Schedule 80 Tank Adapters

Tank Adapters (Bulkhead Fittings)

Designed to facilitate connections through tank or bulkhead walls. Available in PVC or CPVC with socket x socket, Socket x thread or SR thread, thread x thread or thread x SR thread, and spigot end connections. Plus, special Self-Aligning style.

New Style Tank Adapters are designed with Spears® patented Special Reinforced (SR) Female Plastic threads for improved adapter connection strength, even when transitioned to metal pipe (Patent No. 5,582,439). In addition, these Tank Adapters in sizes through 4" are designed for use with Nut & Body Spanner Wrench Sets (purchased separately) on the outside connection to aid both installation and in make-up of external threaded connections. Pressure rated to 150 psi @ 73°F (23°C).

Easy Assembly to Tank:

1. Locate and cut designated hole size in tank (see Minimum Hole Size in appropriate chart below).

2. Remove the nut and insert Tank Adapter through hole from inside; leave gasket in place. Note: Body and Gasket must be on installed on the inside of tank (except spigot style in which gasket goes on outside of tank).

3. Tighten Nut clockwise while holding body from inside tank or on outside with use of spanner wrench.

NOTE: A sound, leak-tight seal can be made on curved surfaces providing the curve on the surface will allow for full and equal 360° pressure contact of the sealing gasket against the tank wall surface *(Refer to Minimum Tank Radius below)*.

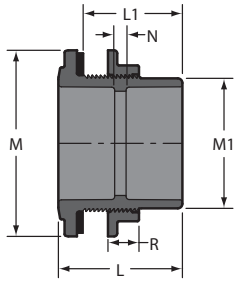


NEW STYLE - TANK ADAPTER

Socket x Socket

Dimensions Also Applicable to 8170E-XXX & 8170V-XXX

150 psi @ 73°F



Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
8170-002	1/4	2-1/2	1-13/16	1-1/2	1-1/16	1-3/16	1/2	.10
8170-003	3/8	2-1/2	1-27/32	1-5/8	31/32	7/8	1/2	.11
8170-005	1/2	2-15/16	2-3/16	2-1/16	1-3/16	1-1/8	5/8	.22
8170-007	3/4	2-15/16	2-3/16	2-1/4	1-5/8	15/16	5/8	.26
8170-010	1	3-5/16	2-9/16	2-5/8	2	1-1/16	5/8	.37
8170-012	1-1/4	3-7/16	2-5/8	3-1/8	2-5/16	15/16	5/8	.42
8170-015	1-1/2	3-5/8	2-13/16	3-5/8	2-11/16	13/16	5/8	.98
8170-020	2	4-1/8	3-1/4	4-7/8	3-1/4	1-1/16	3/4	1.28
8170-025	2-1/2	4-27/32	3-7/8	5-1/4	3-9/16	29/32	1	1.79
8170-030	3	5-1/2	4-1/2	6	4-9/16	1-11/16	1	2.62
8170-040	4	5	4	7-1/2	5-1/2	7/16	1-1/4	3.13
8170-080	8	8-5/8	7	12-15/16	10-1/4	1/2	1-1/2	16.02

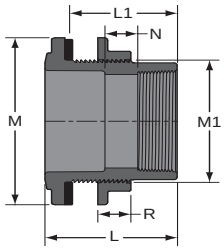
Tank Adapter Referenced Dimension Tolerance = ± 1/16"

