



MODCO

CLOSURE SPECIALISTS SINCE 1981

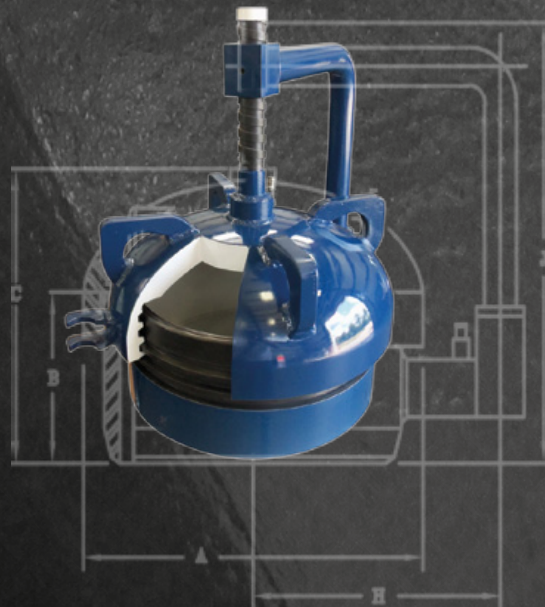




FIGURE 500™ THREADED CLOSURE



MODCO® QUICK OPENING CLOSURES

If you are looking for a safe, reliable Quick Opening Closure, consider the proven Modco® Figure 500™. Modco provides an easy accessible, cost-efficient closure for various vessel and pipeline applications such as pig traps and filter separators. By providing an exceptional quality product made of domestic material and manufactured in the USA, Modco has become a front runner in the closure industry worldwide.

The Figure 500™ Quick Opening Closures are available in sizes 2"- 48" ANSI Class 150 - 900. Modco® closures are classified in three basic family categories:

I Family I (2" ANSI 150 through 14" ANSI 900)

The material for these size closures consists of closed die forgings for both cap and hub with the exception of the 14" hub, which is a rolled ring forging. These closures are offered with several different options to accommodate the customer's request, including: Pressure Warning Device, Non-Hinged, Chain and Swivel, Center and Off-Center Drill and Tap.

II Family II (16" ANSI 150 through 24" ANSI 300)

The material for Family II closures consists of a rolled ring forging and a custom formed 2:1 elliptical head. The hinging is designed using quality components that assure efficient handling. Due to the hinge being centered, the closure door can be opened to either the left or right side.

III Family III (24" ANSI 600 through 48" ANSI 600)

The material for 24" ANSI 600 and up, consists of a rolled ring forging and a custom formed 2:1 elliptical head like the Family II size range. Family III closures have been engineered with specially designed components to accommodate the size and weight. These closures are manufactured in a way to make operation safe and easy.



MODCO® ACCESSORIES

I Closure Orientations

Modco® closures are available for horizontal, vertical or angle applications.

Horizontal closures are equipped with a hinge assembly. Hinge assemblies allow the cap to swivel to the right or left side once opened.

Vertical closures operate on a davit hinge. These threaded cap pins have the same thread pitch as the cap and hub thread.

Angled closure hinges vary by the specific incline or decline degree. Cap weights vary depending on size but are adjusted to factory specifications prior to shipment. Properly adjusted closures protect the cap from friction of the mating hub thread.

The Figure 500™ closure can be ordered with various options or combinations.

II Modco® Lug Wrench

Closure caps, Family I 2"-14", are designed with signature Modco® Lugs. The custom designed wrench fits the lugs for quick operation of the closure.

III Modco® Cat Tool

The Cat Tool is a specially designed tool for opening Family II and Family III closures. Two sizes are available, small and large. The small Cat Tool is required on closure sizes 16"-24" (Family II). The large Cat Tool will be needed on sizes 24"-48" (Family III).



