

Pressure Vessels and Reactors

Series "R" Reactors O-Ring Closure

The Series "R" O-ring Closure Reactors are easily assembled and disassembled with minimal torque required for complete engagement.

Material of construction for standard models is Type 4340 alloy steel (or equivalent) properly heat treated for use at elevated pressures. (Some models can be provided in stainless steel construction at reduced pressures — consult factory).

Sealing is accomplished by a highly reliable combination of O-ring and separate metal back-up ring. The wedge shaped back-up ring is designed to expand and contract as pressure increases or decreases. Consequently, the O-ring is continuously confined with no clearance for extrusion. Minimal initial torque is required to effect a positive seal.

Temperature on these vessels must be restricted to 250°F maximum, due to the BUNA-N (nitrile) O-ring. Included with each vessel is a Tony Bar for removal of the cover nut and necessary eye bolt holes for lifting of the body and components. Outer surfaces are blackened to prevent rusting.

Vent holes are provided to prevent pressure build up behind the closure in the event of a worn or damaged seal.

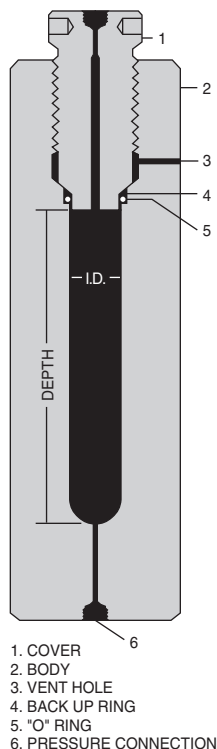
Connections include a top and bottom high pressure coned and threaded 1/4" O.D. (HF4) tubing connection. Other sizes or locations for connections can easily be provided when preferred. Consult factory.

Closures are designed in one-piece (cover) for vessels up to 2" I.D. and two-piece (cover and main nut) for vessels larger than 2" I.D.



One Piece Cover

Two Piece Cover

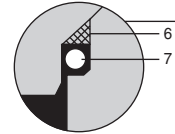
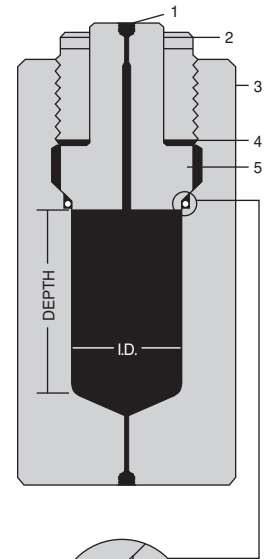


O-Ring Closure Reactors (one piece cover)

I.D.	O.D.	Pressure Rating psi	Material	Inside Depth					
				6"	10"	12"	16"	20"	24"
1"	3 7/8"	30,000	4340 Alloy Steel or equivalent	R1-6-30	R1-10-30	R1-12-30	R1-16-30		
	3 1/2"	40,000		R1-6-40	R1-10-40	R1-12-40	R1-16-40		
	4 1/4"	60,000		R1-6-60	R1-10-60	R1-12-60	R1-16-60		
	5 1/2"	100,000		R1-6-100	R1-10-100	R1-12-100	R1-16-100		
	6 3/4"	150,000		R1-6-150	R1-10-150	R1-12-150	R1-16-150		
1 1/2"	3 5/8"	20,000	4340 Alloy Steel or equivalent	R1.5-6-20	R1.5-10-20	R1.5-12-20	R1.5-16-20		
	4 1/8"	30,000		R1.5-6-30	R1.5-10-30	R1.5-12-30	R1.5-16-30		
	4 3/4"	40,000		R1.5-6-40	R1.5-10-40	R1.5-12-40	R1.5-16-40		
	6 1/2"	60,000		R1.5-6-60	R1.5-10-60	R1.5-12-60	R1.5-16-60		
	8"	100,000		R1.5-6-100	R1.5-10-100	R1.5-12-100	R1.5-16-100		
	10 1/2"	150,000	R1.5-6-150	R1.5-10-150	R1.5-12-150	R1.5-16-150			
2"	4 1/4"	20,000	4340 Alloy Steel or equivalent	R2-6-20	R2-10-20	R2-12-20	R2-16-20	R2-20-20	R2-24-20
	5"	30,000		R2-6-30	R2-10-30	R2-12-30	R2-16-30	R2-20-30	R2-24-30
	6 1/2"	40,000		R2-6-40	R2-10-40	R2-12-40	R2-16-40	R2-20-40	R2-24-40
	8 1/2"	60,000		R2-6-60	R2-10-60	R2-12-60	R2-16-60	R2-20-60	R2-24-60
	12"	100,000		R2-6-100	R2-10-100	R2-12-100	R2-16-100	R2-20-100	R2-24-100

