### **Engineering Master**

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### Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

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EX5-A B C D E F J K 9A 9B 9C

#### ITEM A - PACKING FLANGE SET - FLG, STUDS, NUTS, CAP SCREW

#### STANDARD PACKING

			STEE	L				
			STD	NACE	316 SST	N10276	ALY 20	MONEL
DESIGN	STYLE	BOSS	A	A	A	A	A	A
EH & EW 12X8 CLASS 900	ALL	5	26	28	27	-	-	-
		5H	23	25	24	-	-	-
OTHER	EXT STYLE 4	5	26	-	27	-	-	-
	ALL OTHER	5	1	21	2	4	5	7
		5H	10	22	11	13	14	16

LIVE LOAD PACKING HIGH SEAL ULF PACKING

			316 SST	316 SST
		SPRING	17-7PH	N07718
BOSS	BONNET STYLE	PACKING	A	A
5	EH & EW 12X8 CLASS 900	GRAPHITE ULF	31	32
	EXT STYLE 4	ALL	-	-
	ALL OTHER	GRAPHITE ULF	29	30

#### TA-LUFT PACKING

TRIM	316 SST
SPRING	N07718
BOSS	A
5	33
5H	55

#### ISO-SEAL PACKING

	TRIM	316 SST
	SPRING	N07718
RATING	BOSS	A
CLASS	5	63
125-600	5H	64
CLASS	5	65
900-1500	5H	66
CLASS	5	67
2500	5H	68

### **Engineering Master**

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# Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

### ITEM A - PACKING FLANGE SET - FLG, STUDS, NUTS, CAP SCREW (CONT)

**ENVIRO-SEAL PACKING** 

121 1 11	NO DEFIE I FICHING					i.		
					NACE			
			TD 11 4	la4 caam	B7M/NCF2	>*4.00 <b>=</b> 6	la coarme	1
	1	ı	TRIM	316SST	316SST		MONEL	+
SIZE	BONNET	PACKING		A	A	A	A	A
5	EH & EW 12X8 CLASS 900	GRAPH, SINGLE	ULF	43	44	45	46	47
			NUCLEAR	54	-	-	-	-
		PTFE, DOUBLE		48	49	50	51	52
		DUPLEX, DOUBL	E	48	49	50	51	52
		KALREZ, SINGLE		48	49	50	51	52
		H2 DUPLEX		43	44	45	46	47
	ALL OTHER	GRAPH, SINGLE	ULF	33	34	35	36	37
			NUCLEAR	53	-	-	-	-
		PTFE, DOUBLE		38	39	40	41	42
		DUPLEX, DOUBL	Е	38	39	40	41	42
		KALREZ, SINGLE		38	39	40	41	42
		H2 DUPLEX		33	34	35	36	37
5H	EH & EW 12X8 CLASS 900	GRAPHITE ULF		59	60	-	-	-
		PTFE, DOUBLE		61	62	-	-	
		DUPLEX, DOUBL	E	61	62	-	-	-
		KALREZ, SINGLE		61	62	-	-	
		H2 DUPLEX		59	60	-	-	-
	ALL OTHER	GRAPHITE ULF		55	56	-	-	-
		PTFE, DOUBLE		57	58	-	-	-
		DUPLEX, DOUBL	Е	57	58	-	-	
		KALREZ, SINGLE		57	58	-	-	-
		H2 DUPLEX		55	56	-	-	-

### **ITEM B - PACKING**

### ITEM C - PACKING PARTS - SPRING & WASHER OR SPACER, PACKING RING, FOLLOWER

**SEE BULLETIN 59.1:062** 

TRIM	TEMP °F	TEMP °C
STEEL	-150+800	-101+427
316 SST	-425+1100	-254+593
321 SST	-325+1500	-198+816
347 SST	-425+1500	-254+816
MONEL	-400+900	-240+482
S31803	-60+600	-51+316
S32760	-60+600	-51+316



### Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

**ITEM B - PACKING** 

ITEM C - PACKING PARTS -SPRING & WASHER OR SPACER, PACKING RING, FOLLOWER ITEM 9A - PRODUCT DESCRIPTOR (PACKING ARRANGEMENT)