SAFETY STARTS WITH QUALITY



DESIGN AND FEATURES

Safeguard Protection

Accident prevention is a primary concern of Modco®. As a standard option, Modco offers a Pressure Alert Valve (PAV) on our 6" and larger closures. The PAV complies with ASME standards and warns the operator of pressure behind the closure cap. When internal pressure is built up, it is virtually impossible to unscrew the cap due to thread contact. Optimally, if the cap was rotated in the slightest amount, the pressure energized o-ring relaxes. The trapped pressure emits around the threads. At this precise moment, thread engagement remains at least 95% preventing the cap from disengaging from the hub. The Acme threaded design rates Modco® closures a leader in safety.

Pressure Alert Valve (PAV)

Our PAV is positioned on the hub and attached by a short chain, not allowing the cap to be opened without removal of the PAV. This ensures no accumulated pressure is within the vessel. Even though the PAV is able to bleed down pressure, it is designed to act only as a safety feature for the operator. Required by ASME a PAV is mandatory on all closure sizes. A PAV will come standard on 6" and larger, but offered for 2" thru 4" as a purchased option.

Quality Assurance

With our focal point on manufacturing, the Quality Management System of Modco accesses our after-sales and supply-chain organizations, making every effort to increase customer satisfaction by actively improving our quality of service. Our customer feedback empowers the enhancement of our designs and processes through our manufacturing and engineering organizations and back to our suppliers. We oversee component quality by assessing our supplier quality performance in manufacturing and by performing detailed on-site evaluations of potential suppliers. More information at www.modcoind.com/quality-assurance.



CERTIFIED BY MODCO INDUSTRIES CONROE, TEXAS

MATERIAL AND TESTING

Code Compliance Materials

Standard materials used in closures are made to ASTM specifications and are types permitted under ASME Section VIII, Division 1, Boiler and Pressure Vessel Code. Closure hub material and all closed die forged caps 14" and smaller use SA 350 LF2-CL1. The standard material for Family II and III (16" and larger) caps is SA 516 Grade 70 normalized. All Figure 500™ closures are designed and proof tested in accordance with the requirements of ASME. Special grades of material can be made available upon request.

O-Ring Compounds and Durometers

In order to correctly select o-ring material, pressure, temperature and chemical environments need to be accurately accessed. The Nitrile (Buna-N) is the standard o-ring material. This material is a widely used o-ring elastomer having excellent resistance to petroleum products, compression set, tear and abrasion resistance. Temperature range for Buna-N is -40 to +250 degrees F. Viton o-ring material would be recommended for higher temperature ratings that exceed +250 degrees F. Alternate compounds and durometers are available for specified applications upon request.

ASME Code Stamped Closures

Modco® closures can be ASME Code Stamped when required. Code stamping verifies third party shop inspection of the closure and materials by an Authorized Inspector (A.I.). A U-2A Partial Data Report will be issued to purchaser upon completion by the A.I.

Manufacturer's Statement of Compliance

The Figure 500™ closures are manufactured in accordance with the applicable requirements of the code Section VIII Division I of the ASME Boiler and Pressure Vessel Code. This can be issued as an alternate when code stamp is not required.