NEW STYLE - TANK ADAPTER

Socket x Fipt

Dimensions Also Applicable to
8171E-XXX & 8171V-XXX

150 psi @ 73°F



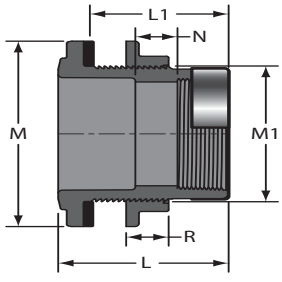
Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
8171-002	1/4	2-1/2	1-13/16	1-1/2	1-1/16	1-1/4	1/2	.10
8171-003	3/8	2-1/2	1-13/16	1-5/8	1-3/16	1-3/16	1/2	.11
8171-005	1/2	2-15/16	2-3/16	2-1/16	1-3/16	1-1/4	5/8	.22
8171-007	3/4	2-15/16	2-15/32	2-1/4	1-5/8	1-3/16	5/8	.25
8171-010	1	3-5/16	2-13/16	2-5/8	1-31/32	1-1/4	5/8	.36
8171-012	1-1/4	3-13/32	2-27/32	3-3/32	2-5/16	1-17/32	5/8	.50
8171-015	1-1/2	3-5/8	2-13/16	3-5/8	2-11/16	1-1/4	5/8	.67
8171-020	2	4-1/8	3-1/4	4-7/8	3-1/4	1-5/8	3/4	1.32
8171-025	2-1/2	4-7/8	7/8	5-1/4	3-13/16	1-13/16	1	1.78
8171-030	3	5-1/2	4-1/2	6	4-9/16	2-3/16	1	2.61
8171-040	4	5	4	7-1/2	5-1/2	1-1/4	1-1/4	3.24
8171-060	6	4-31/32	4-1/16	10-1/16	7-11/16	1/16	1-1/4	5.65

NEW STYLE - TANK ADAPTER

Socket x SR Fipt

Dimensions Also Applicable to
8171E-XXXSR & 8171V-XXXSR

150 psi @ 73°F



Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
8171-002SR	1/4	2-1/2	1-13/16	1-1/2	1-1/16	1-1/4	1/2	.11
8171-003SR	3/8	2-1/2	1-13/16	1-5/8	1-3/16	1-3/16	1/2	.12
8171-005SR	1/2	2-15/16	2-1/4	2-1/16	1-7/32	1-9/32	5/8	.22
8171-007SR	3/4	2-15/16	2-3/16	2-1/4	1-5/8	1-1/4	5/8	.26
8171-010SR	1	3-5/16	2-13/16	2-5/8	1-31/32	1-1/4	5/8	.36
8171-012SR	1-1/4	3-13/32	2-5/8	3-3/32	2-5/16	1-17/32	5/8	.50
8171-015SR	1-1/2	3-5/8	2-13/16	3-5/8	2-11/16	1-1/4	5/8	.70
8171-020SR	2	4-1/8	3-1/4	4-7/8	3-1/4	1-5/8	3/4	1.36
8171-025SR	2-1/2	4-7/8	3-7/8	5-1/4	3-13/16	1-11/16	1	1.90
8171-030SR	3	5-1/2	4-1/2	6	4-9/16	2-3/16	1	2.78
8171-040SR	4	5	4	7-1/2	5-1/2	1-1/4	1-1/4	3.60
8171-060SR	6	4-31/32	4-1/16	10-1/16	7-11/16	1/16	1-1/4	5.74

Suitable for Oil-Free air handling to 25 psi, not for distribution of compressed air or gas
Spears® Manufacturing Company
Due to Material Cost Variations, Prices Subject to Change. Check On-line Catalog @ www.spearsmfg.com

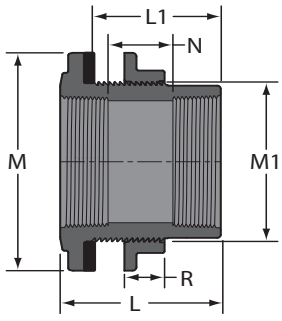
Schedule 80 Tank Adapters

NEW STYLE - TANK ADAPTER

Fipt x Fipt

Dimensions Also Applicable to 8172E-XXX & 8172V-XXX

150 psi @ 73°F



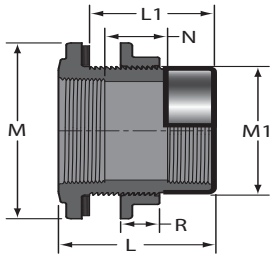
Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
8172-002	1/4	2-1/2	1-13/16	1-1/2	1-1/16	1-5/16	1/2	.10
8172-003	3/8	2-1/2	1-13/16	1-5/8	1-3/16	1-3/8	1/2	.13
8172-005	1/2	2-15/16	2-3/16	2-1/16	1-3/16	1-13/32	5/8	.23
8172-007	3/4	2-15/16	2-15/32	2-1/4	1-5/8	1-1/2	5/8	.25
8172-010	1	3-5/16	2-13/16	2-5/8	1-31/32	1-1/4	5/8	.36
8172-012	1-1/4	3-13/32	2-27/32	3-3/32	2-5/16	1-17/32	5/8	.50
8172-015	1-1/2	3-19/32	3-1/16	3-19/32	2-21/32	1-11/16	5/8	.68
8172-020	2	4-1/8	3-1/4	4-7/8	3-1/4	2-3/16	3/4	1.34
8172-025	2-1/2	4-7/8	3-7/8	5-1/4	3-13/16	2-1/4	1	1.91
8172-030	3	5-1/2	4-1/2	6	4-9/16	2-11/16	1	2.80
8172-040	4	5	4	7-1/2	5-1/2	2	1-1/4	3.53
8172-060	6	5	4-3/16	9-7/8	7-31/32	1-5/32	1-1/4	5.90

