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Valve	Α	В	C C	D	E	F	G	Н	J	K		М	N	Weight	
Size 2.5"	4.75	1.88	2.28	3.81	4.29	3.81	.63	.43	3.34	2.44	1.56	.38	N Threads UNC-2B 5/16-18	13	
3"	5.25	1.88	2.86	4.09	4.54	3.81	.63	.43	3.34	2.44	1.56	.38	5/16-18	15	
4"	6.75	2.03	3.72	4.71	5.41	3.81	.63	.43	3.34	2.44	1.56	.38	5/16-18	20	
Note: C dim is absolute minimum pipe ID at valve face (without gasket). H ACROSS FLATS N FK G 151617 19 9 5 9 AA D															
19 18		3 9 GA LOCAT	ASKET ING PL		1 1				D	7					
17			WASHE	:R	2										
16			NUT		2										
15 14		GLAND	STUD RETAII	NFR	<u>2</u> 1										
13			NETAII		1										
12			ND RIN		1										
11		PAC	(ING K	T	1										
10		THRUS	T WASI		1										
9			ARING		2										
8			SPACE		2										
7		RETAINE			6										
6			RETAIN		1							-			
5			ER PIN	>	2							1			
<u>4</u> 3			SEAT STEM		<u> </u>					-		1			
2			DISC		<u> </u> 1							+			
<u>Z</u>			BODA		<u> </u> 1							1			
ITEM	No.		IAME		No. REQUIF	, ,	SERIF	S/PAR1	- No	МАТ	ERIAL	SPFC	 :IFICATION/F	REMARKS	
					KEQUIF	KED ,	<u>_</u> .	-/		.,,,,,	,	1 . 20			
Valve S	Size _		Pressur	e Ratin	g		— PARTS LIST AND DIMENSIONS (INCHES)								
Fla. Dr	illina						HIGH PERFORMANCE BUTTERFLY VALVE								
_	_												2" – 4"		
													SHEET	REV.	
								d B	ra	7 CO	NTRO	DLS	1 OF		
Certifie	ed Cor	rect By		_ Date	<u> </u>					■	u oi bkay inti	arna Tiunal,	ES11 <i>1</i>	A-0339	

Valve Size A	SOURCE, PLEASE TAI	KE INTO CONSIDERATION THAT ALTERATION	S COULD HAVE BEEN MA	JE.									
5° 7.62 2.23 4.80 5.07 5.12 4.32 75 5.11 3.63 1.75 5.0 3/8-16 30		А В С	D E	F	G	Н	J	K	L		Weight		
6" 8.62 2.23 5.88 5.57 5.62 4.32 7.5 5.1 3.63 1.75 5.0 3/8=16 30 8" 10.91 2.40 7.80 6.94 7.12 4.29 8.7 6.3 3.63 1.75 5.0 3/8=16 43 10" 13.06 2.75 9.78 8.56 8.47 5.50 1.18 8.7 4.28 2.19 5.56 1/2=13 76 12" 15.30 3.08 11.74 10.18 9.97 5.50 1.18 8.7 4.28 2.19 5.56 1/2=13 76 12" 15.50 3.08 11.74 10.18 9.97 5.50 1.18 8.7 4.28 2.19 5.56 1/2=13 76 12" 15.50 3.08 11.74 10.18 9.97 5.50 1.18 8.7 4.28 2.19 5.56 1/2=13 76 12" 15.50 1.00 1.00 1.00 1.00 1.00 1.00 1.0				1 32	75				50	Threads UNC	-2B 23		
10.81 2.40 7.80 6.94 7.12 4.29 8.7 6.3 3.63 1.75 5.50 3/8-16 4.3													
10" 13.06 2.75 9.78 8.56 8.47 5.50 1.18 8.77 4.28 2.19 5.6 1/2-13 76 10" 15.05 3.08 11.74 10.18 9.97 5.50 1.18 8.77 4.28 2.19 5.6 1/2-13 119 Note 1: C dan is absolute minimum pipe in or voive frace (without goated). Note 3: Discrete for 5', 6', and 5'; Eight screes for 10" and 12". Note 3: Discrete for 5', 6', and 5'; Eight screes for 10" and 12". Note 3: Discrete for 5', 6', and 5'; Eight screes for 10" and 12". Note 4: One retaining ring for 5' and 6'; Four spoorer for 6', 10", and 12". H (ACROSS FLATS) ### (ACROSS													
12" 15.50 3.08 1.74 10.18 9.97 5.50 1.18 8.77 4.28 2.19 5.6 1/2-13 119 Note 1: C differ a basebute militurem pipe 10 of vive fore (without fo													
Second Color Col													
Note 2: Six serves for 5" 6", one 8"; Eight serves for 10" and 12". Note 3: Two spoess for 5" and 6"; Four spoess for 8", 10", and 12". Note 4: One retaining ring for 5" 8 6", Two split rings for 8", 10", and 12". H							1			1 1/2 10	1 110		
Note 4: One retaining ring for 5" & 6", Two split rings for 5", 10", and 12".	Note 2: Six	screws for 5",6", and 8"	; Eight screws	for 10" a	nd 12".				0		_ L		
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19								Q	, <u> </u>	•	<u> </u>		
19													
18			(6)			<u>†</u>			—\ф	(7)			
18	4.0	<u> </u>					-		· ·				
17													
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11	13		1										
10													
9	I		2										
B			1										
7													
6 SEAT RETAINER 1 5 TAPER PINS 2 4 SEAT 1 3 STEM 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" Inq./P.O. No. Bray Order No. PROTECTION SERIES TO SERIES TO SIZES 5" - 12"													
5 TAPER PINS 2 4 SEAT 1 3 STEM 1 2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" Inq./P.O. No. Bray Order No. SHEET 1 REV. 1 OF 1 1 DRAWNING NO.				JIE Z									
4 SEAT 1 3 STEM 1 2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" Bray Order No. SERIES CONTROLS SHEET 1 OF 1 1 DRAWING NO.													
3 STEM 1 2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) Flg. Drilling Series 40 SIZES 5" - 12" Bray Order No. SIZES TO TROLS SHEET REV. 1 OF 1 1 DRAWING NO.													
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" Bray Order No. SHEET 1 OF 1 1 DRAWING NO.			1										
1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" Bray Order No. SHEET 1 OF 1 1 DRAWING NO.			1										
No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICATION/REMARKS PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" Bray Order No. SERIES/PART No. MATERIAL SPECIFICATION/REMARKS PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" SHEET 1 OF 1 1 1 DRAWING NO.	1		1										
Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) Flg. Drilling BERIES 40 SIZES 5" - 12" Bray Order No	ITEM N		N ₄	<u>.</u>				MATER	141		,		
Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZES 5" - 12" Inq./P.O. No Bray Order No Bray CONTROLS	I IIEM NO.	NAME			SERIES	S/PAR	Γ No.	MAILK	IAL	SPECIFICATION	ON/REMARKS		
Flg. Drilling	Val O!=	D											
Customer/Project SERIES 40 SIZES 5" - 12" Inq./P.O. No Bray Order No Bray CONTROLS SHEET REV. 1 OF 1 1 1 1 1 1 1 1 1 1			_		TAKTS LIST AND DIMENSIONS (INCITES)								
Inq./P.O. No	Flg. Drilling												
Inq./P.O. No	Customer	/Project				SE	RIES 40	SIZES	5" - 12"				
Bray Order No 5 Bray CONTROLS										ı	SHFFT RFV		
Bray Order No Date	I "					7)-			m~.		1 OF 1 1		
Certified Correct By Date ES11A-0340	Bray Orde	er No					dy	CON	TKO	الك	DRAWING NO.		
	Certified (Correct By	Date				 *	A Division of	BRAY INTER	NATIONAL, Inc.	ES11A-0340		