STD PACKING

SINGLE PACKING ARRANGEMENT - PBS 23A1250

	GRAPHITE C	COMPOSITE	GRAPHI	TE ULF	PTFI	E FMS	LOW CHLORIDE GRAPH RIBBON/FILAMENT			
ARRANGE	12B5796		19B4126		12A8	3160		14A3412		
TRIM	В	C	В	C	В	C	9A	В	C	9A
316 SST	18	83	31	76	1	2	N	14	34	N
347 SST	-	-	31	77	1	-	N	14	38	N
S31803	-	-		-	-	-	-	14	87	N
S32760	-	-	-	-	-	-	-	14	92	N

#### DOUBLE PACKING ARRANGEMENT - PBS 23A1250

						PTFE	PTFE COMP		GRAPH COMP			LOW CHLORIDE		
	PTFE	3	STYI	LE NO		FMS 17D26			FMS 17D28			GRAPH RIBBON & FIL		
ARRANGE	12A8	162	1	2	3	12A8163			13A0112			14A3414		
TRIM	В	C	9A	9A	9A	В	C	9A	В	C	9A	В	C	9A
STD SST	3	17	1	2	3	6	17	N	5	17	N	15	17	N
316 SST	3	18	1	2	3	6	18	N	5	18	N	15	18	N
MONEL	3	28	1	2	3	6	-	N	5	-	N	15	-	N
S31803	3	86	1	2	3	6	86	N	5	86	N	15	86	N
S32760	3	91	1	2	3	6	91	N	5	91	N	15	91	N

### LEAKOFF PACKING ARRANGEMENT - 23A1251

	LOW CHLORIE	LOW CHLORIDE GRAPH RIBBON & FILAMENT										
ARRANGE	15A7085											
TRIM	В	С	9A									
STD SST	17	49	N									
316 SST	17	50	N									

LIVE LOADED PACKING STD, EXT & EH BONNETS, PBS 23A1250 HIGH SEAL & HIGH SEAL ULF PACKING

PACKING	GR.	APHIT	Έ	GRAPHITE ULF					
ARRANGEMENT	12B	5796		19B4126					
TRIM	В	C	9A	В	C	9A			
316 SST	18	51	N	31	78	N			

#### ISO-SEAL PACKING

RATING	CLAS	SS 125-6	500		CLAS	CLASS 900-1500				S 2500			
PACKING	GRAI	PHITE	PTF	PTFE		GRAPHITE		PTFE		GRAPHITE		PTFE	
ARRANGEMENT	GF079	999	GF0	7999	GF08002		GF08002		GF09719		GF09719		
TRIM	В	C	В	C	В	C	В	C	В	C	В	C	
316 SST	32	93	33	94	34	93	35	94	37	93	38	94	



### Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

ITEM B - PACKING (CONT)

ITEM C - PACKING PARTS - SPRING & WASHER OR SPACER, PACKING RING, FOLLOWER (CONT) ITEM 9A - PACKING ARRANGEMENT (CONT)

#### **ENVIRO-SEAL PACKING**

PACKING	GRAI	PHITE	ULF	<b>NUCLE</b>	AR GRA	PHITE	PTFE/C	ARBON	PTFE	PTFE/GLASS PTFE		
ARRANGEMENT	19B4	126		12B5790	6		12B693	0		12B6930		
TRIM	В	C	9A	В	C	9A	В	C	9A	В	C	9A
316 SST	31	79	N	18	61	N	20	57	N	21	57	N
N10276	31	80	N	-	-	-	20	58	N	21	58	N
MONEL	31	81	N	-	-	-	20	59	N	21	59	N
ALLOY 20	31	82	N	-	-	-	20	60	N	21	60	N
S31803	31	85	N	-	-	-	20	84	N	21	84	N
S32760	31	90	N	-	-	-	20	89	N	21	89	N

### ENVIRO-SEAL PTFE W/CARBON BUSHING, DOUBLE PACKING

PACKING	PTFE/CARBON PTFE PTFE/GLASS PTF					PTFE	
ARRANGEMENT	14B75	549		14B7549			
TRIM	В	C	9A	В	C	9A	
316 SST	22	62	N	23	62	N	
N10276	22	63	N	23	63	N	
MONEL	22	64	N	23	64	N	
ALLOY 20	22	65	N	23	65	N	