NEW STYLE - TANK ADAPTER

Fipt x SR Fipt

Dimensions Also Applicable to 8172E-XXXSR & 8172V-XXXSR

150 psi @ 73°F



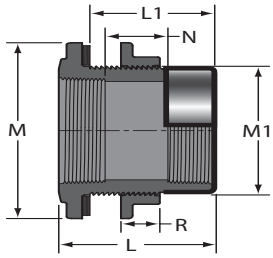
Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
8172-002SR	1/4	2-1/2	1-7/8	1-9/16	1-1/16	1-5/16	1/2	.12
8172-003SR	3/8	2-1/2	1-13/16	1-5/8	1-3/16	1-3/8	1/2	.14
8172-005SR	1/2	2-15/16	2-3/16	2-1/16	1-7/32	1-13/32	5/8	.24
8172-007SR	3/4	2-15/16	2-15/32	2-1/4	1-5/8	1-3/16	5/8	.26
8172-010SR	1	3-15/16	2-19/32	2-5/8	1-31/32	1-1/4	5/8	.38
8172-012SR	1-1/4	3-13/32	2-27/32	3-3/32	2-5/16	1-17/32	5/8	.50
8172-015SR	1-1/2	3-5/8	2-13/16	3-5/8	2-11/16	1-3/4	5/8	.73

NEW STYLE - TANK ADAPTER (continued)

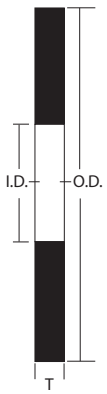
Fipt x SR Fipt

Dimensions Also Applicable to 8172E-XXXSR & 8172V-XXXSR

150 psi @ 73°F



Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
8172-020SR	2	4-1/8	3-1/4	4-27/32	3-1/32	2-1/8	3/4	1.34
8172-025SR	2-1/2	4-7/8	3-7/8	5-1/4	3-13/16	2-1/4	1	1.97
8172-030SR	3	5-15/32	4-17/32	5-31/32	4-17/32	2-21/32	1	2.87
8172-040SR	4	5	4	7-1/2	5-1/2	2	1-1/4	3.61

TANK ADAPTER GASKET SECTION	SIZE	O.D.*	I.D.*	T
	1/4	1.49	0.99	1/4
	3/8	1.62	1.12	1/4
	1/2	1.98	1.41	1/4
	3/4	2.20	1.57	1/4
	1	2.60	1.90	1/4
	1-1/4	3.04	2.23	1/4
	1-1/2	3.54	2.57	1/4
	2	4.76	3.15	1/4
	2-1/2	5.13	3.70	1/4
	3	5.86	4.39	1/4
	4	7.34	5.31	1/4
	6	9.85	7.95	3/16
	8	12.70	9.94	3/8

New Style Tank Adapter Gasket & Hole Size Requirements

Tank Adapter Size	Recommended Minimum Hole Size	Minimum Inside Curvature Radius (inches)	Maximum Tank Wall Thickness (inches)
1/4	1-1/16	2.50	.50
3/8	1-3/16	3.00	.50
1/2	1-1/2	4.00	.75
3/4	1-3/4	5.00	.75
1	2	7.00	.86
1-1/4	2-3/8	9.50	.86
1-1/2	2-3/4	12.00	.86
2	3-3/8	18.50	1.19
2-1/2	3-7/8	23.50	1.50
3	4-5/8	32.50	2.00
4	5-1/2	43.50	1.25
6	8	79.50	2.06
8	10-3/8	98.00	4.25

* Both outside and inside dimensions are +/- .01 to .03 shore hardness 50-60

New Style Tank Adapters
Optional Wrench Sets
(Nut & Body Wrench)

