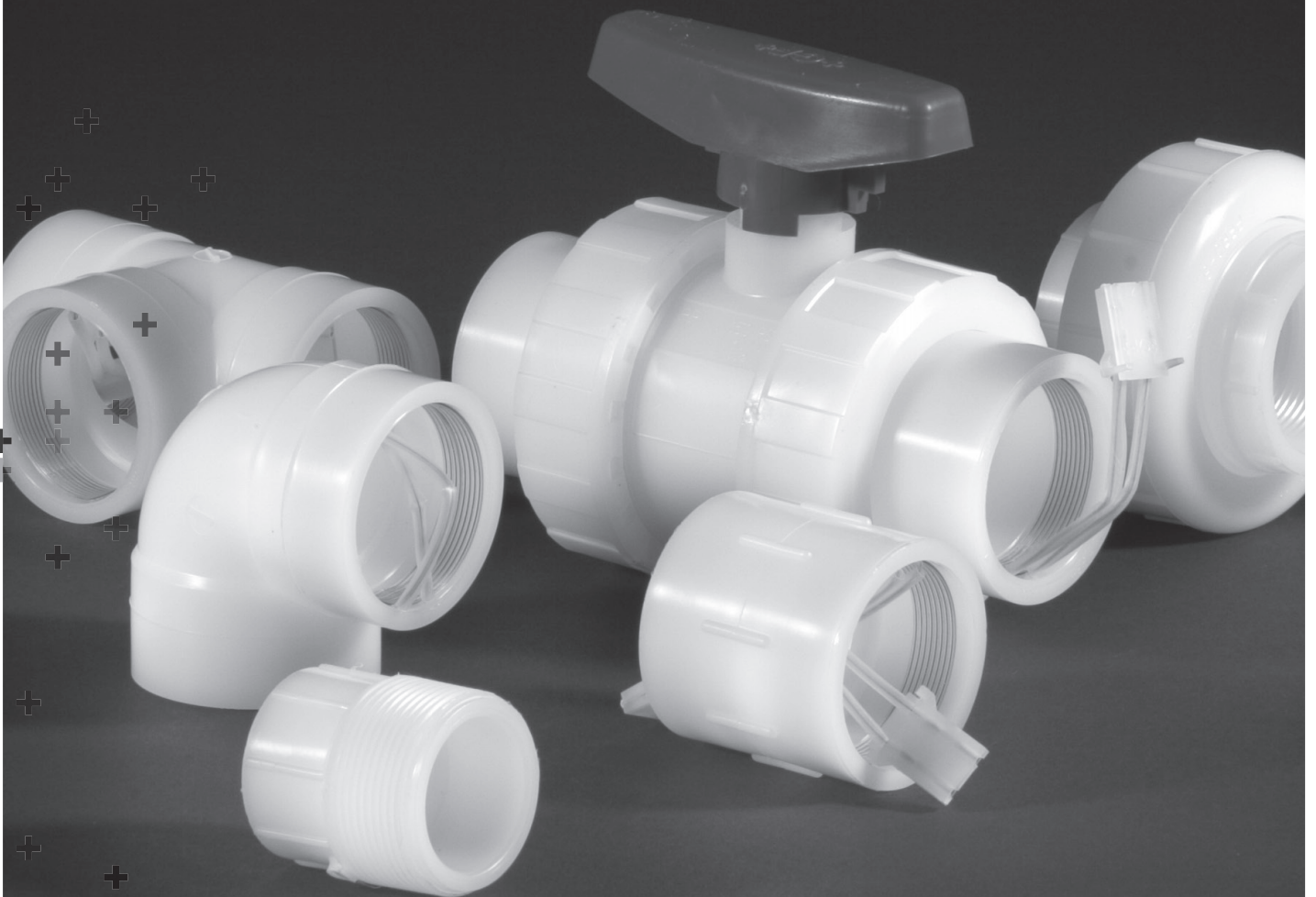


Section 3

PPro-Seal™ Natural PP Piping System



PPro-Seal™ Natural – System Specification

Material	Polypropylene Random Copolymer
Color	Unpigmented, translucent
Specific gravity	0.905
Tensile strength	4,000 psi @ 72°F
Flexural modulus	1.5×10^5 psi
Izod impact strength	8.0 ft-lbs/inch notch @ 72°F
Coefficient of thermal expansion	6.1×10^{-5}
Hardness	87 Rockwell R Scale
Dimension	½" – 2" Schedule 80 IPS
Pressure Rating	Pipes/Fittings/Diaphragm valves: up to 150 psi @ 23°C (72°F) (Electrofusion only)
Temperature Rating	from 0 °C to 80 °C (< 60 °C for valves) (32 °F–176 °F)
Production	Fittings/valves: injection molded Pipes: extruded
Marking	Size Lot No. (pipe only) Material Dimension Pressure Rating (pipe only)
Testing and Inspection	Inclusions Visual inspection Dimension Pressure testing
Approvals/Conformance	FDA CFR 21 177.1520 USP 25 class VI (physiological non-toxic) ASTM D4101 ASTM F1290
Joining Technology	Electrofusion Threaded (NPT)
Documentation	Certificate of Compliance to FDA & USP
Packing	Pipes: Bulk bagged; quantities vary Fittings/valves: Bulk bagged; quantities vary
Labeling	Brand Name Product Description Code Number Material Dimension
Main Applications	Uses include cost effective, pure distribution of DI-water and critical biological fluids where chemical sanitization is needed.



