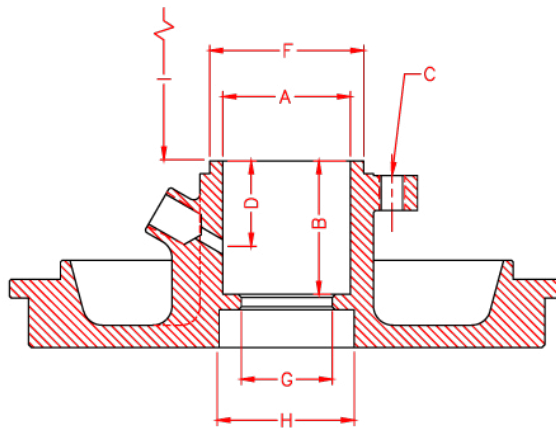


When mechanical seals were first developed, most pump shafts were sealed with packing, so the mechanical seal designs were required to fit into a packing stuffing box. However, over the years, pump users and manufacturers came to realize that the tight confines of a stuffing box did not allow enough liquid circulation around the mechanical seal to remove sufficient heat and/or to keep solids in the pumped liquid away from the seal faces, to achieve desired seal life. This led to the development of “seal chambers” that provide more space around the mechanical seal, which promotes circulation to expel solids and air/vapors from around the mechanical seal faces, and reduce seal face temperatures, thus increasing MTBR.

The major goal of seal chamber design is to provide an environment that allows seal faces to run cooler and with greater stability. Select the proper environmental control to insure maximum mechanical seal life.

Standard Bore

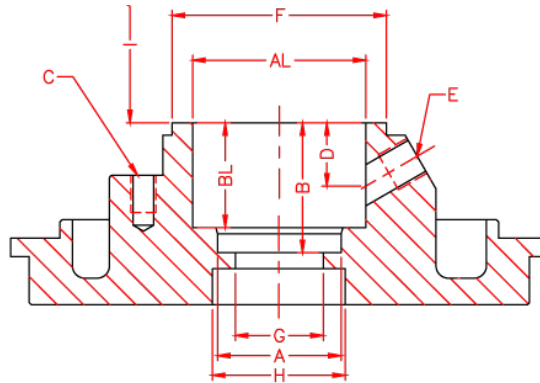
The standard bore stuffing box is the lowest cost design. Originally designed for mechanical packing. Also accommodates mechanical seals.



PUMP FRAME	A	B	C		D	E	F	G	H	I
			B.C.	TAP						OBSTRUCTION
STO	2.00	2.13	3.25	3/8-16 UNC	0.97	1/4-18 NPT	2.39	1.40	N/A	2.18
MTO	2.50	2.61	4.13	1/2-13 UNC	1.56	3/8-18 NPT	3.02	1.78	2.65	3.00
LTO	2.88	2.63	4.50	1/2-13 UNC	1.56	3/8-18 NPT	3.52	2.15	2.63	3.00
XLO	3.38	3.00	5.38	5/8-11 UNC	1.75	3/8-18 NPT	4.37	2.53	3.38	2.90
XLO-17	3.63	3.00	5.38	5/8-11 UNC	1.63	1/4-18 NPT	4.38	2.78	3.50	2.90

Large Bore

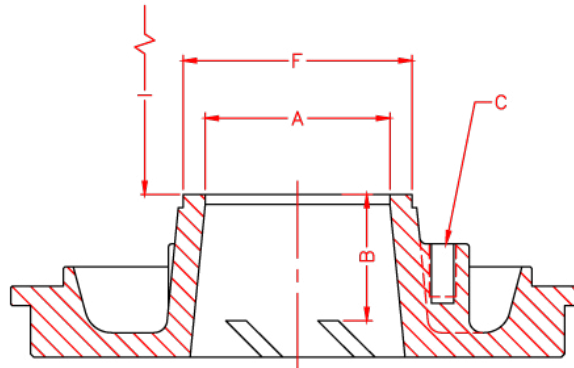
Designed for mechanical seals. Enlarged area around the mechanical seal which promotes cooling and seal face lubrication.



