

Tuffy Series

Diaphragm Packless Line Valves

All diaphragm packless valves contain metal diaphragms and backseat metal-to-metal when the valve is fully open. Controlled stem travel assures lifetime diaphragm performance. Balanced bearing surfaces and polished stem heads eliminate wear and assure smooth, easy operation. Flow is unrestricted. All OD solder connections for valves $\frac{5}{8}$ " and smaller are machined to an outside diameter

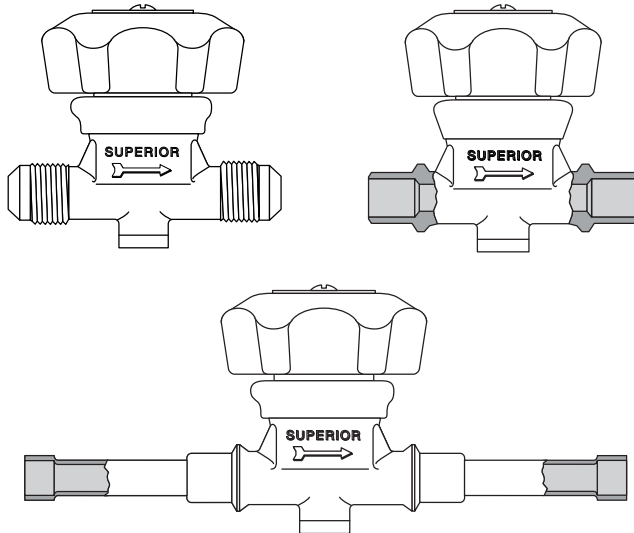
equivalent to the next largest standard size of tubing. Because of their unique construction, Superior diaphragm packless valves can be soldered into the line without disassembly. "Comfortgrip" nylon handwheels are furnished on all types of valves.

All Tuffy Series Line Valves are designed to be installed in the direction of the flow arrow.

Vacuum Applications

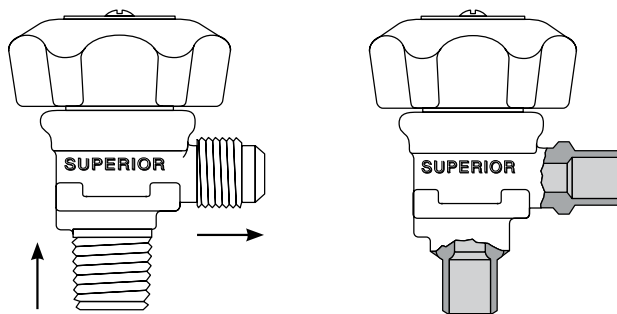
All Superior packless valves are excellent for vacuum service down to 200 microns.

Tuffy Straight-Thru Valves



Part Number	IBCA Number	Size (Inches)		Weight (lbs.)	
		Inlet	Outlet		
Tuffy Standard		SAE	x	SAE	
214-4	56381	$\frac{1}{4}$		$\frac{1}{4}$	0.50
214-6	56384	$\frac{3}{8}$		$\frac{3}{8}$	0.50
215-8	56400	$\frac{1}{2}$		$\frac{1}{2}$	1.00
216-10	56409	$\frac{5}{8}$		$\frac{5}{8}$	1.00
Tuffy Standard		ODS	x	ODS	
214-4S	56382	$\frac{1}{4}$		$\frac{1}{4}$	0.50
214-6S	56385	$\frac{3}{8}$		$\frac{3}{8}$	0.50
215-8S	56401	$\frac{1}{2}$		$\frac{1}{2}$	1.00
216-10S	56410	$\frac{5}{8}$		$\frac{5}{8}$	1.00
Tuffy w/Tube Exts.		ODS	x	ODS	
214-4ST	56383	$\frac{1}{4}$		$\frac{1}{4}$	0.75
214-6ST	56387	$\frac{3}{8}$		$\frac{3}{8}$	0.75
215-8ST	56402	$\frac{1}{2}$		$\frac{1}{2}$	1.25
216-10ST	56411	$\frac{5}{8}$		$\frac{5}{8}$	1.25