O-Ring Closure Reactors (two piece cover)

I.D.	O.D.	Pressure Rating psi	Material	Inside Depth					
				6"	10"	12"	16"	20"	24"
3"	6"	20,000	4340 Alloy Steel or equivalent	R3-6-20	R3-10-20	R3-12-20	R3-16-20	R3-20-20	R3-24-20
	7"	30,000		R3-6-30	R3-10-30	R3-12-30	R3-16-30	R3-20-30	R3-24-30
	8 ^{1/2} "	40,000		R3-6-40	R3-10-40	R3-12-40	R3-16-40	R3-20-40	R3-24-40
	11 ^{1/2} "	60,000		R3-6-60	R3-10-60	R3-12-60	R3-16-60	R3-20-60	R3-24-60
	15"	100,000		R3-6-100	R3-10-100	R3-12-100	R3-16-100	R3-20-100	R3-24-100
4"	8"	20,000		R4-6-20	R4-10-20	R4-12-20	R4-16-20	R4-20-20	R4-24-20
	9 ^{1/4} "	30,000		R4-6-30	R4-10-30	R4-12-30	R4-16-30	R4-20-30	R4-24-30
	11"	40,000		R4-6-40	R4-10-40	R4-12-40	R4-16-40	R4-20-40	R4-24-40
	13"	50,000		R4-6-50	R4-10-50	R4-12-50	R4-16-50	R4-20-50	R4-24-50
	15"	60,000		R4-6-60	R4-10-60	R4-12-60	R4-16-60	R4-20-60	R4-24-60
5"	9 ^{1/4} "	20,000		R5-6-20	R5-10-20	R5-12-20	R5-16-20	R5-20-20	R5-24-20
	11 ^{1/4} "	30,000		R5-6-30	R5-10-30	R5-12-30	R5-16-30	R5-20-30	R5-24-30
	13 ^{1/4} "	40,000		R5-6-40	R5-10-40	R5-12-40	R5-16-40	R5-20-40	R5-24-40
	15 ^{1/4} "	50,000		R5-6-50	R5-10-50	R5-12-50	R5-16-50	R5-20-50	R5-24-50
	6"	9 ^{1/2} "		10,000	R6-6-10	R6-10-10	R6-12-10	R6-16-10	R6-20-10
11 ^{1/2} "		20,000		R6-6-20	R6-10-20	R6-12-20	R6-16-20	R6-20-20	R6-24-20
13 ^{1/4} "		30,000		R6-6-30	R6-10-30	R6-12-30	R6-16-30	R6-20-30	R6-24-30
15"		40,000		R6-6-40	R6-10-40	R6-12-40	R6-16-40	R6-20-40	R6-24-40
7"		10 ^{3/4} "		10,000	R7-6-10	R7-10-10	R7-12-10	R7-16-10	R7-20-10
	13"	20,000		R7-6-20	R7-10-20	R7-12-20	R7-16-20	R7-20-20	
	15 ^{1/4} "	30,000		R7-6-30	R7-10-30	R7-12-30	R7-16-30	R7-20-30	
8"	12 ^{1/2} "	10,000		R8-6-10	R8-10-10	R8-12-10	R8-16-10	R8-20-10	
	14 ^{1/4} "	20,000		R8-6-20	R8-10-20	R8-12-20	R8-16-20	R8-20-20	
9"	13"	10,000		R9-6-10	R9-10-10	R9-12-10	R9-16-10	R9-20-10	
10"	14 ^{3/4} "	10,000		R10-6-10	R10-10-10	R10-12-10	R10-16-10	R10-20-10	



SEALING DETAIL

- 1. PRESSURE CONNECTION
- 2. MAIN UNIT NUT
- 3. BODY
- 4. VENT HOLE
- 5. COVER
- 6. BACK UP RING
- 7. "O" RING