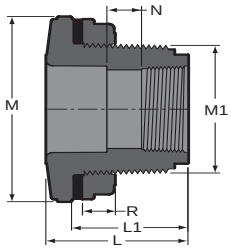
Part No.	TA Size	Part No.	TA Size
TAW-002	1/4	TAW-012	1-1/4
TAW-003	3/8	TAW-015	1-1/2
TAW-005	1/2	TAW-020	2
TAW-007	3/4	TAW-030	3
TAW-010	1	TAW-040	4

OLD STYLE - TANK ADAPTER

Socket x Fipt

Dimensions Also Applicable to 871E-XXX

150 psi @ 73°F



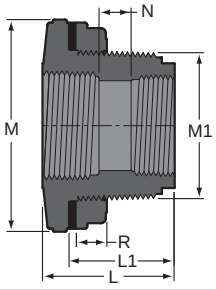
Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
871-005	1/2	2-27/32	2-11/32	2-9/32	1-9/32	1-3/8	5/8	.24
871-007	3/4	2-23/32	2-7/32	2-1/2	1-5/8	29/32	5/8	.30
871-010	1	2-25/32	2-1/8	2-13/16	1-7/8	25/32	21/32	.34
871-012	1-1/4	3-1/8	2-7/16	3-29/32	2-11/32	27/32	5/8	.64
871-015	1-1/2	3-5/32	2-21/32	3-29/32	2-11/32	3/4	5/8	.55
871-020	2	3-3/16	2-17/32	4-31/32	3-15/32	13/16	3/4	1.33
871-030	3	4-19/32	3-13/16	6-7/16	4-15/32	31/32	1-3/16	2.47
871-040	4	4-7/16	3-23/32	7-7/16	5-1/2	1/2	1-1/4	3.17

OLD STYLE - TANK ADAPTER

Fipt x Fipt

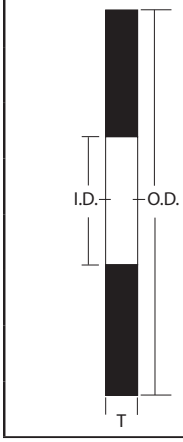
Dimensions Also Applicable to 872E-XXX

150 psi @ 73°F



Part Number	Size	L	L1	M	M1	N	R	Approx. Wt. (Lbs.)
872-005	1/2	2-27/32	2-11/32	2-9/32	1-9/32	1-13/32	5/8	.24
872-007	3/4	2-23/32	2-1/4	2-1/2	1-5/8	1-5/32	5/8	.31
872-010	1	2-25/32	2-5/16	2-13/16	1-7/8	25/32	5/8	.36
872-012	1-1/4	3-1/8	2-5/8	3-27/32	2-11/32	1-1/8	5/8	.67
872-015	1-1/2	3-1/8	2-5/8	3-29/32	2-11/32	1-1/16	5/8	.58
872-020	2	3-5/32	2-3/8	5-1/16	3-7/16	1-5/32	3/4	1.35
872-030	3	4-19/32	3-13/16	6-7/16	4-15/32	1-11/32	1-3/16	2.56
872-040	4	4-7/16	3-1/2	7-1/2	5-1/2	15/16	1-1/4	3.34

Schedule 80 Tank Adapters

TANK ADAPTER GASKET SECTION	SIZE	O.D.*	I.D.*	T
	1/2	2.25	1.33	3/16
	3/4	2.49	1.69	3/16
	1	2.79	1.94	3/16
	1-1/4	3.81	2.39	3/16
	1-1/2	3.81	2.39	3/16
	2	4.89	3.51	3/16
	3	6.30	4.49	3/16
	4	7.33	5.50	3/16

Old Style Tank Adapter Gasket & Hole Size Requirements			
Tank Adapter Size	Recommended Minimum Hole Size	Minimum Inside Curvature Radius (inches)	Maximum Tank Wall Thickness (inches)
1/2	1-3/8	3.88	1.06
3/4	1-3/4	5.00	1.06
1	2	6.12	1.06
1-1/4	2-7/16	10.75	1.34
1-1/2	2-7/16	10.75	1.34
2	3-9/16	18.50	1.16
3	4-9/16	31.00	1.75
4	5-9/16	42.75	1.81
6	8	79.75	2.06



