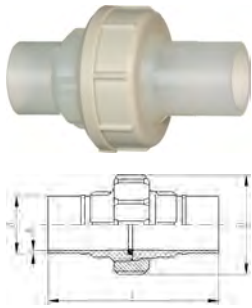


d (mm)	d1 (mm)	FM	Part No.
90	20	IR	* 728 909 622
90	25	IR	* 728 909 623
90	32	IR	* 728 909 624
90	40	IR	* 728 909 625
90	50	IR	* 728 909 626

e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)
5.1	1.9	63	32	25
5.1	2.3	64	32	26
5.1	2.9	65	32	26
5.1	3.7	66	32	28
5.1	4.6	67	32	28



A

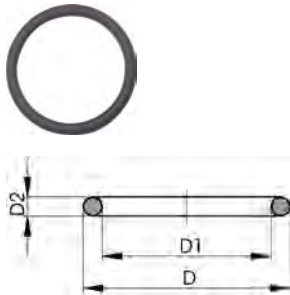


Union, PN 10, Natural PP

d (mm)	FM	EPDM Part No.	FKM Part No.	USD	weight (lb)
20	BCF, IR	728 518 526	* 728 528 526	61.14	0.106
25	BCF, IR	728 518 527	* 728 528 527	70.57	0.168
32	BCF, IR	728 518 528	* 728 528 528	82.38	0.234
40	BCF, IR	^ 728 518 529	* 728 528 529	109.84	0.324
50	BCF, IR	728 518 530	* 728 528 530	133.68	0.428
63	BCF, IR	728 518 531	* 728 528 531	178.24	0.756

d (mm)	D (mm)	L (mm)	L1 (mm)	L2 (mm)	e (mm)
20	48	107	53	25	1.9
25	58	113	56	25	2.3
32	65	119	59	25	2.9
40	79	126	63	25	3.7
50	91	131	65	25	4.6
63	111	137	68	25	5.8

B



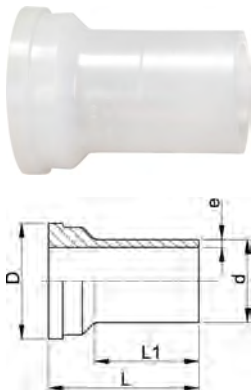
O-Ring Gasket

Model:

- Hardness approx. 65° Shore
- Suitable for unions with part numbers 728518526-531 and 728528526-531, respectively

d (mm)	Size (inch)	EPDM Part No.	FKM Part No.	D (mm)	D1 (mm)	D2 (mm)
20	½	* 748 410 140	* 749 410 140	20	15	2.62
25	¾	^ 748 410 006	^ 749 410 006	27	20	3.53
32	1	* 748 410 025	* 749 410 025	32	25	3.53
40	1 ¼	* 748 410 152	* 749 410 152	42	31	5.34
50	1 ½	748 410 009	749 410 009	51	41	5.34
63	2	* 748 410 171	* 749 410 171	61	50	5.34

B



Union End, PN 10, Natural PP

d (mm)	FM	Part No.	weight (kg)	D (mm)	L (mm)	L1 (mm)	e (mm)
20	BCF, IR	728 608 506	0.004	30	53	35	1.9
25	BCF, IR	728 608 507	0.013	39	56	36	2.3
32	BCF, IR	728 608 508	0.024	45	59	38	2.9
40	BCF, IR	728 608 509	0.042	57	63	39	3.7
50	BCF, IR	728 608 510	0.055	63	65	41	4.6
63	BCF, IR	728 608 511	0.092	78	69	43	5.8

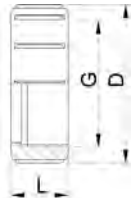
A



Union Bushing, PN 10, Natural PP

d (mm)	FM	Part No.	weight (kg)	G (R/Rp BS Thread) (inch)	L (mm)	L1 (mm)	e (mm)
20	BCF, IR	* 728 648 526	0.012	1	54	26	1.9
25	BCF, IR	* 728 648 527	0.020	1 1/4	57	26	2.3
32	BCF, IR	* 728 648 528	0.029	1 1/2	60	25	2.9
40	BCF, IR	* 728 648 529	0.047	2	63	25	3.7
50	BCF, IR	* 728 648 530	0.072	2 1/4	66	25	4.6
63	BCF, IR	* 728 648 531	0.104	2 3/4	69	25	5.8

