



PATTERSON SERVICES, INC.

BOP Information Sheet*

Cameron U BOP Double 13-5/8" 10K

Tubing

1" thru 4 1/2"

Drill Pipe

2 3/8" thru 5 1/2"

Heavy Weight

Drill Pipe

2 7/8" thru

6 5/8"

Drill Collars

2 7/8" thru 10"

Blow-Out

Preventers

Annular Type

2 9/16" 5M thru

29 1/2" 500 PSI

Hydraulic Ram

Type

Single and Double

3 1/16" 10M thru

21 3/4" 5M

Valves Manual &

Hydraulic

12" Ball Valves

2 1/16" 5M thru

4 1/16" 15M

1	BOP Serial #	P-
2	Type	Type "U" Double Ram BOP 13-5/8" 10K
3	Manufacturer	Cameron
4	Height	66.625" / 1.692 m
5	Weight (Standard)	18,400 lbs. / 8,346.100 kg
6	Weight (with LBT) (LBT ≤ 1,050 lbs each, 2,100 lbs per pair)	20,500 lbs. / 9,298.644 kg
7	Length (bonnets closed)	114.125" / 2.899 m
8	Length (bonnets opened)	172.750" / 4.388 m
9	Length (bonnets closed, LBT installed) (LBT ≤ 19.750" each, 39.50" per pair)	153.625" / 3.902 m
10	Length (bonnets opened, LBT installed) (LBT ≤ 19.750" each, 39.50" per pair)	212.250" / 5.391 m
11	Bonnet bolt torque (API lube)	14,500 ft.lbs. / 19,659 N'm
12	Bonnet bolt torque (Moly Lube)	7,500 ft.lbs. / 10,169 N'm
13	Bonnet bolt (impact socket size)	3-1/2" / 88.900 mm
14	Bonnet bolt (striking wrench size)	2-1/4" / 57.150 mm
15	Hydraulic operating pressure	1,500 PSI / 103.422 bar
16	Max hydraulic operating pressure	3,000 PSI / 206.844 bar
17	Open and close porting size	1" NPT
18	Open volume/Standard Bonnet per cavity	5.5 gal. / 20.820 liters
19	Close volume/Standard Bonnet per Cavity	5.8 gal. / 21.955 liters
20	Open volume (with LBT installed)	10.5 gal. / 39.747 liters
21	Close volume (with LBT installed)	17.5 gal. / 66.245 liters
22	Ram Change rod open faced wrench size	2-1/4" / 57.150 mm
23	(2) 13-5/8" 10K Flange-Bolt Diameter x Length	1-7/8" x 17-3/4" / 47.625 mm x 450.850 mm
24	Quantity	20 per flange
25	Bolt Torque	3,332 ft.lbs. / 4,517.526 N'm
26	(4) 4-1/16" 10K Flange Outlet-Bolt Diameter x Length	1-1/8" x 8-1/2" / 28.575 mm x 215.900 mm
27	Quantity	8 per flange
28	Bolt Torque	686 ft.lbs. / 930 N'm
29	Flange Gasket	BX-159
30	Outlet Gasket	BX-155

* Drawings and information contained herein are for general purposes and are for reference only. Dimensions may vary according to Manufacturer, Year Manufactured, Model or Type.

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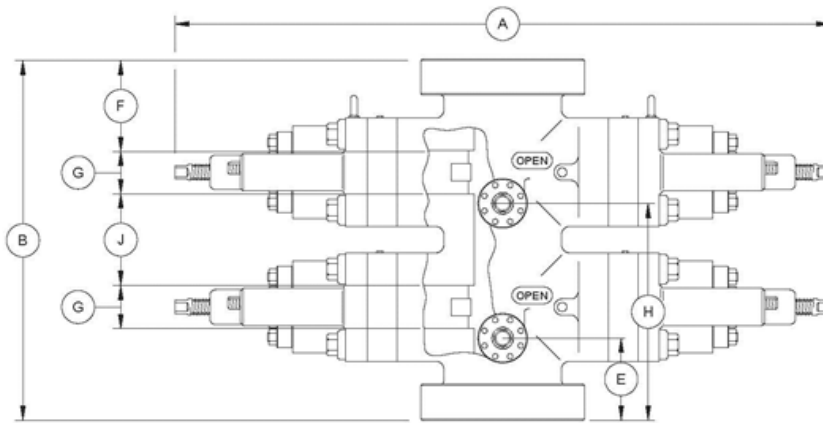
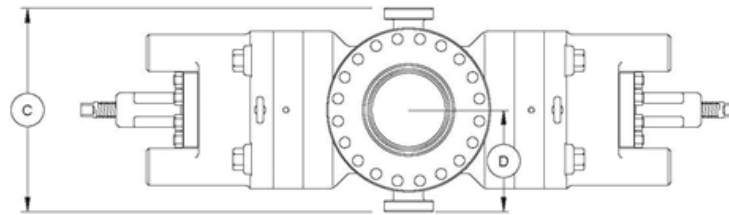
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SPECIFICATIONS

DIMENSIONAL DATA

Cameron U BOP Double 13-5/8" 10K

Size	Pressure rating (PSI)	Vertical Bore (inches)
13.625"	10,000	13.625"



Double U BOP

The capital letters in the following designations refer to the U BOP dimensional views and dimensional charts shown.

- A-1 Length - bonnets closed, locking screws locked
- A-2 Length - bonnets opened, locking screws unlocked .
- A-3 Length - bonnets closed, with wedgelocks
- A-4 Length - bonnets opened, with wedgelocks
- B-1 Height - flanged
- B-2 Height - clamp hubs
- C Width - no side outlets
- D Centerline of preventer to outlet flange or hub face. *This distance is variable and must be determined per individual specifications.*
- E-1 Centerline of side outlet below rams to bottom flange face
- E-2 Centerline of side outlet below rams to bottom hub face
- F-1 Top of upper ram to top flange face
- F-2 Top of upper ram to top hub face
- G Height of ram
- H-1 Centerline of side outlet between rams to bottom flange face
- H-2 Centerline of side outlet between rams to bottom hub face
- J Top of lower ram to bottom of upper ram

English Units (inches)

A-1	A-2	A-3	A-4	B-1	B-2	C	E-1	E-2	F-1	F-2	G	H-1	H-2	J	English Units (lb) Approx. Weight (lb)
114.125	172.750	124.688	167.312	66.625	57.750	30.250	15.125	10.688	17.094	12.656	7.500	40.062	35.625	17.438	18,400.00

Metric Units (m)

A-1	A-2	A-3	A-4	B-1	B-2	C	E-1	E-2	F-1	F-2	G	H-1	H-2	J	Metric Units (kg) Approx. Weight (kg)
2.899	4.388	3.167	4.250	1.692	1.467	768.350	384.175	271.475	434.188	321.462	190.500	1,017.575	904.875	442.925	8,346.10

Tubing

1" thru 4 1/2"

Drill Pipe

2 3/8" thru 5 1/2"

Heavy Weight Drill Pipe

2 7/8" thru 6 5/8"

Drill Collars

2 7/8" thru 10"

Blow-Out Preventers

Annular Type

2 9/16" 5M thru 29 1/2" 500 PSI

Hydraulic Ram Type

Single and Double

3 1/16" 10M thru 21 3/4" 5M

Valves Manual & Hydraulic

12" Ball Valves

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