### ENVIRO-SEAL DUPLEX, DOUBLE PACKING

PACKING SET	PTFE/	PTFE/CARBON PTFE			PTFE/GLASS PTFE			H2 DUPLEX		
PACKING RING	GRAP	Ή		GRAP	H		N/A			
ARRANGEMENT	14B74	14B7471			14B7471			29B2878		
TRIM	В	C	9A	В	C	9A	В	C	9A	
316 SST	24	62	N	25	62	N	36	62	N	
N10276	24	63	N	25	63	N	36	63	N	
MONEL	24	64	N	25	64	N	36	64	N	
ALLOY 20	24	65	N	25 65 N		36	65	N		

### KALREZ PACKING

PACKING	KALF	REZ/VE	SPEL	KALREZ/VESPEL/GRAPH			
ARRANGEMENT	14B7039			14B7040			
TRIM	В	C	9A	В	C	9A	
316 SST	27	66	N	28	70	N	
N10276	27	67	N	28	71	N	
MONEL	27	68	N	28	72	N	
ALLOY 20	27	69	N	28	73	N	

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Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

ITEM B - PACKING (CONT)

ITEM C - PACKING PARTS - SPRING & WASHER OR SPACER, PACKING RING, FOLLOWER (CONT) ITEM 9A - PACKING ARRANGEMENT (CONT)

LIVE LOAD PACKING, PBS 23A1250 TA-LUFT PACKING

	CNN	073	SET-85		
PACKING	TEF	LON	GRAPHITE		
ARRANGEMENT	1Q57044		1Q57049		
TRIM MATL	В	C	В	C	
316 SST	29	74	30	75	

#### **ITEM D - BONNET**

BONNET STYLE	MATERIAL	BUSHING	TEMP °F	TEMP °C
PLAIN, STYLE 4	WCC	N/A	-20+800	-29+427
& CAVITROL III	C5	N/A	-20+1100	-29+593
	CF8M	N/A	-325+1000	-198+538
	LCC	N/A	-50+650	-46+343
	WC6	N/A	-20+1000	-29+538
	WC9	N/A	-20+1050	-29+566
	CD3MN	N/A	-60+600	-51+316
	CD3MWCUN	N/A	-60+600	-51+316
EXT STYLE 1 & 2	WCC	STL 1018	-20+800	-29+427
	C5	STL 4340	-20+1000	-29+593
	CF8M	316 SST	-325+1000	-198+538
	WC6	STL 4340	-20+1000	-29+538
	WC9	STL 4340	-20+1050	-29+566
	CD3MN	S31803	-60+600	-51+316
	CD3MWCUN	S32760	-60+600	-51+316

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# Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

ITEM D - BONNET (CONT)

PBS 23A1250

								APPING
							WITH	W/O
DESIGN	SIZE	CLASS	BOSS	STYLE		MATL	D	D
Е	3	CL125-600	5	PLAIN		WCC	1	472
						C5	5	473
						CD3MN	-	516
				EXT ST	YLE 1	WCC	156	505
						C5	160	506
						WC9	161	513
		CL2500	5H	PLAIN		WCC	335	-
						C5	336	_
	4	CL125-600	5	PLAIN		WCC	26	474
						C5	30	475
						CF8M	35	476
						CD3MN	-	517
				EXT ST	YLE 1	WCC	181	507
						CF8M	190	508
						WC9	183	514
		CL2500	5	PLAIN		WCC	329	-
							332	-
					WC9	334	-	
	6	CL125-600	5	PLAIN		WCC	51	477
				EXT ST	YLE 1	WCC	206	509
						C5	210	510
						WC6	212	511
						WC9	208	515
		CL1500	5	PLAIN	STD TRIM	WCC	317	-
						C5	318	-
						WC6	320	-
						WC9	322	-
					CAV III 3 STAGE	WCC	363	-
						LCC	382	-
						WC6	383	-
		CL2500	5	PLAIN	STD TRIM	WCC	290	-
					CAV III 3 STAGE	WCC	367	-
				CHV III 3 STAGE	LCC	384	-	
						WC6	385	-
			5H	PLAIN		C5	348	-
						CF8M	351	-
						WC9	352	-
	8	CL125-600	5	EXT ST	YLE 1	WCC	297	512