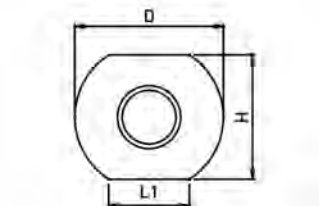
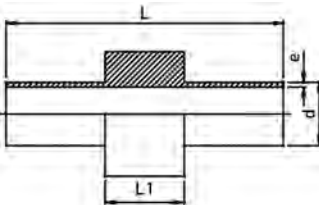
B



Union Nut, PN 10, Standard PP

Socket Fusion d (mm)	Butt Fusion d (mm)	G (R/Rp BS Thread) (inch)	Part No.	D (mm)	L (mm)
16	16	3/4	727 890 405	35	21
20	20	1	727 890 406	48	24
25	25	1 1/4	727 890 407	58	26
32	32	1 1/2	727 890 408	65	28
40	40	2	727 890 409	77	27
50	50	2 1/4	727 890 410	84	30
63	63	2 3/4	727 890 411	111	39
75	75 - 90	S107,5x3,6	* 727 890 422	135	40
90	110	S127,5x3,6	* 727 890 423	158	43
110	-	S152,5x3,6	* 727 890 424	188	48

B



Instrument Installation Fitting, PN 10, Natural PP

Add "T" to end of part number and fee to list price for each factory milled thread (max. diameter is 3/4"). See published price list for fee.

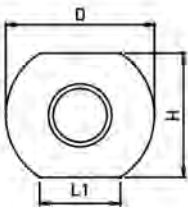
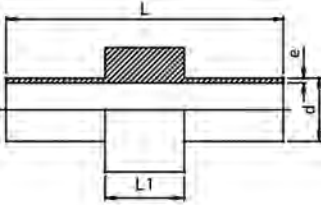
d (mm)	FM	Part No.	e (mm)	L (mm)	D (mm)	H (mm)	L1 (mm)
20	BCF, IR	* 728 918 606	1.9	140	71	58	40
25	BCF, IR	* 728 918 607	2.3	140	75	63	40
32	BCF, IR	* 728 918 608	2.9	140	81	70	40
40	BCF, IR	* 728 918 609	3.7	140	88	78	40
50	BCF, IR	* 728 918 610	4.6	140	97	88	40
63	BCF, IR	* 728 918 611	5.8	140	109	101	40

B

Instrument Installation Fitting, PN 6, Natural PP

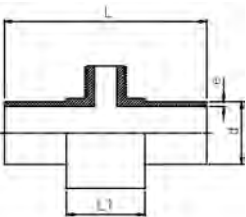


d (mm)	FM	Part No.	e (mm)	L (mm)	D (mm)	H (mm)	L1 (mm)
90	BCF, IR	* 728 918 613	5.1	140	134	128	40

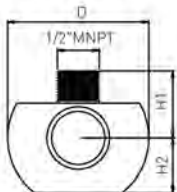


B

1/2" MNPT Low Profile Adapter, PN 10, Natural PP



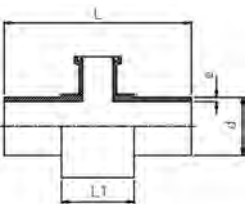
d (mm)	FM	Part No.	e (mm)	L (mm)	D (mm)	H1 (mm)	H2 (mm)	L1 (mm)
20	BCF, IR	* 728 918 626	1.9	140	71	28	29	40
25	BCF, IR	* 728 918 627	2.3	140	75	31	32	40
32	BCF, IR	* 728 918 628	2.9	140	81	34	35	40
40	BCF, IR	* 728 918 629	3.7	140	88	38	39	40
50	BCF, IR	* 728 918 630	4.6	140	97	43	44	40
63	BCF, IR	* 728 918 631	5.8	140	109	50	51	40