PUMP FRAME	A	AL	B	BL	C		D	E	F	G	H	I OBSTRUCTION
					B.C.	TAP						
STO	2.00	2.86	2.13	1.69	4.50	3/8-16 UNC	0.88	1/4-18 NPT	3.60	1.40	N/A	2.18
MTO	2.50	3.50	2.61	2.12	5.50	1/2-13 UNC	1.28	1/2-14 NPT	4.34	1.78	2.69	3.00
LTO	2.88	3.88	2.63	2.06	6.00	5/8-11 UNC	1.38	3/8-18 NPT	4.71	2.16	2.77	3.00
XLO	3.38	4.75	3.00	2.50	6.75	5/8-11 UNC	1.38	3/8-18 NPT	5.45	2.53	3.38	2.90
XLO-17	3.63	4.75	3.00	2.45	6.75	5/8-11 UNC	1.41	3/8-18 NPT	5.45	2.75	3.50	2.90

Taper Bore

Designed for mechanical seals. The larger area promotes lower seal face temperature's, and the taper allows for venting and draining of the chamber. Flow modifiers direct axial flow and keep solids suspended, minimizing seal erosion.



PUMP FRAME	A	B	C		F	I OBSTRUCTION
			B.C.	TAP		
STO	2.88	1.75	4.50	3/8-16 UNC	3.60	2.18
MTO	3.50	2.23	5.50	1/2-13 UNC	4.34	3.00
LTO	3.88	2.21	6.00	5/8-11 UNC	4.71	3.00
XLO	4.75	2.02	6.75	5/8-11 UNC	5.45	2.90
XLO-17	4.75	2.02	6.75	5/8-11 UNC	5.45	2.90

When mechanical seals were first developed, most pump shafts were sealed with packing, so the mechanical seal designs were required to fit into a packing stuffing box. However, over the years, pump users and manufacturers came to realize that the tight confines of a stuffing box did not allow enough liquid circulation around the mechanical seal to remove sufficient heat and/or to keep solids in the pumped liquid away from the seal faces, to achieve desired seal life. This led to the development of “seal chambers” that provide more space around the mechanical seal, which promotes circulation to expel solids and air/vapors from around the mechanical seal faces, and reduce seal face temperatures, thus increasing MTBR.

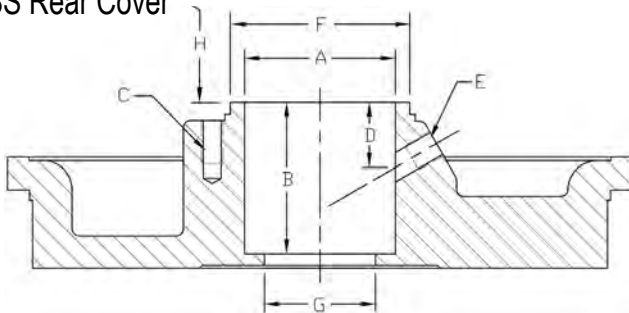
The major goal of seal chamber design is to provide an environment that allows seal faces to run cooler and with greater stability. Select the proper environmental control to insure maximum mechanical seal life.

Standard Bore Dimensions

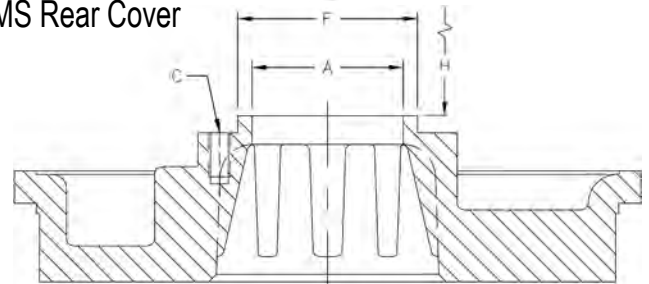
The standard bore stuffing box is the lowest cost design. Originally designed for mechanical packing. Also accommodates mechanical seals. The taper allows for venting and draining of the chamber. Flow modifiers direct axial flow and keep solids suspended.