* Both outside and inside dimensions are +/- .03 shore hardness 65-70

Self-Aligning Tank Adapters

Swivel Ball design permits straight-pipe connections with up to a 27° angle off vertical pipe centerline in any direction. Aids installation in domed top tanks and provides easy adjustment to compensate for tank curvature in making system connections. The self-aligning tank adapter is not suitable for use on tank sidewalls or tank bottoms. Pressure rated to 75 psi @ 73°F (23°C)

Easy Installation

1. Locate and cut designated hole size in tank
2. Remove Nut and insert Self-Aligning Tank Adapter through hole from inside. Note: Body and Gasket must be on installed on the inside of tank.
3. Tighten Nut (clockwise) while holding body from inside tank.
4. Install threaded pipe into ball.
5. Position angular offset as desired and tighten lock ring (clockwise) against ball.

Self Aligning Tank Adapter Installation Requirements			
Tank Adapter Size	Minimum Hole Size	Minimum Tank Inside Curvature-Radius (in.)	Maximum Tank Wall Thickness
1	3-3/8	18.5	1-5/16
2	4-5/8	32.5	1-5/16
3	5-1/2	43.5	1-11/16

Nut Wrenches

While not required for installation, Self-Aligning Tank Adapters can use certain nut wrenches produced for use on Spears® regular Tank Adapters (New Style). While designated wrench sizes do not directly correspond, the following chart shows specific regular Tank Adapter Nut Wrench to use with each Self-Aligning size. Body wrenches are not currently available.

Self-Aligning Tank Adapter Size	Regular Tank Adapter Nut Wrench to Use	
	Part Number	Comment
1”	TAW2-020	Regular 2” wrench fits Self-Aligning 1” nut
2”	TAW2-030	Regular 3” wrench fits Self-Aligning 2” nut
3”	TAW2-040	Regular 4” wrench Self-Aligning 3” nut

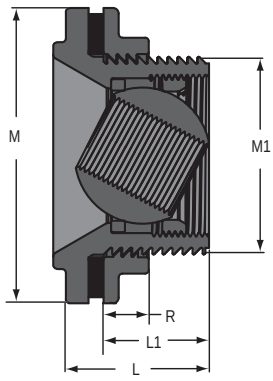
Suitable for Oil-Free air handling to 25 psi, not for distribution of compressed air or gas
Spears® Manufacturing Company
Due to Material Cost Variations, Prices Subject to Change. Check On-line Catalog @ www.spearsmfg.com

SELF ALIGNING TANK ADAPTER

Fipt

Dimensions Also Applicable to 8172ESA-XXX & 8172VSA-XXX

75 psi @ 73°F

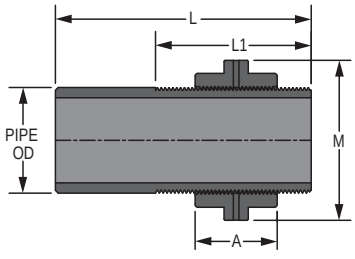


Part Number	Size	L	L1	M	M1	R	Approx. Wt. (Lbs.)
8172SA-010	1	2-9/16	1-3/4	4-7/8	3-1/4	3/4	1.11
8172SA-020	2	2-11/16	1-3/4	6	4-9/16	1	1.99
8172SA-030	3	3-1/4	2-1/4	7-1/2	5-1/2	1-1/4	2.61

TANK ADAPTER

Spigot

75 psi @ 73°F



Part Number	Size	A	L	L1	M	Approx. Wt. (Lbs.)
8173E-005	1/2	1-3/16	3	1-3/4	1-1/2	.11
8173E-007	3/4	1-1/4	3	2	1-11/16	.14
8173E-010	1	1-3/8	4-1/16	2-3/8	2-3/16	.29
8173E-015	1-1/2	1-5/8	5-1/16	3-1/8	2-7/8	.59
8173E-020	2	1-7/8	5-3/4	3-1/2	3-5/8	.90

Size	A-MAX	Minimum Inside Curvature Radius (inches)	Hole Saw Size
1/2	9/16	4-1/2	7/8
3/4	3/4	6	1-1/16
1	1	9-1/2	1-3/8
1-1/2	101/2	16	2
2	1-5/8	26	2-1/2