SERIES 40 ES11A-0367 Date: March 2003

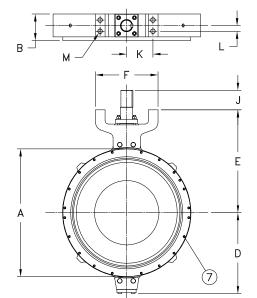
	, PLEASE TAKE INTO CONSIDERA								
Valve Size	A B C	D E	F	G		Н ,	J K	L	M Threads Weight UNC-2B
14	17.50 3.73 12.90 1	1.95 14.00	7.75	1.38 1	0mm	x 2.00" 2.	50 3.13	.69	5/8-11 200
Note: C	dim is absolute minimum pipe	ID at valve face	(without	gasket).			+@ +		1
	øG — H (Key Dir			B -	<u> </u>	M -		<	
21)			ļ	 F -	-	•	
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15		\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\			J				
					1	#		Alt	ernate Body
12						//		Со	nfiguration
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13		_			E.		†		
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(3)					D D	6	+///	9/	
_		-							Ţ
10	6								
9						(7)			
8					1		#		
21	KEY	1							
20	DISC SPACER	4							
19 18	GROUNDING WASHER LOCKWASHER	4							
17	NUT	4							
16	STUD	4							
15	SPLIT RING	2							
14	GLAND RETAINER	1							
13 12	GLAND RING DISC SPRING	2 2							
11	STEM SEAL SET	1							
10	BEARING	2							
9	GASKET	1							
8	LOCATING PLUG	1							
7 6	RETAINER SCREWS	12							
5	SEAT RETAINER SEAT	1							
4	TAPER PINS	2							
3	STEM	1							
2	DISC	1							
1	BODY	1							
ITEM No.	NAME	No. REQUIRED	SERIE	S/PART	No.	MATERIAL	SPECI	FICATIO	ON/REMARKS
Valve S	Size Pressure F	Rating			ם	ARTS LIST AND	DIMENSIONS	S (INIUL	FS)
	illing	_				AKIS LISI AND HGH PERFORMAN			
							40 SIZE 14		- 1 -
	ner/Project					32,20			
•	D. No		5	D				SHEET REV.	
	order No			O J	OI	CON	FROLS		DRAWING NO.
Certifie	ed Correct By [Date		-		A Division of BF	KAY INTERNATIONA	, Inc.	ES11A-0367

