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EWX3 - A B C D E F G H J K 9B 9C 9D

C-SEAL TRIM SELECTION STRING = EWX3-A E G J K 9C & CSEALX1-A B C D E 9A 9B

Item	Parts Contained in Item	Find Number
A	Valve Body	1
	Plug, Pipe, Hex HD	17
B	Cage	3
C	Plug	2
	Pin, Groove	8
	Seat Ring	9
	Disc Retainer	21
	Disc Seat	22
	Ring, Retaining, EXT	27
	Ring, Back-up	29
D	Disc	23
E	Gasket	10
	Gasket, Spiral Wound	12
	Gasket	13
	Gasket Shim	53
F	Ring, Piston	6
	Seal Ring	28
	Ring, Back-up	29
	Rings, Anti-Extrusion	63
G	Stud Bolt, CONT THD/S	15
	Nut, Hex, Heavy	16
H	Stem, Plug	7
J	Arrow, Flow Direction	18
	Screw, Drive	19
K	Screw, Drive	19
	Nameplate, SS Body	54
	Seal & Wire, Lead	55
9B	Type, Action, Flow Direction	
9C	Class/Hydro	
9D	Seat Leak Test Per FGS 4L5	

**ITEM A - VALVE BODY**

MANUFACTURE	BODY	TEMPERATURE °F	RATING	CWP (PSI)	END CONNECTION	DRAIN TAP	A
USA	WCC/ WCB	-20+800	CL150	290	RF	WITHOUT	210
			CL300	750	RF	WITHOUT	130
						WITH	154
	CF8M	-325+1000	CL600	1500	RF	WITHOUT	134
					SCHD 80 BWE	WITHOUT	126
			CL150	275	RF	WITHOUT	211
			CL300	720	RF	WITHOUT	132
						WITH	156



## ITEM A - VALVE BODY (CONTINUED)

MANUFACTURE	BODY	TEMPERATURE °F	RATING	CWP (PSI)	END CONNECTION	DRAIN TAP	A
FOREIGN	WCC/ WCB	-20+800	PN 10	145	EN1092-1/B (RF)	WITHOUT	212
					EN1092-1/F	WITHOUT	213
			PN 16	232	EN1092-1/B (RF)	WITHOUT	170
					EN1092-1/F	WITHOUT	214
			PN 25	363	EN1092-1/B (RF)	WITHOUT	174
					EN1092-1/F	WITHOUT	215
			PN 40	580	EN1092-1/B (RF)	WITHOUT	178
					EN1092-1/F	WITHOUT	216
			PN 63	914	EN1092-1/B (RF)	WITHOUT	182
					EN1092-1/F	WITHOUT	217
	CF8M	-325+1000	PN 100	1450	EN1092-1/B (RF)	WITHOUT	186
					EN1092-1/F	WITHOUT	218
			PN 10	145	EN1092-1/B (RF)	WITHOUT	219
					EN1092-1/F	WITHOUT	220
			PN 16	232	EN1092-1/B (RF)	WITHOUT	172
					EN1092-1/F	WITHOUT	221
			PN 25	363	EN1092-1/B (RF)	WITHOUT	176
					EN1092-1/F	WITHOUT	222
			PN 40	580	EN1092-1/B (RF)	WITHOUT	180
					EN1092-1/F	WITHOUT	223
			PN 63	914	EN1092-1/B (RF)	WITHOUT	184
					EN1092-1/F	WITHOUT	224
			PN 100	1450	EN1092-1/B (RF)	WITHOUT	188
					EN1092-1/F	WITHOUT	225
	C5	-20+1100	PN 16	232	EN1092-1/B (RF)	WITHOUT	171
			PN 25	363	EN1092-1/B (RF)	WITHOUT	175
			PN 40	580	EN1092-1/B (RF)	WITHOUT	179
			PN 63	914	EN1092-1/B (RF)	WITHOUT	183
			PN 100	1450	EN1092-1/B (RF)	WITHOUT	187
	WC9	-20+1100	PN 16	232	EN1092-1/B (RF)	WITHOUT	173
			PN 25	363	EN1092-1/B (RF)	WITHOUT	177
			PN 40	580	EN1092-1/B (RF)	WITHOUT	181
			PN 63	914	EN1092-1/B (RF)	WITHOUT	185
			PN100	1450	EN1092-1/B (RF)	WITHOUT	189
	LCC/ LCB	-50+650	PN 10	145	EN1092-1/B (RF)	WITHOUT	226
					EN1092-1/F	WITHOUT	227
			PN 16	232	EN1092-1/B (RF)	WITHOUT	228
					EN1092-1/F	WITHOUT	229
			PN 25	363	EN1092-1/B (RF)	WITHOUT	230
					EN1092-1/F	WITHOUT	231
			PN 40	580	EN1092-1/B (RF)	WITHOUT	232
					EN1092-1/F	WITHOUT	233
			PN 63	914	EN1092-1/B (RF)	WITHOUT	234
					EN1092-1/F	WITHOUT	235
			PN 100	1450	EN1092-1/B (RF)	WITHOUT	236
					EN1092-1/F	WITHOUT	237