B

**3/4" (3A) Sanitary Adapter, PN 10
Natural PP**

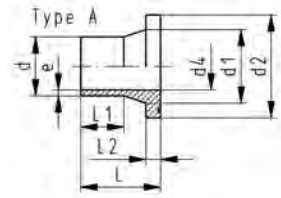
3/4" size sanitary adapter port, i.e. 0.985" flange OD



d (mm)	FM	Part No.	e (mm)	L (mm)	D (mm)	H1 (mm)	H2 (mm)	L1 (mm)
20	BCF, IR	* 728 918 646	1.9	140	71	28	29	40
25	BCF, IR	* 728 918 647	2.3	140	75	31	32	40
32	BCF, IR	* 728 918 648	2.9	140	81	34	35	40
40	BCF, IR	* 728 918 649	3.7	140	88	38	39	40
50	BCF, IR	* 728 918 650	4.6	140	97	43	44	40
63	BCF, IR	* 728 918 651	5.8	140	109	50	51	40

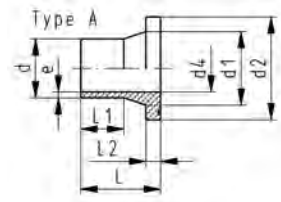


A



Flange Adapter - ANSI Serrated, PN 10, Natural PP

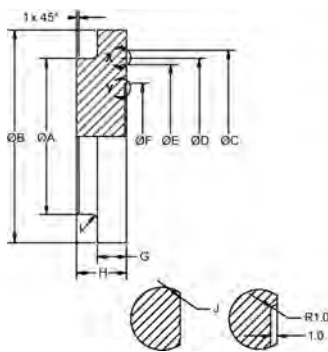
d (mm)	FM	Part No.	weight (lb)	e (mm)	d1 (mm)	d2 (mm)	d4 (mm)	L (mm)	L1 (mm)	L2 (mm)
20	BCF, IR	728 798 706	0.033	1.9	27	45	16	50	29	7
25	BCF, IR	728 798 657	0.053	2.3	33	54	20	52	27	9
32	BCF, IR	728 798 658	0.079	3.0	40	63	26	54	28	10
40	BCF, IR	^ 728 798 659	0.132	3.7	50	73	32	56	25	11
50	BCF, IR	728 798 660	0.176	4.6	61	82	40	62	32	12
63	BCF, IR	728 798 711	0.306	5.8	75	102	51	68	38	14



Flange Adapter - ANSI Serrated, PN 6, Natural PP

d (mm)	FM	Part No.	USD weight (kg)	L (mm)	L1 (mm)	L2 (mm)	e (mm)	d1 (mm)	d2 (mm)	d4 (mm)
90	BCF, IR	728 798 788	0.271	80	41	17	5.7	105	138	78

A



Blind Flange, PN 10, Standard PP

d (mm)	ANSI (inch)	Part No.	weight (lb)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	Rad I (mm)	Rad J (mm)
20	½	727 991 362	0.040	26	44	28	22		16	7	14	1.0	0.4
25	¾	727 991 363	0.062	32	54	36	29		20	9	16	1.5	0.4
32	1	727 991 364	0.093	40	63	43	36		26	10	17	1.5	0.4
40	1 ¼	^ 727 991 365	0.132	49	73	54	47		33	11	19	2.0	0.4
50	1 ½	727 991 366	0.172	60	79	64	56		41	12	20	2.0	0.4
63	2	727 991 367	0.309	75	99	83	75	69	51	14	24	2.5	0.4
90	3	727 991 369	0.672	105	133	115	106	97	74	17	27	3.0	0.4

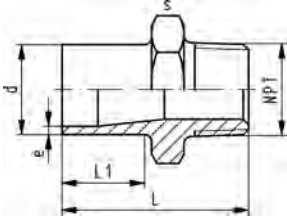
A

Male Adapter, PN 10, Natural PP



Model:

- With butt fusion spigot SDR11 and NPT tapered male thread
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to PP
- Install with low mechanical stress and avoid large cyclic temperature changes



d (mm)	NPT (inch)	FM	Part No.	weight (kg)	L (mm)	L1 (mm)	s (mm)	e (mm)
20	½	BCF, IR	728 914 106	0.013	51	28	32	1.9
25	¾	BCF, IR	728 914 107	0.017	52	28	36	2.3
32	1	BCF, IR	728 914 108	0.027	55	28	46	2.9
40	1 ¼	BCF, IR	^ 728 914 109	0.039	58	28	55	3.7
50	1 ½	BCF, IR	728 914 110	0.054	60	28	65	4.6
63	2	BCF, IR	728 914 111	0.093	67	28	80	5.8

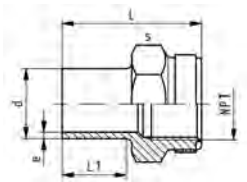
A

Female Adapter, PN 10, Natural PP



Model:

- Connection to plastic or metal threads
- Reinforcing ring stainless (A2)
- Install with low mechanical stress and avoid large cyclic temperature changes

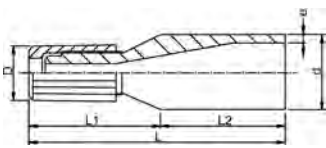


d (mm)	FM	NPT (inch)	Part No.	weight (kg)	L (mm)	L1 (mm)	s (mm)	e (mm)
20	BCF, IR	½	728 914 056	0.016	49	28	32	1.9
25	BCF, IR	¾	728 914 057	0.019	51	28	36	2.3
32	BCF, IR	1	728 914 058	0.039	54	28	46	2.9
40	BCF, IR	1 ¼	^ 728 914 059	0.052	56	28	55	3.7
50	BCF, IR	1 ½	728 914 060	0.085	60	28	64	4.6
63	BCF, IR	2	728 914 061	0.140	62	28	80	5.8

A

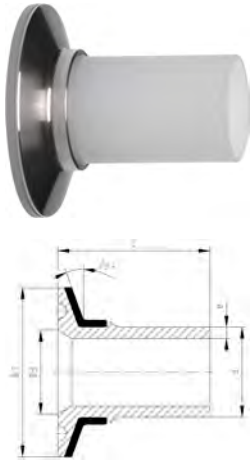
Flare Tube Adapter, PN 10, Natural PP

Nut is PVDF material



d (mm)	Tube Size (inch)	FM	Part No.	e (mm)	D (mm)	L (mm)	L1 (mm)	L2 (mm)
20	¼	BCF, IR	* 728 991 430	1.9	19	74	43	31
20	⅜	BCF, IR	* 728 991 431	1.9	22	77	46	31
20	½	BCF, IR	* 728 991 432	1.9	25	79	48	31
20	¾	BCF, IR	* 728 991 433	1.9	34	83	52	31
25	¼	BCF, IR	* 728 991 435	2.3	19	74	43	31
25	⅜	BCF, IR	* 728 991 436	2.3	22	77	46	31
25	½	BCF, IR	* 728 991 437	2.3	25	79	48	31
25	¾	BCF, IR	* 728 991 438	2.3	34	83	52	31
25	1	BCF, IR	* 728 991 439	2.3	37	84	58	31
32	½	BCF, IR	* 728 991 442	3.0	25	79	48	31
32	¾	BCF, IR	* 728 991 443	3.0	34	83	52	31
32	1	BCF, IR	* 728 991 444	3.0	37	89	58	31

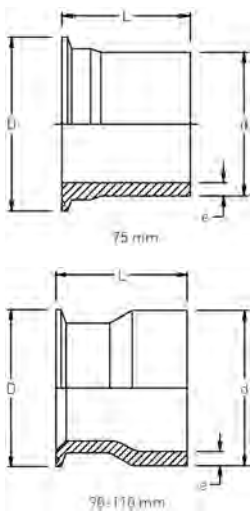
A



Sanitary Adapter, PN 10, Natural PP Connection to ASME BPE

	d (mm)	Size (inch)	FM	Part No.	Weight (lb)	L (mm)	e (mm)	D3 (mm)	D1 (mm)
*	20	¾	BCF, IR	728 598 357	0.011	49	1.9	16	25
	25	1	BCF, IR	728 598 359	0.064	50	2.3	22	51
	32	1 ½	BCF, IR	728 598 362	0.066	53	2.9	35	51
	40	1 ½	BCF, IR	^ 728 598 365	0.082	54	3.7	35	51
	50	2	BCF, IR	728 598 367	0.139	61	4.6	48	64
	63	2 ½	BCF, IR	728 598 369	0.212	67	5.8	60	78