ACHIONIZED BAN SALES OF THE ON DISTRIBUTION. IF TOO RECEIVED HIS DOCUMENT FROM ANY OTHER SOURCE, PLEASE TAKE INTO CONSIDERATION THAT ALTERATIONS COULD HAVE BEEN MADE.												
Valve A B C D E F G H J K L	_ M Threads Weight UNC-2B											
16 19.81 4.11 14.68 12.94 16.75 10.38 1.97 12mm x 10mm x 2.50 3.50 4.38 1.0												
18 21.41 4.61 16.60 14.15 19.00 10.38 1.97 12mm x 10mm x 2.50 3.50 4.38 1.0												
20 23.68 5.03 18.50 15.26 21.75 10.38 2.50 .625 x 4.00 5.00 4.38 1.0												
24 28.00 6.00 22.50 18.21 24.25 15.38 3.00 .750 x 4.00 4.75 6.63 1.5												
28 32.41 6.50 26.47 20.54 26.00 15.38 3.00 .750 x 4.00 4.75 6.63 1.5 30 34.50 7.50 28.31 21.36 27.87 19.50 3.50 .88 x .62 x 5.25 6.13 8.25 1.7												
	75 1.50-6 1419											
Note 1: C dim is absolute minimum pipe ID at valve face (without gasket). Note 2: Two taper pins in 16", three taper pins in 18" and larger.												
Note 3: Twenty-four retainer screws in 24", 20 in 16"-24", 28" and 30".												
22 $\rightarrow \parallel \rightarrow \parallel H$ (Key Dimension)												
	L —											
15 T												
fax I b												
22												
20 GROUNDING WASHER 1												
19												
18 NUT 4 17 STUD 4												
16 GLAND RETAINER 1												
16 GLAND RETAINER 1 15 SPLIT RING 2												
13 SPEIT KING 2 14 GLAND RING 2												
14 GLAND RING 2 13 O-RING 1												
12 DISC SPRING 2												
12 DISC SERING 2 11 STEM SEAL KIT 1												
10 BEARING 2												
9 CAPSCREWS 4												
8 LOCATING PLUG 1												
7 RETAINER SCREWS SEE NOTE 3												
6 SEAT RETAINER 1												
5 SEAT 1												
4 TAPER PINS SEE NOTE 2												
I DIEM I I I												
2 DISC 1												
2 DISC 1 1 BODY 1	/											
2 DISC 1 1 BODY 1 ITEM NAME NO. SERIES / PART NO MATERIAL SPECIFICA	ATION/REMARKS											
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICA	ATION/REMARKS											
2 DISC 1 1 BODY 1 ITEM No. NAME No. SERIES/PART No. MATERIAL SPECIFICA	·											
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICA Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (I	INCHES)											
2 DISC 1 1 BODY 1 ITEM No. NAME No. SERIES/PART No. MATERIAL SPECIFICA Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (I HIGH PERFORMANCE BUTTERFLY	INCHES) VALVE											
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICA Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (I	INCHES) VALVE											
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICA Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (IFIg. Drilling SERIES 40 SIZE 16" TO 3	INCHES) VALVE 30"											
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICA Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (IFIg. Drilling SERIES 40 SIZE 16" TO 3 Inq./P.O. No. Pressure Rating SERIES 40 SIZE 16" TO 3	INCHES) VALVE											
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICA Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (IFIg. Drilling SERIES 40 SIZE 16" TO 3 Inq./P.O. No. PRODUCT SERIES 40 SIZE 16" TO 3	INCHES) VALVE 30" SHEET REV. 2 DRAWING NO.											
2 DISC 1 1 BODY 1 ITEM No. NAME No. REQUIRED SERIES/PART No. MATERIAL SPECIFICA Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (I HIGH PERFORMANCE BUTTERFLY SERIES 40 SIZE 16" TO 3 Inq./P.O. No.	INCHES) VALVE 30" SHEET REV. 1 OF 1 2											

SERIES 40 ES11A-0419 Date: March 2003

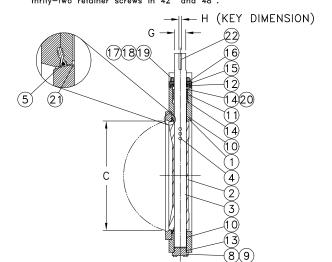
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Valve Size	А	В	С	D	E	F	G	Н	J	K	L	M Threads UNC-2B	Weight
32	37.62	7.50	30.19	22.36	29.12	19.50	3.50	.88 X .62 X 5.25	6.13	8.25	1.75	1.50-6	1589
34	39.62	7.75	30.13	23.86	29.12	19.50	3.50	.88 X .62 X 5.25	6.13	8.25	1.75	1.50-6	1829
36	40.68	8.26	34.00	25.27	32.12	19.50	3.50	.88 X .62 X 5.25	6.13	8.25	1.75	1.50-6	1899
40	51.00	9.50	36.99	27.25	36.12	19.50	4.50	1.00 X .75 X 5.25	6.13	8.25	1.75	1.50-6	3789
42	53.31	9.50	39.05	29.37	37.12	19.50	4.50	1.00 X .75 X 5.25	6.13	8.25	1.75	1.50-6	4189
48	54.00	10.00	46.09	33.12	41.00	24.00	5.00	1.25 X .88 X 6.00	7.13	10.25	3.00	1.50-6	4505
54	66.38	10.75	52.45	35.65	44.37	24.00	6.00	1.50 X 1.00 X 6.50	7.63	10.25	3.00	1.50-6	6995



Note 1: C dim is absolute minimum pipe ID at valve face (without gasket).