Tuffy Angle Valves



One directional flow

Part Number	IBCA Number	Size (Inches)		Weight (lbs.)	
		Inlet	Outlet		
Tuffy Angle		NPT	x	SAE	
114-4B	55906	$\frac{1}{4}$		$\frac{1}{4}$	0.50
114-6B	55909	$\frac{1}{4}$		$\frac{3}{8}$	0.50
Tuffy Angle-Solder		ODS	x	ODS	
114-6S	55911	$\frac{3}{8}$		$\frac{3}{8}$	0.50
115-8S	55923	$\frac{1}{2}$		$\frac{1}{2}$	1.00

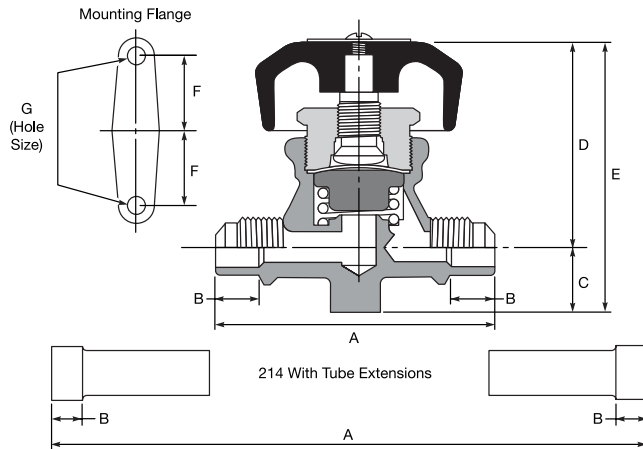
Tuffy Series Line Valves

Tuffy Series

Diaphragm Packless Line Valves

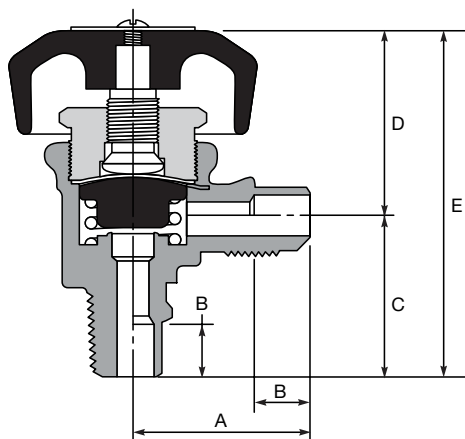
- Working pressure: 700 PSIG.
- Body construction: forged brass.
- Seat material: nylon.
- Diaphragm construction: stainless steel.
- Maximum temperature: 275° F.
- Minimum temperature: -40° F.
- UL® and cUL Listed, File No. SA3462(N).
- Valves may be installed without disassembly. Wrap body with damp cloth or other suitable heat sinking material during soldering.
- For use with CO₂, CFC, HFC and HCFC refrigerants listed in CAN/CSA B52 and ANSI/ASHRAE 15 Section 9.2.
- For gases and liquids not listed, please consult factory.
- Spare Parts List on pp. 36-37.

Tuffy Charging Valves



Part Number	Dimensions (Inches)							C _v
	A	B	C	D	E	F	G	
214-4	2 ³ / ₄	—	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2 ¹ / ₂	3 ¹ / ₄	0.199	N/A
214-6	2 ³ / ₄	—	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2 ¹ / ₂	3 ¹ / ₄	0.199	0.882
215-8	3 ³ / ₈	—	1 ³ / ₁₆	2 ⁹ / ₁₆	3 ³ / ₈	7 ¹ / ₈	0.199	1.788
216-10	3 ³ / ₈	—	1 ³ / ₁₆	2 ⁹ / ₁₆	3 ³ / ₈	7 ¹ / ₈	0.199	2.828
214-4S	2 ³ / ₄	5 ¹ / ₁₆	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2 ¹ / ₂	3 ¹ / ₄	0.199	N/A
214-6S	2 ³ / ₄	7 ¹ / ₁₆	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2 ¹ / ₂	3 ¹ / ₄	0.199	0.882
215-8S	3 ³ / ₈	9 ¹ / ₁₆	1 ³ / ₁₆	2 ⁹ / ₁₆	3 ³ / ₈	7 ¹ / ₈	0.199	1.788
216-10S	3 ³ / ₈	2 ¹ / ₃₂	1 ³ / ₁₆	2 ⁹ / ₁₆	3 ³ / ₈	7 ¹ / ₈	0.199	2.828
214-4ST	6	5 ¹ / ₁₆	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2 ¹ / ₂	3 ¹ / ₄	0.199	N/A
214-6ST	5 ¹ / ₈	7 ¹ / ₁₆	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2 ¹ / ₂	3 ¹ / ₄	0.199	0.882
215-8ST	6 ¹ / ₁₆	9 ¹ / ₁₆	1 ³ / ₁₆	2 ⁹ / ₁₆	3 ³ / ₈	7 ¹ / ₈	0.199	1.788
216-10ST	7 ¹ / ₁₆	2 ¹ / ₃₂	1 ³ / ₁₆	2 ⁹ / ₁₆	3 ³ / ₈	7 ¹ / ₈	0.199	2.828