B

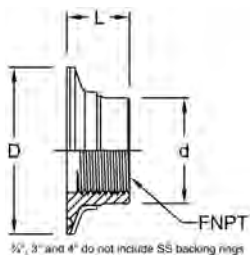


Large Sanitary Adapter

Does not use a Sanitary Backing Ring

	d Tube (3A) (mm)	Size (inch)	FM	Part No.	e (mm)	D (mm)	L (mm)
**	90	3	BCF, IR	* 728 598 371	5.1	91	76

B



Sanitary Instrument Adapter, PN 10/PN 6, Natural PP

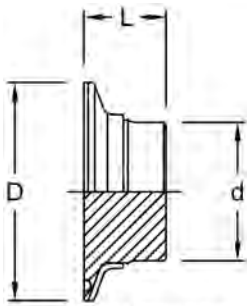
For use when a threaded connection is required in a sanitary system
Does not use a Sanitary Backing Ring

	Tube (3A) (inch)	FNPT (inch)	Part No.	D (mm)	d (mm)	L (mm)
**	¾	¼	* 728 992 400	25	20	13
	1	¼	* 728 992 401	51	40	19
	1	¾	* 728 992 402	51	40	19
	1 ½	¼	* 728 992 403	51	40	19
	1 ½	½	* 728 992 404	51	40	19
	1 ½	¾	* 728 992 405	51	40	19

B

Sanitary Blank, PN 10/PN 6, Natural PP

Does not use a Sanitary Backing Ring



3/4", 3" and 4" do not include SS backing rings

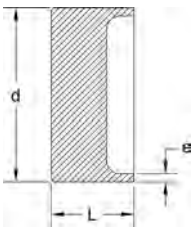
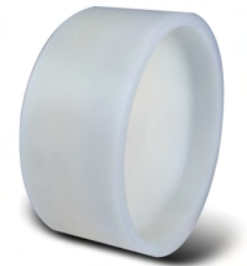
	Tube (3A) (inch)	Part No.	D (mm)	d (mm)	L (mm)
**	3/4	* 728 992 390	25	20	13
	1 & 1/2	* 728 992 391	51	32	19
	2	* 728 992 392	64	50	19
**	3	* 728 992 394	91	75	19

B

End cap, PN 10/PN 6, Natural PP

Sizes 63mm and smaller are PN 10. Size 90mm is PN 6.

Add "T" to end of part number and fee to list price for each factory milled thread (max. diameter is 3/4"). See published price list for fee.



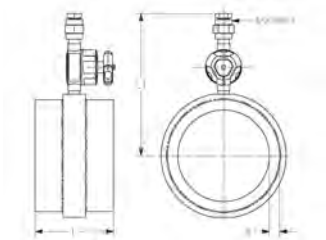
d (mm)	FM	Part No.	e (mm)	L (mm)
20	IR	* 728 992 680	1.9	30
25	IR	* 728 992 681	2.3	30
32	IR	* 728 992 682	3.0	30
40	IR	* 728 992 683	3.7	30
50	IR	* 728 992 684	4.6	36
63	IR	* 728 992 685	5.8	37
90	IR	* 728 992 687	5.1	40

B

Vent Port Assembly, PN 10/PN 6, Natural PP

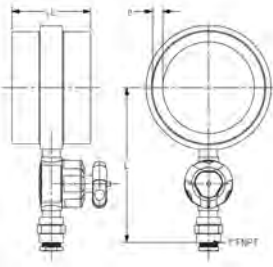
Sizes 63mm and smaller are PN 10. Size 90mm is PN 6.