Note 2: Fourteen seat retainer screws in 32", sixteen seat retainer screws in 34", twenty seat retainer screws in 36", thirty retainer screws in 54", thrity—two retainer screws in 42" and 48".



	l l				
22	KEY	1			
21	DISC SPACER	4			
20	GROUNDING WASHER	1			
19	LOCKWASHER	4			
18	NUT	4			
17	STUD	4			
16	GLAND RETAINER	1			
15	SPLIT RING	2			
14	GLAND RING	2			
13	O-RING	1			
12	DISC SPRING	2			
11	STEM SEAL KIT	1			
10	BEARING	2			
9	CAPSCREWS	4			
8	LOCATING PLUG	1			
7	RETAINER SCREWS	SEE NOTE 2			
6	SEAT RETAINER	1			
5	SEAT	1			
4	TAPER PINS	3			
3	STEM	1			
2	DISC	1			
1	BODY	1			
ITEM No.	NAME		SERIES/PART No.	MATERIAL	SPECIFICATION/REMARKS

Valve Size Pressure Rating	
Flg. Drilling	
Customer/Project	
Inq./P.O. No	
Bray Order No.	
Certified Correct By Date	

PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 40 SIZE 32" TO 54"

5 Bray	CONTROLS A Division of BRAY INTERNATIONAL, Inc.
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1	SHEET			REV.
	1	OF	1	1
	DRAWIN	IG NO.		
	E	S11/	4-(0419

SERIES 41 ES11A-0341 Date: March 2003

Valve A Size A 2.5" 4.75 1	B C D E .88 2.28 3.81 4.29	F G H	J K	L M			eads Weight Weight (Alt Cfg)
3" 5.25 1	.88 2.86 4.09 4.54	3.81 .63 .43 3.81 .63 .43	3.34 2.44	1.56 .38	5/16-18 6.	00 4 .62	11 13 19 11 22 28
Note 1: C dim	n is absolute minimum pipe II crews for 2-1/2" and 3"; Si) at valve face	(without gasket)).		L -	M
	—— H AC	ROSS FLAT	S	B	N	<u> </u>	<u>†</u>
(15)(1	617 14 13 12 11 6 6 10 9 5 1 2 9 3 18		3 4	E D	7	労 厂 / E	ALTERNATE BODY CONFIGURATION ØA
19 18	GASKET LOCATING PLUG	1 1					
17	LOCKWASHER	2					
16 15	NUT STUD	2 2					
14	GLAND RETAINER	1					
13	RETAINING RING	1					
12	GLAND RING	1					
11 10	PACKING KIT THRUST WASHER	1					
9	BEARING	2					
8	DISC SPACER	2					
7	RETAINER SCREWS	6					
6 5	SEAT RETAINER TAPER PINS	2					
4	SEAT	1					
3	STEM	1					
2	DISC	1					
1	BODY	1					
ITEM No.	NAME	No. REQUIRED	SERIES/P	ART No.	MATERIAL	SPECIFICA	TION/REMARKS
Flg. Drilling	Pressure Ratir		_	HIGH	LIST AND DIME PERFORMANCE E RIES 41 SIZES 2	BUTTERFLÝ VAI	LVÉ
Bray Order	 NoDate		- δ .	Bray	CONTRO	OLS RNATIONAL, Inc.	SHEET

Valve Size	А	В	С	D	E	F	G	Н	J	K	L	M Threads UNC	20	Lu _! BC	g Bolting No. of Holes	Data Threads UNC-2B	Weight	Weight (Alt Cfg)
5"	7.62	2.23	4.80	5.07	5.12	4.32	.75	.51	3.63	1.75	.50	3/8-		8.50	8	.75-10	27	39
6"	8.62	2.23	5.88	5.57	5.62	4.32	.75	.51	3.63	1.75	.50	3/8-1	16	9.50	8	.75-10	32	44
	10.81		7.80	6.94	7.12		.87	.63		1.75	.50	3/8-1			8	.75-10		67
	13.06		9.78	8.56	8.47		1.18	.87		2.19	.56	1/2-1		14.25	12	.88-9	88	106
			11.74				1.18	.87		2.19	.56	1/2-1	13	17.00	12	.88-9	132	163
Note 1	1: C din 2: Twelv	n is al	bsolute m ws for 5'	ninimum " 6" 8" .	pipe II and 12') at va "· Sixte	lve face	(with	rithout gasket). for 10". B O O O O O O O O O O O O									- L
Note .	3: Two s	spacers	for 5"	and 6";	Four	spacers	for 8",	10",	and 12"	· ·" • • • •	" ^ 4	в —			06	o F	$\Rightarrow \dagger$	
Note 4	4: One i	retainin	ng ring fo	or sizes	5 &	b, two	split ri	ngs to	or sizes &	8,10	&C 1.	2 1		/ _v			─	
	(ACROS	H	TS) —	- (17	71819							М-	_/	/ K-	-	-		
	(ACNO.	JJ ILA					\mathbb{Y}_{\geq}							-	 F -			
1		16)		/	1		<i>₹</i> /}	\							<u>→</u> -	• ø	G	
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1		(14)	\sim		/ \			/			j				_ \	_	ALTERN	IATE
1		13-				\注		/			ţ					1 /	∠ BODY CONFIG	URATION
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I ITEM	No.		NAM	E	F	No REQUI	RED	SEF	RIES/P	'ART	No.	MATE	RIAL	_ SP	ECIFI	CATION	/REMA	ARKS
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					-			TAKTS LIST AND DIMENSIONS (INCILES)										
_	Flg. Drilling Customer/Project							OFDIEC 44 CIZEC F" 40"										
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i ina /	T.U. NO)						- I		_						SHEI		REV.
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Bray	Orde							- 1	δ]	Br	ay	COI A Division	VT.	ROL Y INTERNA	S TIONAL INC	DRAV	WING NO.	0342