Tuffy Angle Valves



Part Number	Dimensions (Inches)							C _v
	A	B	C	D	E	F	G	
114-4B	1 ¹³ / ₃₂	—	1 ¹ / ₄	1 ¹¹ / ₃₂	2 ²⁵ / ₃₂	—	—	N/A
114-6B	1 ¹³ / ₃₂	—	1 ¹ / ₄	1 ¹¹ / ₃₂	2 ²⁵ / ₃₂	—	—	0.450
114-6S	1 ¹³ / ₃₂	7 ¹ / ₁₆	1 ¹ / ₄	1 ¹¹ / ₃₂	2 ²⁵ / ₃₂	—	—	0.450
115-8S	1 ¹³ / ₁₆	9 ¹ / ₁₆	1 ³ / ₈	2	3 ³ / ₈	—	—	2.542

Tuffy Series

Diaphragm Packless Line Valves

Tuffy X2 Line Valve with “Sealzall” Moisture Seal

“Sealzall” positive moisture seal prevents condensation from seeping down between the valve stem and bonnet, and eliminates valve “freeze-up.” Made of resilient Teflon®, the “Sealzall” moisture barrier is firmly sealed into the valve bonnet. It will not turn with the valve bonnet. It will not turn with the opening and closing of the valve, and will remain in position to provide a permanent moisture barrier.

Tuffy X7 Charging Valve

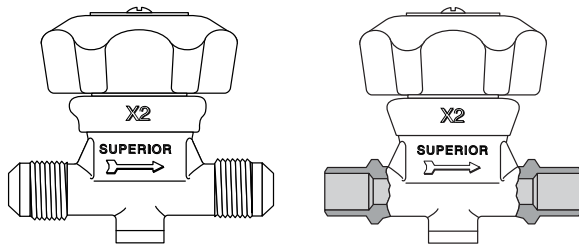
Same features of the standard Tuffy line but with brass housing on lower stem.

Tuffy Purge and Drain Valve

All the features of the standard Tuffy line. The flare cap and chain enable easy serviceability.

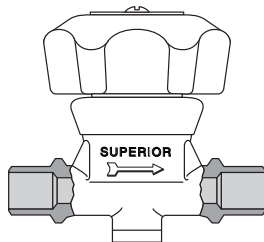
Teflon is a registered trademark of Dupont.

Tuffy X2 Line Valve with “Sealzall” Moisture Seal



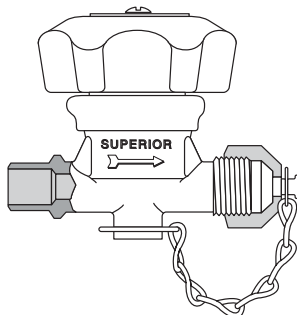
Part Number	IBCA Number	Size (Inches)			Weight (lbs.)
		Inlet	x	Outlet	
214X2-4	56389	SAE		SAE	0.50
214X2-4S	56390	1/4		1/4	0.50
214X2-6S	56392	3/8		3/8	0.50

Tuffy Charging Valves



Part Number	IBCA Number	Size (Inches)			Weight (lbs.)
		Inlet	x	Outlet	
Tuffy Charging Valves		ODS		ODS	
214X7-4S	56396	1/4		1/4	0.50
216X7-10S	56416	3/8		3/8	0.50