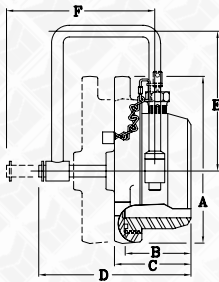


FIGURE 500™ DIMENSIONS

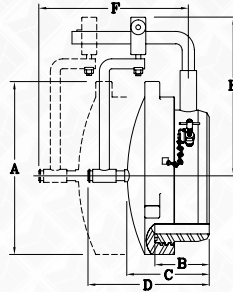
FAMILY I	SIZE	SERIES	A	B	C	D	E	F	G	H	J	ESTIMATED WTS (W/O HINGE)
	2"	150/900	5	3	3 1/2	NO HINGE						7
	3"	150/900	7	2 5/8	3 7/8	8 5/8	5 3/4	6 1/2	N/A	8 1/2	8 7/8	20
	4"	150/900	8	3 3/4	4 3/4	9 1/4	5 3/4	6 1/2	N/A	9 1/2	9 1/4	25
	6"	150/900	11 1/2	4 1/2	6	9	12 7/8	10 1/2	11	9 1/2	11	60
	8"	150/600	14	5	7	10	13 3/8	12 1/4	11 1/2	11 1/2	12	90
		900	13	5 1/2	7 1/2	9 1/2	13 3/8	12 1/2	11 1/2	11 1/2	12 1/2	125
	10"	150/600	17 1/4	5 1/2	7 1/4	10 7/8	18 1/2	13 1/4	14 1/2	11 1/2	13	140
		900	15	8	10	10 1/2	18 1/2	15 1/2	14 1/2	11 1/2	16 3/8	175
	12"	150/600	18 3/4	5 1/4	7 3/4	11 1/4	19	13 3/4	15	12 1/2	13 7/8	160
900		17	6	8 1/2	11 1/4	19	14 1/2	15	12 1/2	14 3/4	200	
14"	150/600	21 1/4	5 1/2	8	11 5/8	20	16	15 1/2	13	14	260	
	900	18 1/2	7	12	14 1/4	20	18 1/2	15 1/2	13	18 1/2	300	
FAMILY II	16"	150/600	20	9	13 5/8	25 3/8	22 3/4	35	26 1/4	15	26	450/500
		900	21	9	18 5/8	28 3/8	22 3/4	36	26 1/4	15	27 1/4	650
	18"	150/600	22 1/4	9	14 1/4	26	23 3/4	35	27 1/4	16 1/2	26 3/4	525/575
		900	23	9	18 1/8	27 7/8	23 3/4	36	27 1/4	16 1/2	29 1/2	820
	20"	150/600	24 1/2	9	15 1/8	26 7/8	34	41	25 1/4	18	27 5/8	640/780
		900	25 1/2	9	19 1/4	29 1/2	34	41	25 1/4	18	29 3/4	920
	22"	150/600	26 3/4	9	17 1/2	29 1/4	35	42 1/4	26 1/4	19	30	750/850
		900	28	12	21 7/8	31 5/8	35	42	26 1/4	19	30 1/2	1000
24"	150/300	28 1/2	12	18 3/4	28 1/4	36	41	27 1/4	20	30 1/2	900	
FAMILY III	24"	600	29 1/2	12	18 7/8	30 1/4	36	42	27 1/4	25	34 1/8	1380
		900	30	12	20 3/8	32 7/8	36	43	27 1/4	25	35 5/8	1550
	26"	150/600	32	12	17 1/8	28 5/8	39	41	29	28	32 1/2	1000/1600
		900	33	12	24	34 1/2	39	41	29	28	37	1675
	28"	150/600	31	9	22 3/8	32 7/8	40	41	30	29 1/4	35 1/2	1175/1700
		900	34	12	24 1/2	35	40	41	30	29 1/4	37 1/2	2000
	30"	150/300	33	9	22 7/8	34 3/8	41	41	31	30	36 1/4	1150
		600	35 1/2	12	25	34 3/4	41	43	31	30	36 1/4	1900
	32"	900	37	15	27	36 1/4	41	45	31	30	37	2450
		150/300	35 1/4	12	21 5/8	32	44	41	32	30 1/4	35 3/8	1300
	34"	600	37 3/4	15	20 1/2	36 1/4	44	44	34	30 1/4	36 3/4	2400
		900	39 1/2	15	26 1/2	39 1/4	46	45 1/2	36	30 1/4	37 1/2	2600
	36"	150/300	37 1/2	12	23 7/8	35 1/2	46	47 1/4	34	32	36 3/4	1450
		600	40 1/4	15	27	35 1/2	47	50	35	32	37 1/4	2600
	38"	900	41 1/4	15	28	40	47	51	36	32	38	3000
		150/300	39 1/2	15	25 3/8	37	47	46	35	37	36 3/8	1650
	40"	600	42 1/2	15	28 1/4	39 1/4	47	49	35	37	41 3/8	3150
		900	43 3/4	15	30	38 7/8	52	50 1/4	37	38 3/4	43 1/2	3500
	42"	150/300	41	15	27	38	56	48	38	38 3/4	41 1/2	1900
		600	43 3/4	15	27 3/8	39 3/4	56	50 3/4	39	38 3/4	42 5/8	3250
	44"	900	45 1/4	15	32	44 1/4	57	50 1/2	40	38 3/4	44 1/2	3800
		150/300	43 1/2	15	31 1/2	38 1/2	57	50	41	38 3/4	46 1/2	2100
	46"	600	46 1/2	15	34 1/2	40	57	53 1/2	43	39	52	3800
		150/300	45	15	32	39 3/4	58	55 1/4	42	39	42 3/4	2500
	48"	600	48 1/4	15	28 1/2	40 1/2	58	58 1/2	42	39	43 5/8	3900
		150/300	48 1/2	15	34	40 7/8	58	59 1/2	44	40	42 3/4	2900
	50"	600	51 1/2	15	37 1/2	42 1/4	59	62 1/4	45	40	44 5/8	4600
		150/300	51 1/2	15	36	42 1/2	59	62 3/4	44	40	42 3/4	3200
52"	600	53 1/2	15	39	43 3/4	60	64 3/4	45	42	44	5000	
	150/300	53 1/2	15	35 1/4	43 1/2	60	59 1/2	44	42	45 1/2	3700	
54"	600	55 1/2	15	37	41 1/2	61	61 1/2	45	42	48	5400	