CBS Rear Cover



FMS Rear Cover



*Flow Modifier Standard (FMS) dimensions are same for corresponding CBS dimensions

PUMP FRAME	SIZE	*A	B	*C		D	E	*F	G	*H	PACKING (CBS ONLY)		LANTERN RING WIDTH
				B.C.	TAP						OBSTRUCTION	SIZE	
CLK3 GP1	6" & 8" CBS	2.13	2.19	3.25	3/8-16 UNC	1.13	1/4-18 NPT	2.62	1.44	2.19	3/8	5	7/16
CLK3 GP2	8" CBS	2.63	2.63	3.75	3/8-16 UNC	1.13	1/4-18 NPT	3.12	1.93	3.00	3/8	5	5/8
	10" CBS	2.63	2.63	3.75	3/8-16 UNC	1.13	1/4-18 NPT	3.12	1.93	3.00	3/8	5	5/8
	13" CBS	2.63	2.63	3.75	3/8-16 UNC	1.13	1/4-18 NPT	3.12	1.93	3.00	3/8	5	5/8
CLK3 GP3	14" CBS	3.63	3.25	5.50	1/2-13 UNC	1.00	1/4-18 NPT	4.25	2.68	3.82	1/2	5	3/4
	16" CBS	3.63	3.25	5.50	1/2-13 UNC	1.00	1/4-18 NPT	4.25	2.68	3.82	1/2	5	3/4

Large Bore Dimensions

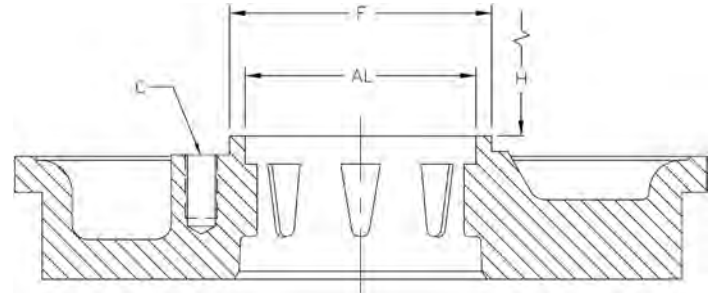
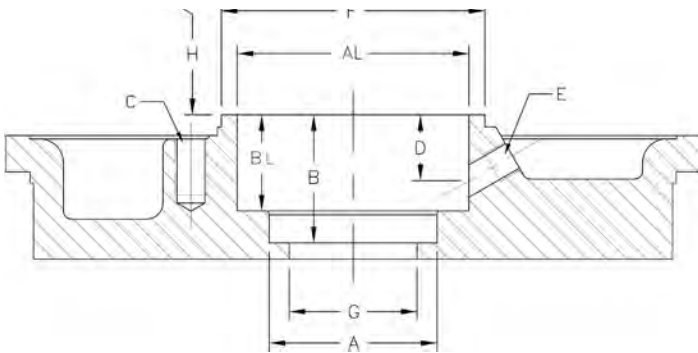
Designed for mechanical seals. Enlarged area around the mechanical seal promotes cooling and seal face lubrication. Flow modifiers direct axial flow and keep solids suspended, minimizing seal erosion.



CBL Rear Cover



FML Rear Cover



*Flow Modifier Large (FML) dimensions are same for corresponding CBL dimensions

PUMP FRAME	SIZE	A	*AL	B	BL	*C		D	E	*F	G	*H	PACKING		LANTERN RING WIDTH
						OBSTR.	SIZE					# OF RINGS			
CLK3 GP1	6" & 8" CBL	-	2.88	-	2.00	4.00	3/8-16 UNC	1.00	1/4-18 NPT	3.37	2.25	2.38	N/A	N/A	7/16
CLK3 GP2	8" CBL	2.63	3.63	2.00	1.50	5.00	1/2-13 UNC	1.04	1/4-18 NPT	4.12	2.00	3.62	N/A	N/A	5/8
	10" CBL	2.63	3.63	2.00	1.50	5.00	1/2-13 UNC	1.04	1/4-18 NPT	4.12	2.00	3.62	N/A	N/A	5/8
	13" CBL	2.63	3.63	2.00	1.50	5.00	1/2-13 UNC	1.04	1/4-18 NPT	4.12	2.00	3.62	N/A	N/A	5/8
CLK3 GP3	14" CBL	-	4.63	-	3.00	6.00	1/2-13 UNC	1.03	1/4-18 NPT	5.12	4.13	4.13	N/A	N/A	3/4
	16" CBL	-	4.63	-	3.00	6.00	1/2-13 UNC	1.03	1/4-18 NPT	5.12	4.13	4.13	N/A	N/A	3/4