Tuffy Purge and Drain Valves



Part Number	IBCA Number	Size (Inches)			Weight (lbs.)
		Inlet	x	Outlet	
Tuffy Purge and Drain		ODS		SAE	
234A-4	56438	1/4		1/4	0.50
234A-6	56439	3/8		3/8	0.50

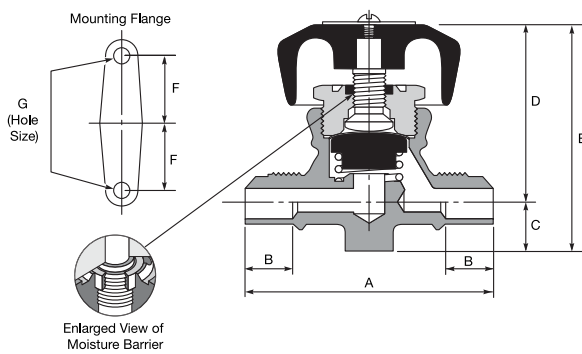
Tuffy Series Line Valves

Tuffy Series

Diaphragm Packless Line Valves

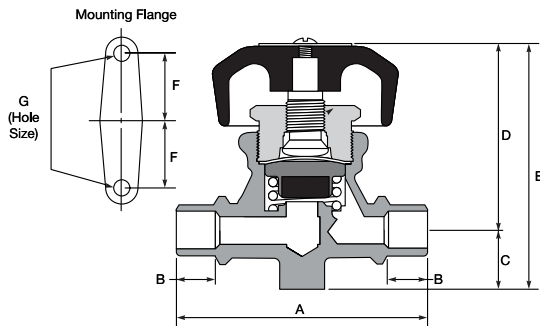
- Working pressure: 700 PSIG.
- Body construction: forged brass.
- Diaphragm construction: stainless steel.
- Maximum temperature: 275° F.
- Minimum temperature: -40° F.
- UL® and cUL Listed, File No. SA3462(N).
- Valves may be installed without disassembly. Wrap body with damp cloth or other suitable heat sinking material during soldering.
- For use with CO₂, CFC, HFC and HCFC refrigerants listed in CAN/CSA B52 and ANSI/ASHRAE 15 Section 9.2.
- Spare Parts List on pp. 36–37.

Tuffy X2 Line Valve with “Sealall” Moisture Seal



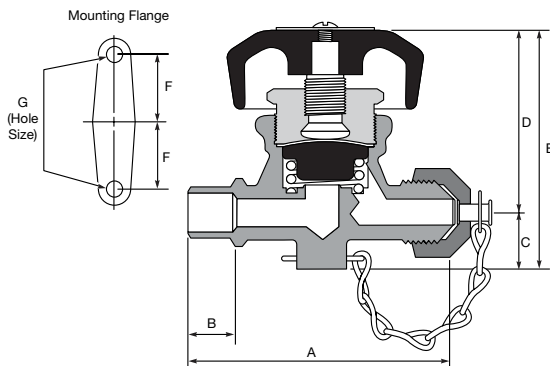
Part Number	Dimensions (Inches)							C _v
	A	B	C	D	E	F	G	
214X2-4	2¾	—	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2½	¾	0.199	N/A
214X2-4S	2¾	5/16	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2½	¾	0.199	N/A
214X2-6S	2¾	7/16	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2½	¾	0.199	0.882

Tuffy Charging Valves



Part Number	Dimensions (Inches)							C _v
	A	B	C	D	E	F	G	
ODS x ODS								
214X7-4S	2¾	5/16	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2½	¾	0.199	N/A
216X7-10S	3¾	11/16	1 ³ / ₁₆	2 ⁷ / ₁₆	3¾	7/8	0.199	2.828

Tuffy Purge and Drain Valves



Part Number	Dimensions (Inches)							C _v
	A	B	C	D	E	F	G	
234A-4	2¾	5/16	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2½	¾	0.199	N/A
234A-6	2¾	7/16	1 ⁹ / ₃₂	1 ²⁹ / ₃₂	2½	¾	0.199	0.882