PPro-Seal Pipe

158



PPro-Seal Electrofusion Fittings

159



PPro-Seal Valves

163



PPro-Seal Fusion Accessories

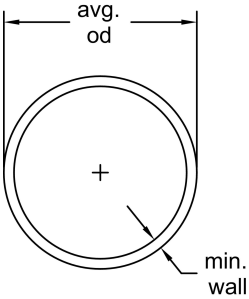
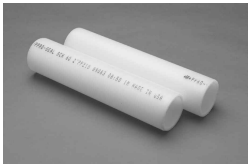
164



PPro-Seal Threaded Fittings

165

PPro-Seal Pipe

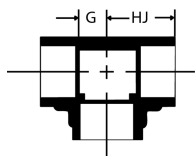


Pipe - Schedule 80 PPn

20' lengths available upon request
All pipe must be ordered in lift quantities to maintain cleanliness.

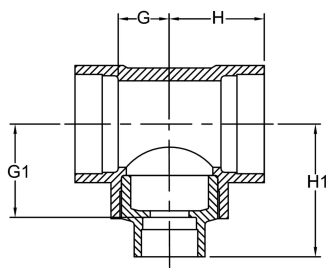
Size (inch)	lengths (ft)	Part No.	Lift Qty (ft)	avg. od (inch)	min. wall (inch)
1/2	10	37K011005	250	0.840	0.147
3/4	10	37K011007	150	1.050	0.154
1	10	37K011010	100	1.315	0.179
1 1/2	10	37K011015	40	1.900	0.200
2	10	37K011020	30	2.375	0.218

Pro-Seal Electrofusion Fittings



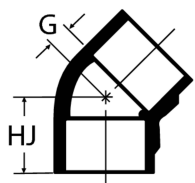
Tee (S x S x S)

Size (inch)	Part No.	Pack Qty	G (inch)	HJ (inch)
1/2	801-005F	5	0.51	1.22
3/4	801-007F	5	0.58	1.36
1	801-010F	5	0.70	1.67
1 1/2	801-015F	2	1.00	2.03
2	801-020F	2	1.26	2.32



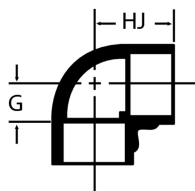
Tee - Reducing (S x S x S)

Size (inch)	Part No.	Pack Qty	G (inch)	G1 (inch)	H (inch)	H1 (inch)
1 x 1/2	801-130F	2	0.89	0.91	1.86	1.63
1 1/2 x 1/2	801-209F	2	0.88	1.35	1.91	1.88
1 1/2 x 1	801-211FFB	2	1.00	2.03	2.03	3.00
2 x 1/2	801-247F	2	0.86	1.62	2.02	2.16
2 x 1	801-249FFB	2	1.26	2.29	2.32	3.26