SERIES 41 ES11A-0369 Date: March 2003

Valve Size	АВ	С) E	F	G	Н	J	K	L	M Threads UNC-2B	Lug Bo	olting Data . of Threads bles UNC-2B	Weight
	.50 3.73	12.90 11.	95 14.0	0 7.75	1.38 1	0mm x 2.0	0" 2.5	0 3.13	.69	5/8-11	18.75	2 1-8	262
Note 1: C	dim is abs	solute minimum	pipe ID at	valve face ((without g	asket). 🕌 🦳			0 + Q)		1		
H (Key Dimension) B M													
\sim							(7)						
[8)·	7	#				<u> </u>		t					
21		KEY		1									
20		SC SPACE		4									
19		IDING WAS		1									
18 17	LO	CKWASHEF NUT	7	4	+								
16		STUD		4									
15	GLAN	ND RETAIN	ER	1									
14		PLIT RING		2									
13		AND RING	;	2									
12		SC SPRING		2									
11		M SEAL SI	ET	1									
10		BEARING		2									
9		GASKET		1									
8		ATING PLU		1									
7		NER SCRE		12									
6	SEA	T RETAINE	R	11									
5	- -	SEAT		1									
4	14	PER PINS		2									
3		STEM		1									
2		DISC BODY		1									
ITEM		NAME		No. REQUIRE	_ SF	RIES/PART	No	MATEI	RIΔI	SPFC	CIFICATIO	N/REMA	RKS
No.		I I A I VI	F	REQUIRE	ח אר	WES/ FAILT	140.	MICHILL		JI L(ZII TOATTO	TT/ NEIVIA	
Flg. Dri	Valve Size Pressure Rating Flg. Drilling Customer/Project							IGH PERF	ORMA	DIMENSIO NCE BUTTE 41 SIZE	ERFLÝ VAL		
Inq./P.C	D. No											SHEET 1	REV.
		•				8 2	Br	ay c	ON	TROLS		1 OF 1 DRAWING NO.	
Cartifia	d Corre	ct By	Da	.te		.		≈ AI	Division of B	RAY INTERNATIO	NAL, Inc.	ES11A-	0369

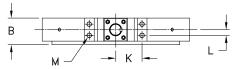
SERIES 41 ES11A-0370 Date: March 2003

Valve A B C D E F G H J K L Threads BC No. of Threads Wei													
						Holes UN-2B							
16 19.50 4.11 14.68 12.94 18 21.38 4.61 16.60 14.15				4.38 1.00	3/4-10 21. 3/4-10 22.	.25							
20 23.62 5.03 18.50 15.26													
24 27.96 6.00 22.50 18.2	1 24.25 15.38 3	.00 .750 x 4.00		6.63 1.50	1-8 29								
26 29.50 6.50 22.36 19.23					1-8 31.								
28 32.41 6.50 26.47 20.54			4.75	6.63 1.50	1-8 34.	.00 28 1.25-8UN 13							
30 34.41 7.50 28.31 21.36					1.50-6 36.								
Note 1: C dim is absolute minimum pipe ID at valve face (without gasket). Note 2: Two taper pins in 16", three taper pins in 18" & larger. Note 3: Thirty-two retainer screws in 16" & 18", forty retainer screws in 20" & larger. H (Key Dimension) ALTERNATE BODY CONFIGURATION 11 4 9C 21 5													
21 DISC SPACER	4												
20 GROUNDING WASHER													
19 LOCKWASHER	4												
18 NUT	4												
17 STUD	4												
16 GLAND RETAINER	1												
15 SPLIT RING	2												
14 GLAND RING	2												
13 O-RING	1												
12 DISC SPRING	2												
11 STEM SEAL KIT	1												
10 BEARING	2				+								
9 CAPSCREWS	4												
8 LOCATING PLUG	1				+								
7 RETAINER SCREWS	SEE NOTE 3												
6 SEAT RETAINER	1												
5 SEAT	1												
4 TAPER PINS	SEE NOTE 2												
3 STEM	JEE 1101E Z												
2 DISC	1				-								
1 BODY	1 1												
	1 1 1												
ITEM NAME	1 1 No.	SERIES/PART	No. N	MATERIAL	SPECIF	TICATION/REMARKS							
No.	REQUIRED	SERIES/PART	No. N	MATERIAL	SPECIF	TICATION/REMARKS							
	REQUIRED	SERIES/PART											
No. NAME Valve Size Pressu	REQUIRED re Rating		PART	rs list and	DIMENSIONS	(INCHES)							
Valve Size Pressu	REQUIRED re Rating		PART HIGH	TS LIST AND I PERFORMA		S (INCHES) FLY VALVE							
No. NAME Valve Size Pressu Flg. Drilling Customer/Project	REQUIRED		PART HIGH	TS LIST AND I PERFORMA	DIMENSIONS NCE BUTTERI	S (INCHES) FLY VALVE 0 30"							
No. NAME Valve Size Pressu Flg. Drilling	REQUIRED re Rating		PART HIGH	TS LIST AND I PERFORMA	DIMENSIONS NCE BUTTERI SIZES 16" T	S (INCHES) FLY VALVE							