**ITEM B - CAGE**

7 PORT, 2 TRAVEL

					TRIM/BODY LIMIT		
CAGE	VALVE PLUG			SEAT RING	TEMP °F	BODY	TEMPERATURE °F
17-4PH	416 SST			416 SST	-20+800	WCC, WC9	-20+500
						316	-20+225
				316 SST	-20+800	316	-20+350
	316 SST	STANDARD		316 SST	-150+410	316	-150+350
		HF SEAT		316/HF	-150+300		
		HF SEAT/GUIDE	STANDARD	316/HF	-150+410	316	-100+350
HI-TEMP	316/HF		+410+800	316	(M)		
316 SST ENC	416 SST			416 SST	-20+410		
	316 SST	STANDARD		316 SST	-425+600	C5	-20+275
		HF SEAT		316/HF	-425+300	C5	-20+275
		HF SEAT/GUIDE	STANDARD	316/HF	-425+650	WCC, WC9	-20+325
						C5	-20+275
			HI-TEMP	316/HF	-425+1100	WCC, WC9	-20+325
					C5	-20+275	

SEAT LOAD NOT CONSIDERED, CANNOT EXCEED CWP

	DESIGN	SEAT	STEM	VALVE PLUG	SEAT RING	MAXIMUM ΔP (PSI)
SHUT OFF	EWD	METAL	ALL	416 SST	416 SST	1500
					316 SST	300
				316 SST	316 SST	300
				316SST/HF SEAT OR SEAT/GUIDE	316/HF	1500
	EWS	METAL	3/4 1	416 SST	416 SST	298
				416 SST	416 SST	427
	EWT	METAL	ALL	416 SST	416 SST	1500
					316 SST	300
				316 SST	316 SST	300
				316SST/HF SEAT OR SEAT/GUIDE	316/HF	1500
		COMPOSITION	ALL	416 SST	416 SST	1500
					316 SST	1500
				316 SST	316 SST	1500
				316SST/HF SEAT OR SEAT/GUIDE	316/HF	1500
FLOWING	ALL	ALL	ALL	ALL	ALL	1500

CAGE	CHARACTERISTIC	B
17-4PH H900	EQUAL PERCENT	1
	LINEAR	10
	Q-OPEN	19
	WHISPER	28
316 SST ENC	EQUAL PERCENT	8
	LINEAR	17
	WHISPER	80

**ITEM C - VALVE PLUG, SEAT RING & GROOVE PIN**

DESIGN EWT, 6 13/16 PORT, 2 INCH TRAVEL, TIGHT SHUTOFF TRIM  
 SPRING LOADED SEAL RING WITH ANTI-EXTRUSION RING VSC 1L7500

CAGE	PLUG	SEAT RING	STEM	TSO TRIM
S17400	S44004/ S17400	S44004	S31600	<b>C</b> 299

STANDARD SHUT OFF CLASS SEE ITEM 9D

DESIGN	SEAT	SHUT OFF	VSC	VALVE PLUG	SEAT RING	C
EWD	METAL	STANDARD	1L7500	416 SST	416 SST	52
				316 SST	316 SST	53
				316 SST/HF SEAT/GUIDE	STANDARD	256
				HI-TEMP	316/HF	257
				316 SST	416 SST	281
				316 SST	316 SST	282
		CLASS IV	1L7500	316 SST/HF SEAT	316/HF	283
				316 SST/HF SEAT/GUIDE	STANDARD	284
				HI-TEMP	316/HF	285
				416 SST	416 SST	286
				316 SST	316 SST	287
				316 SST/HF SEAT	316/HF	288
			1L1000	316 SST/HF SEAT/GUIDE	STANDARD	289
				HI-TEMP	316/HF	290
				416 SST	416 SST	136
EWS	METAL	STANDARD	1L7500	416 SST	416 SST	136
EWT	METAL	STANDARD	1L7500	416 SST	416 SST	52
				316 SST	316 SST	53
				316 SST/HF SEAT/GUIDE	316/HF	256
	COMPOSITION	STANDARD	1L7500	416 SST	316 SST	215
	SPRING LOADED SEAL RING WITH ANTI-EXTRUSION RING	STANDARD	1L7500	416 SST	416 SST	300
				316 SST/HF SEAT	316/HF	306
				316 SST/HF SEAT/GUIDE	STANDARD	304
				HI-TEMP	316/HF	302
			1L1000	416 SST	416 SST	301
				316 SST/HF SEAT	316/HF	307
				316 SST/HF SEAT/GUIDE	STANDARD	305
				HI-TEMP	316/HF	303

**ITEM D - DISC**

SEAT TYPE	DISC	TEMPERATURE °F	D
COMPOSITION	PTFE	-100+400	1
METAL	N/A	N/A	N

**ITEM E - GASKETS**

FLAT SHEET	SPIRAL WOUND	TEMPERATURE °F	E
GRAPHITE/SST	INCONEL & GRAPHITE	+450+1100	26

**ITEM F - PISTON RING OR SEAL RING**

## DESIGN EWD

SERVICE	PISTON RING	TEMP °F	STANDARD	CLASS IV PLUGS
			F	F
STANDARD	CARBON PTFE	-100+450	1	M
STEAM OR NON OXIDIZING FLUIDS	GRAPHITE FMS 17F19	+450+600	2	M
	GRAPHITE FMS 17F27	+601+900	5	11
	GRAPHITE FMS 17F39	+901+1100	10	12
AIR OR OXIDIZING FLUIDS	GRAPHITE FMS 17F27	+450+800	5	11
	GRAPHITE FMS 17F39	+801+1000	10	12