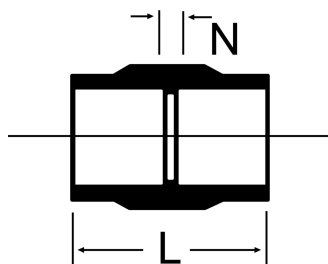
45° Ell (S x S)

Size (inch)	Part No.	Pack Qty	G (inch)	HJ (inch)
1/2	817-005F	5	0.31	1.02
3/4	817-007F	5	0.33	1.11
1	817-010F	5	0.39	1.36
1 1/2	817-015F	2	0.52	1.55
2	817-020F	2	0.64	1.70



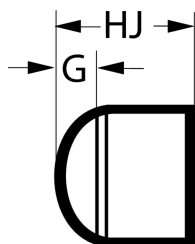
90° Ell (S x S)

Size (inch)	Part No.	Pack Qty	G (inch)	HJ (inch)
1/2	806-005F	5	0.51	1.22
3/4	806-007F	5	0.58	1.36
1	806-010F	5	0.70	1.67
1 1/2	806-015F	2	1.00	2.03
2	806-020F	2	1.26	2.32



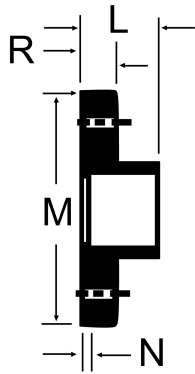
Coupling (S x S)

Size (inch)	Part No.	Pack Qty	L (inch)	N (inch)
1/2	829-005F	5	1.56	0.12
3/4	829-007F	5	1.68	0.12
1	829-010F	5	2.06	0.12
1 1/2	829-015F	2	2.25	0.18
2	829-020F	2	2.26	0.13



Cap (S)

Size (inch)	Part No.	Pack Qty	G (inch)	HJ (inch)
1/2	847-005F	5	0.42	1.14
3/4	847-007F	5	0.45	1.23
1	847-010F	5	0.53	1.50
1 1/2	847-015F	2	0.63	1.71
2	847-020F	2	0.75	1.84



Flange (S) without Backing Ring

Flange Backing Ring recommended for assembly

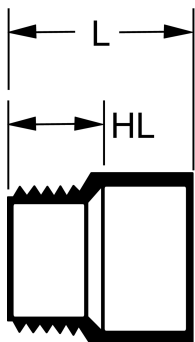
Size (inch)	Part No.	# holes	bolt hole dia. (inch)	bolt cir. dia. (inch)	L (inch)	M (inch)	N (inch)	R (inch)
1/2	859-005F	4	0.50	2.38	0.86	3.50	0.14	0.41
3/4	859-007F	4	0.50	2.75	0.97	3.88	0.19	0.47
1	859-010F	4	0.50	3.13	1.16	4.25	0.19	0.53
1 1/2	859-015F	4	0.50	3.88	1.24	5.00	0.21	0.66
2	859-020F	4	0.63	4.75	1.34	6.00	0.28	0.71



Flange Backing Ring

Flange Ring Material: 304SS

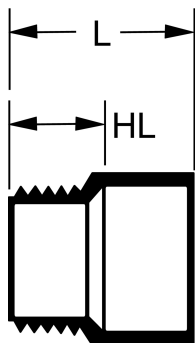
Size (inch)	Part No.
1/2	855-005F
3/4	855-007F
1	855-010F
1 1/2	855-015F
2	855-020F



Male Adapter (MPT x S)

Threaded fittings not recommended for pressure applications

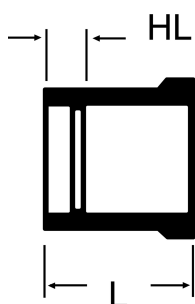
Size (inch)	Part No.	Pack Qty	HL (inch)	L (inch)
1/2	836-005F	5	1.02	1.73
3/4	836-007F	5	1.05	1.83
1	836-010F	5	1.28	2.25
1 1/2	836-015F	2	1.32	2.35
2	836-020F	2	1.37	2.43