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# Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

ITEM D - BONNET (CONT)

PBS 23A1250

							LUBR T	APPING
							WITH	W/O
DESIGN	SIZE	CLASS	BOSS	STYLE		MATL	D	D
ED, ET,	10	CL300	5	PLAIN	STD GASKET	WCC	445	478
ED-J,						WC9	446	479
ET-J						CF8M	447	480
					PTFE COPPER GSKT	WCC	448	487
						WC9	449	488
						CF8M	450	489
			5H	PLAIN		WCC	451	496
						WC9	452	497
						CF8M	453	498
	12	CL300	5	PLAIN	STD GASKET	WCC	454	481
						WC9	455	482
						CF8M	456	483
					USE W/PTFE COPPER GSKT	WCC	457	490
						WC9	458	491
						CF8M	459	492
			5H	PLAIN		WCC	460	499
						WC9	461	500
						CF8M	462	501
	16	CL300	5	PLAIN	STD GASKET	WCC	463	484
						WC9	464	485
						CF8M	465	486
					USE W/PTFE COPPER GSKT	WCC	466	493
						WC9	467	494
						CF8M	468	495
			5H	PLAIN		WCC	469	502
						WC9	470	503
		[				CF8M	471	504

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# Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

ITEM D - BONNET (CONT)

PBS 23A1250

NOTE: MODULES WITH \* ONLY MEET THE REQUIREMENTS OF NACE MR0175/ISO15156

						W/O LUBR TAPPING
DESIGN	SIZE	CLASS	BOSS	STYLE	MATERIAL	D
Е	3	CL125-600	5	PLAIN	CD3MN	518
						*516
					CD3MWCUN	*537
					CD3MN W/NORSOK	*544
					CD3MWCUN W/NORSOK	*551
				EXT STYLE 1	CD3MN	519
						*525
					CD3MWCUN	*538
					CD3MN W/NORSOK	*545
					CD3MWCUN W/NORSOK	*552
	4	CL125-600	5	PLAIN	CD3MN	520
						*517
					CD3MWCUN	*539
					CD3MN W/NORSOK	*546
					CD3MWCUN W/NORSOK	*553
				EXT STYLE 1	CD3MN	521
						*526
					CD3MWCUN	*540
					CD3MN W/NORSOK	*547
					CD3MWCUN W/NORSOK	*554
	6	CL125-600	5	PLAIN	CD3MN	522
						*527
					CD3MWCUN	*541
					CD3MN W/NORSOK	*548
					CD3MWCUN W/NORSOK	*555
				EXT STYLE 1	CD3MN	523
						*528
					CD3MWCUN	*542
					CD3MN W/NORSOK	*549
					CD3MWCUN W/NORSOK	*556
	8	CL125-600	5	EXT STYLE 1	CD3MN	524
						*529
					CD3MWCUN	*543
					CD3MN W/NORSOK	*550
					CD3MWCUN W/NORSOK	*557

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# Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

### ITEM D - BONNET (CONT)

PBS 23A1250

DESIGN	STYLE	SIZE	CLASS	BOSS	STYLE	MATL	D
EH	W/LUBR TAPPING	6	CL1500	5	PLAIN	WCC	441
						LCC	442
						C5	429
						WC9	430
						316	431
						316H	432
			CL2500	5	PLAIN	WCC	443
						LCC	444
						C5	435
						WC9	436
						316	437
						316H	438
		8, 10	CL1500	5H	PLAIN	WCC	386
						C5	387
						WC9	388
						316	389
						316H	390
		8, 10	CL2500	5H	PLAIN	WCC	396
						C5	397
						WC9	398
						316	399
						316H	400
		12, 14	CL1500	5H	PLAIN	WCC	391
						C5	392
						WC9	393
						316	394
						316H	395
			CL2500	5H	PLAIN	WCC	401
						C5	402
						WC9	403
						316	404
						316H	405

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# Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