SERIES 41 ES11A-0420 Date: March 2003

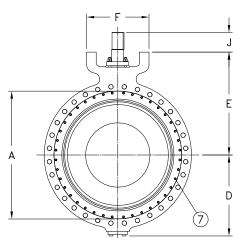
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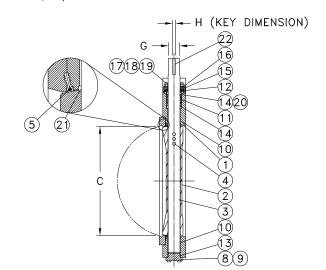
Valve Size	А	В	С	D	E	F	G	Н	J	К	L	M Threads UNC-2B		Bolting No. of Holes	Data Threads UN-2B	Weight
32	37.62	7.50	30.19	22.36	29.12	19.50	3.50	.88 x .62 x 5.25	6.13	8.25	1.75	1.50-6	38.50	28	1.50-8	1999
34	39.62	7.75	30.13	23.86	29.12	19.50	3.50	.88 x .62 x 5.25	6.13	8.25	1.75	1.50-6	40.50	32	1.50-8	2279
36	39.87	8.26	34.00	25.27	32.12	19.50	3.50	.88 x .62 x 5.25	6.13	8.25	1.75	1.50-6	42.75	32	1.50-8	2539
40	51.00	9.50	36.99	27.25	36.12	19.50	4.50	1.00 x .75 x 5.25	6.13	8.25	1.75	1.50-6	47.25	36	1.50-8	3889
42	46.20	9.50	39.05	29.37	37.12	19.50	4.50	1.00 x .75 x 5.25	6.13	8.25	1.75	1.50 - 6	49.50	36	1.50-8	4279
48	52.25	10.00	46.09	33.12	41.00	24.00	5.00	1.25 x .88 x 6.00	7.13	10.25	3.00	1.50-6	56.00	44	1.50-8	5575
54	66.38	10.75	52.45	35.65	44.37	24.00	6.00	1.50 X 1.00 X 6.50	7.63	10.25	3.00	1.50-6	62.75	44	1.75-8	7105



Note 1: C dim is absolute minimum pipe ID at valve face (without gasket).

Note 2: Twenty-eight retainer screws in 32", thirty-two screws in 34",
forty retainer screws in 36", forty-eight retainer screws in 40",
42" and 48", fifty retainer screws in 54".





l					·
22	KEY	1			
21	DISC SPACER	4			
20	GROUNDING WASHER	1			
19	LOCKWASHER	4			
18	NUT	4			
17	STUD	4			
16	GLAND RETAINER	1			
15	SPLIT RING	2			
14	GLAND RING	2			
13	O-RING	1			
12	DISC SPRING	2			
11	STEM SEAL KIT	1			
10	BEARING	2			
9	CAPSCREWS	4			
8	LOCATING PLUG	1			
7	RETAINER SCREWS	SEE NOTE 2			
6	SEAT RETAINER	1			
5	SEAT	1			
4	TAPER PINS	3			
3	STEM	1			
2	DISC	1			
1	BODY	1			
ITEM No.	NAME		SERIES/PART No.	MATERIAL	SPECIFICATION/REMARKS

Valve Size Pressure Rating	
Flg. Drilling	
Customer/Project	
Inq./P.O. No	
Bray Order No.	
Certified Correct By Date	

PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 41 SIZES 32" TO 54"

5 Bray	CONTROLS A Division of BRAY INTERNATIONAL, Inc.
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٦	SHEET			REV.
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	DRAWIN	IG NO.		
	E	311/	/-C)420