Male Adapter - Reducing (S x MPT)

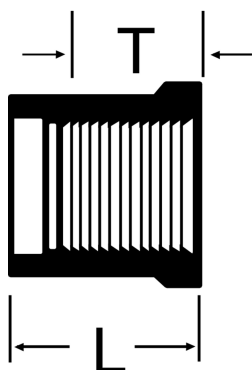
Threaded fittings not recommended for pressure applications

Size (inch)	Part No.	Pack Qty	HL (inch)	L (inch)
½ x ¼	836-036F	5	0.79	2.00



Reducer Bushing (Spg x S)

Size (inch)	Part No.	Pack Qty	HL (inch)	L (inch)
¾ x ½	837-101F	5	1.14	1.86
1 x ½	837-130F	5	1.03	1.75
1 x ¾	837-131F	5	1.10	1.88
1 ½ x ¾	837-210F	2	0.95	1.67
1 ½ x 1	837-211F	2	1.03	2.00
2 x 1	837-249F	2	1.03	2.00
2 x 1 ½	837-251F	2	0.81	1.84



Reducer Bushing (Spg x FPT)

Threaded fittings not recommended for pressure applications

Size (inch)	Part No.	Pack Qty	L (inch)	T min. (inch)	Style
¾ x ½	838-101F	5	1.13	0.53	Flush
1 x ½	838-130F	5	1.75	0.53	Extended
1 x ¾	838-131F	5	1.31	0.55	Flush
1 ½ x ¾	838-210F	2	1.67	0.55	Flush
1 ½ x 1	838-211F	2	1.67	0.68	Flush
2 x 1	838-249F	2	2.00	0.68	Extended
2 x 1 ½	838-251F	2	1.81	0.72	Flush

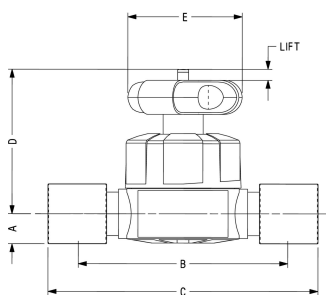
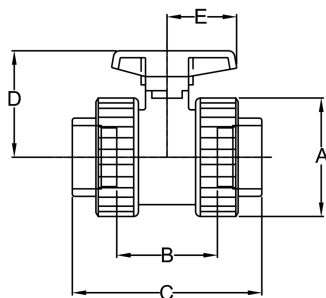
PPro-Seal Valves



Type 375 Ball Valve (S x S) and (FPT x FPT)

O-Ring Material: FKM

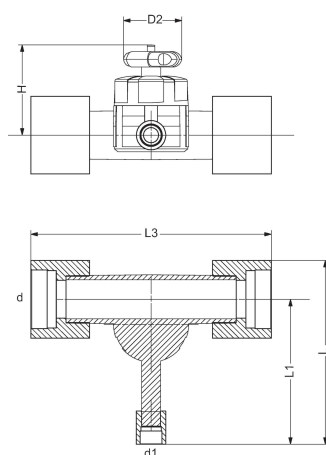
Size (inch)	FKM Part No.	A (inch)	B (inch)	C (inch)	D (inch)	E (inch)
1/2	1088375005F	1.88	1.84	3.86	2.31	1.44
3/4	1088375007F	2.27	2.08	4.37	2.50	1.44
1	1088375010F	2.63	2.34	4.86	3.05	1.85
1 1/2	1088375015F	3.67	3.13	5.87	3.60	2.41
2	1088375020F	4.48	3.68	6.73	3.95	2.41



Type 515 Diaphragm Valve (S x S)

Valve is metric size with IPS size PPro-Seal electrofusion ends

EPDM Part No.	Size (inch)	A (inch)	B (inch)	C (inch)	D (inch)	E (inch)
150 901 005	1/2	0.55	5.12	6.54	3.54	3.15
150 901 007	3/4	0.69	5.82	7.50	4.02	3.15
150 901 010	1	0.83	6.06	8.00	4.67	3.70
150 901 015	1 1/2	1.28	8.27	10.33	10.33	4.61
150 901 020	2	1.53	9.10	11.22	11.22	5.98