### ITEM D - BONNET (CONT)

PBS 23A1250

DESIGN	SIZE	CLASS	BOSS	STYLE	MATL	D
EL	12	125-600	5	EXT STYLE 1	WCC	355
					C5	357
					LCC	356
					CF8M	439
					WC6	358
					WC9	359
		600	5H	PLAIN	WCC	412
					CF8M	413
		900	5	PLAIN	WCC	368
					WC9	372
	16	125-600	5	EXT STYLE 1	WCC	324
					C5	326
					CF8M	440
					WC9	328
		600	5H	PLAIN	WCC	414
					CF8M	415
		900	5	PLAIN	LCC	375
			5H	PLAIN	WCC	416
EW	6	900	5	PLAIN	WCC	406
					C5	407
					WC6	409
					WC9	408
					316	410
					316H	411
	8	900	5	PLAIN	WCC	422
					WC6	424
					WC9	423
					316	425
					316H	426
EW-1	8	900	5	PLAIN	WCC	417
					WC6	419
					WC9	418
					316	420
					316H	421
EWN-1	8	900	5	PLAIN	WCC	417
					WC6	419
					WC9	418
					316	420
					316H	421

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# Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

# ITEM E - PIPE PLUG/LUBRICATOR/ISOLATING VALVE ITEM J - LUBRICATOR FLUID

			LUBRICAT	OR FLUID		
					SILICONE	FLUROLUBE
BONNET	PLUG/LUBRICATOR ISOLATING V.	ALVE	BONNET	E	J	J
NON-TAPPED	NONE	ALL	N	N	N	
TAPPED	PIPE PLUG		WCC	1	N	N
			LCC	1	N	N
		C5	2	N	N	
			WC6	2	N	N
			WC9	2	N	N
			CF8M	2	N	N
	LUBRICATOR ISOLATING VALVE	CLASS 125-600	CF8M	-	1	2
			OTHER	10	1	2
		CLASS 1500-2500	CF8M	-	1	2
			OTHER	12	1	2

#### **ITEM F - BAFFLE**

DESIGN	BONNET	CLASS	SIZE	BONNET	F
Е	EXT STYLE 1	125-600	3-6	WCC	35
				C5	36
				WC6	36
				WC9	36
				CF8M	37
				CD3MN	38
				CD3MWCUN	39
			OTHER	ALL	N
	OTHER	ALL	ALL	ALL	N
OTHER	ALL	ALL	ALL	ALL	N

### ITEM K - ENVIRO-SEAL PACKING TAG

PACKING STYLE	K
ENVIRO-SEAL	1
OTHER	N

# ITEM 9B - PACKING ADJUSTMENT WARNING LABEL ITEM 9C - PACKING ASSY AND TEST

PKG ARRANGEMENTS	9B	9C
SINGLE PTFE W/STD SST OR 316SST PKG PARTS	N	N
HIGH-SEAL	N	N
LIVE LOADED (EXCEPT ISO-SEAL)	N	1
ISO-SEAL	N	2
ALL OTHER	1	N

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### Design E Bonnet Size NPS 3-16, Class 125-2500, 5 & 5H Boss, 1 1/4 Stem

ASSEMBLY DRAWING	
STANDARD BONNET	CU4317
EXTENSION BONNET	30A9425
LUBRICATOR	10A9421
LUBRICATOR ISOLATING VALVE	AJ5428
DESIGN EH	35A3976
ENVIRO-SEAL PTFE PACKING FOR STANDARD & EXTENSION BONNET	32B6700
ENVIRO-SEAL GRAPHITE ULF PACKING FOR STANDARD & EXTENSION BONNET	39B4612
ENVIRO-SEAL GRAPHITE PACKING FOR UNCLEAR FOR STANDARD & EXTENSION BONNET	39B6697
HIGH-SEAL GRAPHITE ULF PACKING	39B4153
GRAPHITE ULF PACKING	39B6701
SINGLE GRAPHITE COMPOSITE PACKING	39B6699
HIGH SEAL PACKING	32B5856
ISO-SEAL PACKING (CL125-600)	GF07999
ISO-SEAL PACKING (CL900-1500)	GF08002
ISO-SEAL PACKING (CL2500)	GF09719
ENVIRO-SEAL H2 DUPLEX	29B2878

**Revision Change Record**The date recorded on this document reflects the effective date of this revision.

**ECRN:** 20170720

**Matrix Section:** 

Item Module

Rev: CU

9B & 9C New High-Seal Packing Arrangement option, does not require Packing Assembly and Test,

does not require Packing Adjustment Warning Label.