

FORM U-DR-2 USER'S DESIGN REQUIREMENTS FOR MULTI-CHAMBER PRESSURE VESSELS

Owner:		Operator:		Country of Installation:		State/Province of Installation:		City of Installation:									
Service:			Liquid Level: Chamber 1 _____ Chamber 2 _____ Specific Gravity: Chamber 1 _____ Chamber 2 _____				Item No.: _____										
Diameter:			Shell Length, Tangent-to-Tangent:				Type: Jacket <input type="checkbox"/> Internal Coil <input type="checkbox"/> Shell and Tube <input type="checkbox"/>										
National Board Registration Required: Yes <input type="checkbox"/> No <input type="checkbox"/>		Canadian Registration Required: Yes <input type="checkbox"/> No <input type="checkbox"/>		Special Service: Lethal (L) <input type="checkbox"/> Direct Firing (DF) <input type="checkbox"/> Unfired Steam Boiler (UB) <input type="checkbox"/>			Overpressure Protection: Valve <input type="checkbox"/> Rupture Disk <input type="checkbox"/> Other <input type="checkbox"/> System Design <input type="checkbox"/>										
OPERATING CONDITIONS:			Minimum Pressure		Maximum Pressure		Minimum Temperature		Maximum Temperature								
Chamber 1 – Case 1																	
Chamber 2 – Case 1																	
Chamber 1 – Case 2																	
Chamber 2 – Case 2																	
DESIGN CONDITIONS:			Chamber 1				Chamber 2										
Internal Design Pressure:			@				@										
External Design Pressure:			@				@										
MAWP Internal:			Same as Design Pressure: <input type="checkbox"/>		Calculated by Manufacturer: <input type="checkbox"/>		Same as Design Pressure: <input type="checkbox"/>		Calculated by Manufacturer: <input type="checkbox"/>								
MAWP External:			Same as Design Pressure: <input type="checkbox"/>		Calculated by Manufacturer: <input type="checkbox"/>		Same as Design Pressure: <input type="checkbox"/>		Calculated by Manufacturer: <input type="checkbox"/>								
Minimum Design Metal Temperature (MDMT) – Case 1			@				Due to: Process <input type="checkbox"/> Other <input type="checkbox"/> Ambient Temperature <input type="checkbox"/>										
Minimum Design Metal Temperature (MDMT) – Case 2			@				Due to: Process <input type="checkbox"/> Other <input type="checkbox"/> Ambient Temperature <input type="checkbox"/>										
Corrosion Allowance:		Shell		Heads		Nozzles		Jacket		Coil		Supports		Tubesheet		Tubes	
Corrosive Service?		Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	SS	TS	Int.	Ext.
Yes <input type="checkbox"/> No <input type="checkbox"/>																	
Cyclic Service: Yes <input type="checkbox"/> No <input type="checkbox"/>			_____ Cycles per _____				Design Life _____ years		Fatigue Analysis? Yes <input type="checkbox"/> No <input type="checkbox"/>								
Wind Loading: ASCE 7 <input type="checkbox"/>		Wind Speed		Classification Category		Exposure Category		Topographic Factor		Elevation							
UBC <input type="checkbox"/> IBC <input type="checkbox"/> Other <input type="checkbox"/> None <input type="checkbox"/>																	
Seismic Loading: ASCE 7 <input type="checkbox"/>		Soil Profile Classification:			PWHT: Per Code <input type="checkbox"/> Process Required <input type="checkbox"/>		Other Loadings per UG-22: Temp. Gradients <input type="checkbox"/> Deflagration <input type="checkbox"/> Diff. Thermal Exp. <input type="checkbox"/>										
UBC <input type="checkbox"/> IBC <input type="checkbox"/> Other <input type="checkbox"/> None <input type="checkbox"/>																	
Insulated: Yes <input type="checkbox"/> No <input type="checkbox"/>		Type: _____ Thickness _____			Density _____		Coating Specification: _____ Permitted Prior to Pressure Test Yes <input type="checkbox"/> No <input type="checkbox"/>										
By Manufacturer <input type="checkbox"/> By Others <input type="checkbox"/>		Chamber 1 _____ Chamber 2 _____															
Vessel Support: Legs <input type="checkbox"/> Skirt <input type="checkbox"/> Lugs <input type="checkbox"/> Saddles <input type="checkbox"/>						Fireproofing: Yes <input type="checkbox"/> No <input type="checkbox"/>		Type: _____		Rating (hr): _____							
MATERIALS																	
Component		Specification				Component		Specification									
Shell						Ellipsoidal Head											
Hemispherical Head						Torispherical Head											
Toriconical Head						Conical Head											
Nozzles						Flanges											
Stiffener Rings						Pressure Retaining Bolts											
Attachments						Internals											
Reinforcing Pads						Coil											
Jacket						Tubes											
Tubesheet						Other _____											
NOZZLE SCHEDULE																	
Description		Number Required	Size	Flange Type	Class	Description		Number Required	Size	Flange Type	Class						

FORM U-DR-2 (Back)

WELDED PRESSURE JOINT REQUIREMENTS				
DESIGN BASIS:	SHELL AND CONE THICKNESS BASED ON: JOINT EFFICIENCY $E =$ _____		DISHED HEAD THICKNESS BASED ON: JOINT EFFICIENCY $E =$ _____	
JOINT LOCATION UW-3		TYPE OF JOINT (Use Types as Described in UW-12)		NDE WITH COMMENTS
Category A				
Category B	Head-to-Shell			
	Other			
Category C	Body Flanges			
	Nozzle Flanges			
	Tubesheets			
Category D				
BODY FLANGE REQUIREMENTS				
Description	Type	Facing/Surface Finish	Gasket Style	Joint Assembly (See ASME PCC-1)
SKETCH				
GENERAL NOTES				
CERTIFICATION				
We certify that the statements made in this form are accurate and represent all details of design as per the user or his designated agent [see U-2(a), Footnote 4]				
Date: _____			Registration Seal (Optional)	
User: _____				
Signed: _____ (Representative)				
Registration Identification: _____ (Optional)				