Type 519 Zero Static Diaphragm Valve (S x S)

Valve is metric size with IPS size PPro-Seal electrofusion ends

Part No.	Size d (inch)	Size d1 (inch)	Valve Size d (mm)	H (inch)	D2 (inch)	L (inch)	L1 (inch)	L3 (inch)
150 519 011	1/2	1/2	20	3.0	2.6	5.3	4.6	8.0
150 519 000	3/4	1/2	25	3.1	2.6	6.0	5.0	8.0
150 519 001	3/4	3/4	25	3.1	2.6	6.1	5.1	8.0
150 519 002	1	1/2	25	3.3	2.6	6.3	5.4	8.5
150 519 003	1	3/4	25	3.3	2.6	6.4	5.5	8.5
150 519 004	1	1	32	4.2	3.4	6.6	5.6	8.5
150 519 005	1 1/2	1/2	25	3.8	2.6	7.1	6.0	9.8
150 519 006	1 1/2	3/4	32	4.7	3.4	7.3	6.1	9.8
150 519 007	1 1/2	1	32	4.7	3.4	7.5	6.3	9.8
150 519 008	2	1/2	25	4.2	2.6	7.7	6.4	10.0
150 519 009	2	3/4	32	5.0	3.4	7.9	6.5	10.0
150 519 010	2	1	32	5.0	3.4	8.3	7.0	10.0

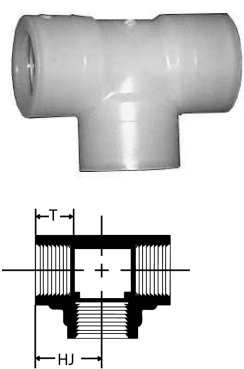
PPro-Seal Fusion Accessories



Loose Coil

Size (inch)	Part No.	Pack Qty
1/2	37K164005	10
3/4	37K164007	10
1	37K164010	10
1 1/2	37K164015	10
2	37K164020	10

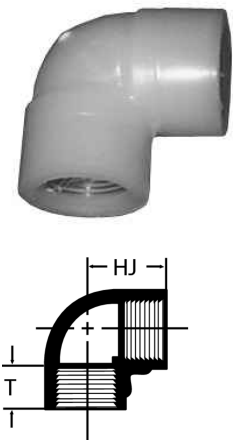
PPro-Seal Threaded Fittings



Tee (FPT x FPT x FPT)

Threaded fittings not recommended for pressure applications

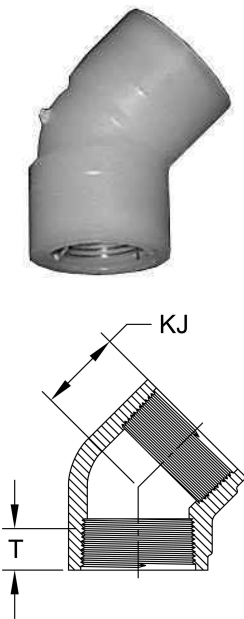
Size (inch)	Part No.	Pack Qty	HJ (inch)	T min. (inch)
1/2	805-005F	5	1.22	0.53
3/4	805-007F	5	1.36	0.55
1	805-010F	5	1.67	0.68
1 1/2	805-015F	2	2.03	0.72
2	805-020F	2	2.32	0.76



90° Ell (FPT x FPT)

Threaded fittings not recommended for pressure applications

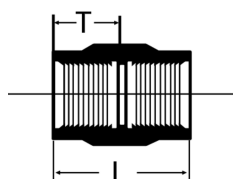
Size (inch)	Part No.	Pack Qty	HJ (inch)	T min. (inch)
1/2	808-005F	5	1.22	0.53
3/4	808-007F	5	1.36	0.55
1	808-010F	5	1.67	0.68
1 1/2	808-015F	2	2.03	0.72
2	808-020F	2	2.32	0.76