Vent is 1/2" PP-N Type 515 Diaphragm Valve with MPT plug



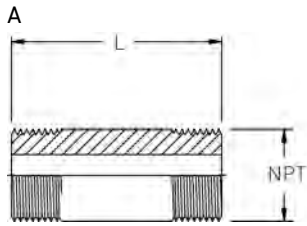
d (mm)	FM	Part No.	e (mm)	L (mm)	L1 (mm)
50	BCF, IR	* 728 992 600	4.6	140	183
63	BCF, IR	* 728 992 601	5.8	140	189
90	BCF, IR	* 728 992 603	5.1	140	201

Drain Port Assembly, PN 10/PN 6, Natural PP



Sizes 63mm and smaller are PN 10. Size 90mm is PN 6.
 Drain is 1" PP-N Type 515 Diaphragm Valve with MPT plug

d (mm)	FM	Part No.	e (mm)	L (mm)	L1 (mm)
50	BCF, IR	728 992 610	4.6	140	215
63	BCF, IR	728 992 611	5.8	140	221
90	BCF, IR	728 992 613	8.2	140	233

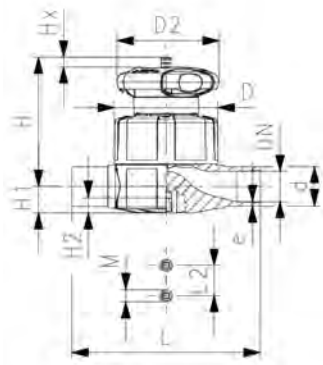


Nipples, PN 10, Natural PP

Male NPT (inch)	L (inch)	Part No.
½	2	* 728 992 350
½	3	* 728 992 351
½	4	* 728 992 352
¾	2	* 728 992 353
¾	3	* 728 992 354
¾	4	* 728 992 355
1	2	* 728 992 356
1	3	* 728 992 357
1	4	* 728 992 358
1 ¼	3	* 728 992 359
1 ¼	4	* 728 992 360
1 ½	3	* 728 992 361
1 ½	4	* 728 992 362
2	3	* 728 992 363
2	4	* 728 992 364

Manual Valves

A



Type 515 Diaphragm Valve PROGEF Natural PP Butt fusion spigots SDR11 metric

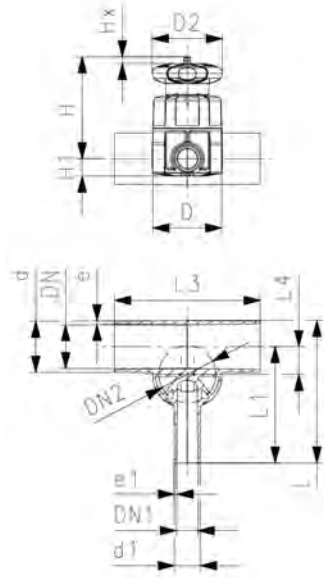
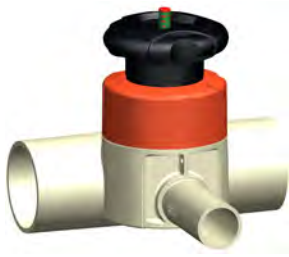
Model:

- EPDM version is PN 10 pressure rated. PTFE/EPDM version is PN 6 pressure rated.

d (mm)	DN	PN (bar)	EPDM Part No.	PTFE/EPDM Part No.	UNO weight (lb)
20	DN15	10/6*	168 515 112	168 515 132	0.679
25	DN20	10/6*	168 515 113	168 515 133	0.866
32	DN25	10/6*	168 515 114	168 515 134	2.136
40	DN32	10/6*	168 515 115	168 515 135	2.480
50	DN40	10/6*	168 515 116	168 515 136	4.592
63	DN50	10/6*	168 515 117	168 515 137	5.798

d (mm)	D (mm)	D2 (mm)	L (mm)	L2 (mm)	H (mm)	H1 (mm)	H2 (mm)	M	Lift = Hx (mm)	closest inch (inch)
20	65	65	124	25	73	14	12	M6	7	1/2
25	80	65	144	25	81	18	12	M6	10	3/4
32	88	87	155	25	107	22	12	M6	13	1
40	101	87	176	45	115	26	15	M8	15	1 1/4
50	117	135	193	45	148	32	15	M8	19	1 1/2
63	144	135	223	45	166	39	15	M8	25	2