SERIES 42 ES11A-0343 Date: March 2003

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Valve	A	В	С	D	Е	F	G	H*	J	K	L	М	Weight	H	
Size 5"	8.25	2.23	4.80	5.13	5.62	4.32	.75	.51	3.63	1.75	.50	Threads UNC-	-2B		
6"	8.88	2.42	5.75	6.25	6.37	4.25		.63	3.63	1.75	.50	3/8-16			
	10.94	2.82	7.56	7.55	7.72	5.50	1.18	.87	4.28	2.19	.56	1/2-13			
10"	13.26	3.28	9.44	9.36	9.10	5.50	1.38	.39x.39	4.28	2.19	.56	1/2-13	3 110		
	15.57	3.62	11.31	10.89	13.00	7.75	1.38	.39x.39	2.50	3.13	.69	5/8-1	1 175		
Note 1:	C dim is	absolute	minimum	pipe ID	at valve rews for 8	face (w	thout gask	et).	_	0 /		Т	L		
Note 3:	Two spac	ers for 5	o"; Four s	pacers 1	or 6",8",1	0" and	12".					<u> </u>			
		ining ring and 12" I			split rings	for siz	es 6", 8",	10", & 12" B				<u> </u>			
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16		GLAND			1	TF 4									
15 14		RETAIN	ING KI		SEE NO	IE 4									
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12	-	THRUST			1										
11			ARING		2										
10			SKET		1			_							
9		LOCATI			1										
8			SPACE		SEE NO										
7 6	R	ETAINE SEAT I			SEE NO	1E Z									
5			RETAIN R PINS		2										
4			EAT	-	1										
3			TEM		1										
2			ISC		1										
1		В	ODY		1										
ITEM	No.	N	AME		No REQUII	RED	SERIES/PART No. MATERIAL SPECIFICATION/REMARKS								
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l					ng		TARTS LIST AND DIMENSIONS (INCITES)								
Flg. Dr	illing _							HI							
Custon	ner/Pro	oject _							SERI	ES 42 SI	IZES 5"	- 12"			
Ing./P.0	D. No.						-					S	HEET REV.		
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								Br		Division of BRAY	INTERNATI	ONAL, Inc.	ES11A-03	4 3	
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SERIES 43 ES11A-0346 Date: March 2003

Valve Size	Α	В	С	D	E	F	G	Н	J	K	L	М	N Threads UNC-2B	Lug E BC ^N	Bolting Io. of Holes	Data Threads UNC-2B	Weight	Weight (Alt Cfg)
2.5"	4.75			3.81						2.44			5/16-18	5.88	8	.75-10	0 15	18
3" 4"	5.25 6.72		2.86 3.72	4.09 4.71						2.44						.75-10		19 28
			bsolute for 2-						•	t gasket)).	↓	-	- L -	-		<u>г</u> М	
Note	Z. Tell	screws	101 2-	1/2 di	iu 5 , 3	DIX SCI	5W5 10) 4 .		B								
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	9		BEA DISC	RING	- D		2					-						
	8 7		DISC TAINEI				<u>2</u>											
	6		EAT F				1											
	5	L		R PIN			2											
	4		S	EAT			1											
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ITFN	1 BODY 1 TEM No. NAME REQUIRED										ART	No.	MATERIAI	L SPI	ECIF	ICATIO	N/RFM	MARKS
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Valve	e Size		F	Pressu	re Rat	ing _			-				LIST AND D					
Flg.	Drilling								-				PERFORMANC					
Cust	omer/	Proje	ect						_			SER	RIES 43 SIZE	5 2-1/	2 -	- 4		
Inq./	P.O. No	D							$_{-}$							SHE	1 OF 1	REV.
Bray	Orde	r No.							_	δ.	BI	ay	CONTI A Division of BRAY	ROLS		DRA	WING NO.	
Cert	ay Order No Date												A Division of BRAY	INTERNATION	NAL, Inc.	<u> E</u>	:S11A-	0346