45° Ell (FPT x FPT)

Threaded fittings not recommended for pressure applications

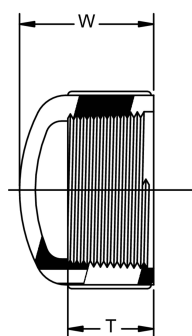
Size (inch)	Part No.	Pack Qty	KJ (inch)	T min. (inch)
1/2	819-005F	5	1.02	0.53
3/4	819-007F	5	1.11	0.55
1	819-010F	5	1.36	0.68
1 1/2	819-015F	2	1.55	0.72
2	819-020F	2	1.70	0.76



Coupling (FPT x FPT)

Threaded fittings not recommended for pressure applications

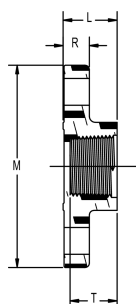
Size (inch)	Part No.	Pack Qty	L (inch)	T min. (inch)
1/2	830-005F	5	1.56	0.53
3/4	830-007F	5	1.68	0.55
1	830-010F	5	2.06	0.68
1 1/2	830-015F	2	2.25	0.72
2	830-020F	2	2.26	0.76



Cap (FPT)

Threaded fittings not recommended for pressure applications

Size (inch)	Part No.	Pack Qty	W (inch)	T min. (inch)
1/2	848-005F	5	1.14	0.53
3/4	848-007F	5	1.23	0.55
1	848-010F	5	1.50	0.68
1 1/2	848-015F	2	1.71	0.72
2	848-020F	2	1.84	0.76



Flange (FPT) without Backing Ring

Flange Backing Ring recommended for assembly
Threaded fittings not recommended for pressure applications

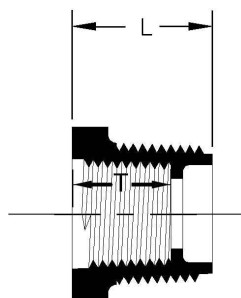
Size (inch)	Part No.	# holes	bolt hole dia. (inch)	bolt cir. dia. (inch)	L (inch)	M (inch)	R (inch)	T min. (inch)
1/2	852-005F	4	0.50	2.38	0.86	3.50	0.41	0.69
3/4	852-007F	4	0.50	2.75	0.97	3.88	0.47	0.69
1	852-010F	4	0.50	3.13	1.16	4.25	0.53	0.81
1 1/2	852-015F	4	0.50	3.88	1.24	5.00	0.66	0.88
2	852-020F	4	0.63	4.75	1.34	6.00	0.71	0.94



Flange Backing Ring

Flange Ring Material: 304SS

Size (inch)	Part No.
1/2	855-005F
3/4	855-007F
1	855-010F
1 1/2	855-015F
2	855-020F



Reducer Bushing (MPT x FPT)

Threaded fittings not recommended for pressure applications

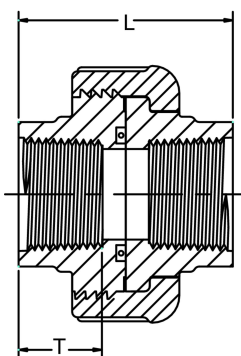
Size (inch)	Part No.	Pack Qty	L (inch)	T min. (inch)
3/4 x 1/2	839-101F	5	1.70	0.53
1 x 1/2	839-130F	5	1.77	0.53
1 x 3/4	839-131F	5	1.89	0.55
1 1/2 x 1	839-211F	2	2.00	0.68
2 x 1	839-249F	2	2.00	0.68
2 x 1 1/2	839-251F	2	1.81	0.72



Union (FPT x FPT)

Threaded fittings not recommended for pressure applications

O-Ring Material: FKM



Size (inch)	Part No.	Pack Qty	L (inch)	T min. (inch)
1/2	898-005F	5	2.00	0.53
3/4	898-007F	5	2.08	0.55
1	898-010F	5	2.50	0.68
1 1/2	898-015F	2	2.69	0.72
2	898-020F	2	2.88	0.76