A



**Type 519 Diaphragm Valve Zero Static
PROGEF Natural PP
Butt fusion spigots SDR11 metric**

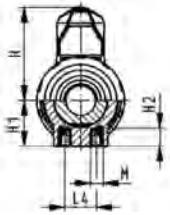
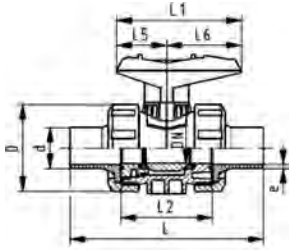
d (mm)	d1 (mm)	Valve Size d (mm)	DN2 (mm)	EPDM Part No.	PTFE/EPDM Part No.	weight (lb)
20	20	20	15	^ 168 519 101	^ 168 519 301	0.710
25	20	25	20	^ 168 519 103	^ 168 519 303	0.877
25	25	25	20	^ 168 519 104	^ 168 519 304	0.880
32	20	25	20	^ 168 519 107	^ 168 519 307	0.937
32	25	25	20	^ 168 519 108	^ 168 519 308	0.941
32	32	32	25	^ 168 519 109	^ 168 519 309	2.163
40	20	32	25	^ 168 519 112	^ 168 519 312	2.222
40	40	40	25	168 519 115	168 519 315	2.280
50	20	25	20	^ 168 519 118	^ 168 519 318	1.069
50	25	32	25	^ 168 519 119	^ 168 519 319	2.324
50	32	32	25	^ 168 519 120	^ 168 519 320	2.328
63	20	25	20	^ 168 519 125	^ 168 519 325	1.155
63	25	32	25	^ 168 519 126	^ 168 519 326	2.418
63	32	32	25	^ 168 519 127	^ 168 519 327	2.425

d (mm)	D (mm)	D2 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	H (mm)	Lift = Hx (mm)	e (mm)	e1 (mm)	closest inch (inch)
20	65	65	117	96	162	12	75	7	1.9	1.9	½
25	80	65	133	108	162	16	80	10	2.3	1.9	¾
25	80	65	133	108	162	16	80	10	2.3	2.3	¾
32	80	65	142	120	162	19	84	10	2.9	1.9	1
32	80	65	142	120	162	19	84	10	2.9	2.3	1
32	88	87	145	120	160	19	107	13	2.9	2.9	1
40	88	87	149	128	180	23	115	13	3.7	1.9	1 ¼
40	88	87	174	153	180	23	115	13	3.7	3.7	1 ¼
50	80	65	160	134	180	27	97	10	4.6	1.9	1 ½
50	88	87	160	134	180	28	120	13	4.6	2.3	1 ½
50	88	87	160	134	180	28	120	13	4.6	2.9	1 ½
63	80	65	177	144	180	33	104	10	5.8	1.9	2
63	88	87	177	144	180	35	127	13	5.8	2.3	2
63	88	87	177	144	180	35	127	13	5.8	2.9	2

A



DN10/15 - 50



**Type 546 Ball Valve PROGEF Standard
With PROGEF Natural Valve Ends
IR/BCF Fusion Spigots**

d (mm)	EPDM Part No.	USD	FKM Part No.
20	^ 157 546 442		^ 157 546 452
25	^ 157 546 443		^ 157 546 453
32	^ 157 546 444		^ 157 546 454
40	^ 157 546 445		^ 157 546 455
50	^ 157 546 446		^ 157 546 456
63	^ 157 546 447		^ 157 546 457
90	^ 157 546 448		^ 157 546 458

d (mm)	D (mm)	H (mm)	H1 (mm)	H2 (mm)	L (mm)	L1 (mm)	L2 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	M	e (mm)	closest inch (inch)
20	50	57	27	12	130	77	56	25	32	45	M6	1.9	1/2
25	58	67	30	12	143	97	65	25	39	58	M6	2.3	3/4
32	68	73	36	12	150	97	71	25	39	58	M6	3.0	1
40	84	90	44	15	171	128	85	45	54	74	M8	3.7	1 1/4
50	97	97	51	15	191	128	89	45	54	74	M8	4.6	1 1/2
63	124	116	64	15	220	152	101	45	66	87	M8	5.8	2
90	200	161	105	15	264	270	141	70	64	206	M8	9.9	3