All Dimensions for reference only. Dimension Drawings can be provided upon request. Because of continuous product improvement, Modco® reserves the right to change designs, materials, or specifications without notice.

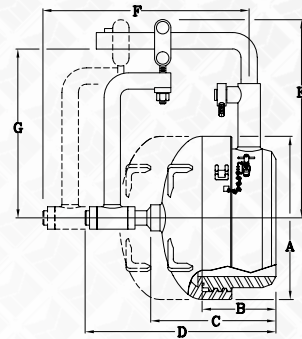
CUT SHEET DRAWINGS



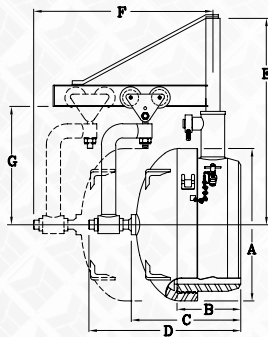
HORIZONTAL 2" THRU 4"



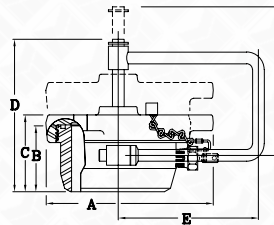
HORIZONTAL 6" THRU 14"



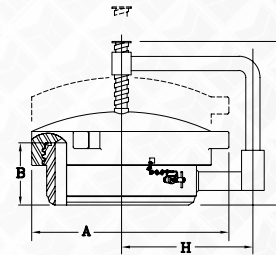
HORIZONTAL 16" THRU 24" 300



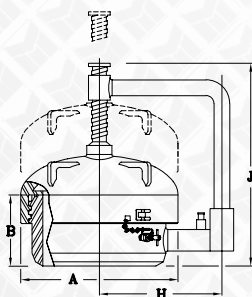
HORIZONTAL 24" 600 AND ABOVE



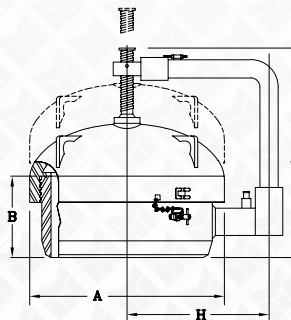
VERTICAL 2" THRU 4"



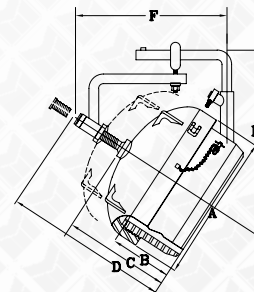
VERTICAL 6" THRU 14"



VERTICAL 16" THRU 24" 300



VERTICAL 24" 600 AND ABOVE



INCLINED HINGE

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