Valve	Α	В	С	D	Е	F	G	H*	J	14	L	М	l DO	ug Boltin No. of	g Data L Threads	Weight	Weight	
Size 5"	8.25		4.80	5.13	5.62		.75	.51	3.63	K 1.75	.50	M Threads UNC-1 3/8-16	_{2B} BC 9.25	Holes	Threads UNC-2B .75-10	37	(Alt Cfg)	
6"	8.88		5.75	6.25	6.37		.87	.63	3.63	1.75	.50	3/8-16			.75-10	_	59	
	10.94		7.56	7.55		5.50		.87	4.28	2.19	.56	1/2-13	_		.88-9	94	103	
	13.26	3.28	9.44	9.36	9.10	5.50	1.38	.39	4.28	2.19	.56	1/2-13			1-8	148	161	
12"	15.57	3.62	11.31	10.89	13.00	7.75	1.38	.39	2.50	3.13	.69	5/8-11	17.7	5 16	1.13-8UI	V 232	248	
Note 2	1: C din 2: Twelv	n is ab e screw	solute mi 's for 5",	nimum ,6" and	pipe ID 10"; Si	at valv xteen s	e face crews f	(withou or 8"	out gasket). " and 12"									
Note 3	3: Two : 4: One :	spacers retaining	for 5";	Four sport	acers fo wo split	or 6",8" rings	, 10", for 6".8	and 1;	nout gasket). " and 12". 12". 10", and 12".									
*H di	m for	0" and	1 12" hav	ve squar	e keywo	ay.	,,,	, , ,	10 , drid 12 .									
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ITEM	l No.		NAM	E		REO	lo. UIREE	s	ERIES	/PAR	T No	. MATE	RIAL	SPECII	FICATIO	N/REM	ARKS	
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l						_		- 1				LIST AN						
Flg. [Orilling							CEDIEC AZ CIZEC E" 40"										
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															SHE		REV.	
									7	R		CON A Division of	TRO	LS	DRA	1 OF 1 WING NO.	1	
1	ay Order No Date											A Division of	BRAY INTER	NATIONAL, I	inc. E	S11A-	0345 l	
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Signar A B C D E F G H J K Time	SOURCE, PLEASE TAKE INTO CONSIDERATION THAT ALTERATIONS COULD HAVE BEEN MADE.																	
14 17.27 4.66 11.36 12.50 17.25 10.36 1.97 12mm x 10mm 5.50 4.36 1.00 3/4-10 20.52 20 1.12-8 445 18 13.50 5.50 6.2 x 6.2 x 5.00 4.36 1.00 3/4-10 20.52 20 1.12-8 445 18 21.38 9.88 15.00 15.43 20.25 15.36 2.50 6.2 x 6.2 x 6.2 x 6.50 1.50 1.8 24.75 24 1.25-8 825 22.76 6.34 16.50 16.80 23.97 19.50 3.50 .80 x 6.2 x 6.2 x 6.3	Valve Size	АВ	С	D	Ε	F	G		Н	J	K	L	Thr	M reads		No. of	ng Data I Threads	Weight
16 19.50 15.50 14.31 13.88 20.00 10.38 2.50 .62 x .62 .575 6.51 1.50 1.8 24.75 24 1.25.58 324 15.50 16.80 21.50 16.30 21.50 15.38 3.00 .75 x .75 4.75 6.63 1.50 1.8 24.75 24 1.25.58 13.4 20.25 25.50 20.88 19.80 25.37 19.50 5.50 8.8 x .2 6.13 6.51 1.50 1.8 27.00 24 1.25.58 1.20 24 26.75 20.50 20.88 19.80 25.37 19.50 5.50 8.8 x .2 6.13 6.52 1.75 1.50 6.80 30.30 5.98 26.81 23.40 31.12 24.00 4.50 1.00 x .75 5.38 10.25 30.01 1.50 6.30 2.5 1.75 6.30 1.50 6.30 2.5 1.75 6.30 1.50		7,27 4,66	11.38	12.50	17,25	10.38	1.97	12r	nm x 10m	m 3.50	4.38	1.00	3/2	4 - 10				443
20 23.766.34 16.50 16.80 21.50 15.38 3.00 .75 x .75 4.75 6.53 1.50 1.8 27.00 24 1.25-8 10.30 30 35.00 2.98 28.81 23.40 31.12 24.00 4.50 1.00 x .75 5.38 10.25 30.015.0-6 35.02 24 1.75-8 30.50 42.05 6.20 24 1.25-8 10.30 1.50																		
24 28-75 7.05 20.68 19.80 25.37 19.50 3.50 .88 x .62 6.13 8.25 1.79 1.50 - 6 132.00 24 1.50 - 8 1690 35.00																24		834
30 35.00 8.98 26.81 23.40 31.12 24.00 4.50 1.00 x.75 6.38 10.25 3.00 1.50-6 8.00.0 2.00 8.465 30.00 3.00 1.27 3.00 3.00 1.27 3.00 3.00 1.27 3.00 3.0																		
36 42.06 10.87 33.13 27.12 35.12 24.00 5.00 1.25 x .88 7.13 10.25 5.00 1.50-6 46.00 32 2.00-8 4465 10.00 10.0																		
Note 1: C din is classical minimum pipe that valve face (without gasket). Note 2: The other pipes in 1 1 2 din is 2 dings. B J M J KEY 21																		
Note 2: Two loger plas in 1a* & 16*, inter loger plas in 18* & 10 inger. Note 3: Two loger plas in 1a* & 16*, inter loger plas in 18* & 10 inger. Note 3: Two loger plas in 1a* & 16*, inter loger plas in 16*, inter loger	30 42		55.15	27.12	00.12							•	•				2.00 0	14400
Second S	B	M —		→ K		_ Note Note	Twen forty	ıty—fo / reta	ur retainer s iner screws retainer scr	screws in in 24", f	14, thirt orty—eigh o".	y—two t retai	retai ner s	ner sci screws	rews in in 30",	16", 1	8" & 20",	
21 KEY 1 21 DISC SPACER 4 20 GROUNDING WASHER 1 18 NUT 4 16 GLAND RETAINER 1 15 SPLIT RING 2 13 O-RING 1 14 GLAND RING 2 13 O-RING 1 11 STEM SEAL KIT 1 10 BEARING 2 11 STEM SEAL KIT 1 10 BEARING 2 9 CAPSCREWS 4 8 LOCATING PLUG 1 7 RETAINER SCREWS SEE NOTE 3 6 SEAT RETAINER 1 5 SEAT 1 1 APER PINS SEE NOTE 2 3 STEM 1 1 BODY 1 1 TIEM NAME ROOT SERIES/PART NO. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 43 SIZE 14" TO 36" PREY Order No. Bray Order No.	191817 12 1420 10																	
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7 RETAINER SCREWS SEE NOTE 3 6 SEAT RETAINER 1 5 SEAT 1 4 TAPER PINS SEE NOTE 2 3 STEM 1 2 DISC 1 1 BODY 1 ITEM No. NAME REQ'D SERIES/PART No. MATERIAL SPECIFICATION/REMARKS Valve Size Pressure Rating PARTS LIST AND DIMENSIONS (INCHES) Flg. Drilling HIGH PERFORMANCE BUTTERFLY VALVE SERIES 43 SIZE 14" TO 36" PARTS LIST AND DIMENSIONS (INCHES) HIGH PERFORMANCE BUTTERFLY VALVE SERIES 43 SIZE 14" TO 36" Bray Order No SHEET 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9			S														
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