## DESIGN EWT

CONSTRUCTION	SEAL RING	BACK UP WITH ANTI-EXTRUSION	TEMP °F	SERVICE	F
STANDARD	CARBON/PTFE FMS 17F18	VITON FMS 17G34	0+400	NACE NOT WATER>180 °F OR STEAM	3
		ETHYL PROPYL FMS17G39	-40+450	NOT HYDROCARBON (OIL)	14
SPRING LOADED SEAL RING	N10276/PTFE GLASS/MOS2	N/A	-100+450	ALL	9
	R30003/PTFEPPVE	PEEK	-100+500	OXIDIZING	15
			-100+600	NON-OXIDIZING	15



## ITEM G - BODY/BONNET BOLTING

BOLTING	NUT	TEMPERATURE °F		CWP (PSI/100 °F)
		BOLT/NUT	BODY/BOLT	
B7/NCF2	2H/NCF2	-50+800		SAME AS BODY
	GRADE 7/NCF2	-50+1000		SAME AS BODY
B7M/NCF2	2HM/NCF2	-50+800	CF8M -50+450	1085
B8M CLASS 2	8M	-325+800		1085
B8M CLASS 1	8M	-325+1000		975
B16	GRADE 7	-20+1100		SAME AS BODY

BONNET STYLE	SERVICE	BOBY	TEMP °F	BOLT	NUT	G
PLAIN & EXT.	STANDARD	WCC	-20+800	B7/NCF2	2H/NCF2	16
		WC9	-20+800	B7/NCF2	2H/NCF2	16
			+801+1000	B7/NCF2	GRADE 7/NCF2	15
			+1001+1050	B16	GRADE 7 LUBRICANT	17
		C5	-20+800	B7/NCF2	2H/NCF2	16
			+801+1000	B7/NCF2	GRADE 7/NCF2	15
			+1001+1100	B16	GRADE 7 LUBRICANT	17
		CF8M	-325+450	B8M CLASS 2	8M	3
			-20+800	B7/NCF2	2H/NCF2	16
			+451+800	B8M CLASS 2	8M LUBRICANT	18
			+801+1000	B8M CLASS 1	8M LUBRICANT	19
BELLOWS SEAL	STANDARD	NACE	-20+800	B7M/NCF2	2HM/NCF2	14
		CF8M	-50+450	B7M/NCF2	2HM/NCF2	14
		WCC	+451+800	B7/NCF2	2H/NCF2	22
		WC9	+451+800	B7/NCF2	2H/NCF2	22
			+801+1000	B7/NCF2	GRADE 7/NCF2	21
			+1001+1050	B16	GRADE 7 LUBRICANT	23
		C5	+451+800	B7/NCF2	2H/NCF2	22
			+801+1000	B7/NCF2	GRADE 7/NCF2	21
			+1001+1100	B16	GRADE 7 LUBRICANT	23
		CF8M	+451+800	B7/NCF2	2H/NCF2	22
				B8M CLASS 2	8M LUBRICANT	24
			+801+1000	B8M CLASS 1	8M LUBRICANT	25

**ITEM H - VALVE STEM (OMIT W/TIGHT SHUTOFF TRIM)**

STEM	ACTUATOR GROUP/DS79	VSC	BONNET STYLE	DESIGN	H
316 SST	1	1L7500	PLAIN	ALL	1
			EXTENSION STYLE 1	ALL	8
	100	1L1000	PLAIN	EWD CLASS IV	171
				ALL OTHER	57
			EXTENSION STYLE 1	EWD CLASS IV	172
	101	1L1000	PLAIN	EWD CLASS IV	173
				ALL OTHER	113

**ITEM J - FLOW ARROW & DRIVE SCREW**

**J**  
1

**ITEM K - NAMEPLATE**

**K**  
1

**ITEM 9B - TYPE, ACTION, FLOW DIRECTION**

ACTION	FLOW DIRECTION	DESIGN	9B
PDTC	UP	EWD	4
		EWT	5
		EWS	6
	DOWN	EWD	1
		EWS	3
		EWT	2

**ITEM 9C - CLASS/HYDRO**

BODY	RATING	BODY/BONNET BOLTING	HYDRO (PSI/MIN)	9C
WCC/WCB, WC9, C5 & CF8M	CL300	ALL	1125/5	1
	CL600	B8M CLASS 1	1475/5	-
		B8M CLASS 2	1650/5	-
		B7M	1650/5	-
		ALL OTHER	2250/5	2
WCC/WCB, CF8M, C5, WC9& LCC/LCB	PN10	ALL	225/3	3
	PN16		350/3	4
	PN25		550/3	5
	PN40		875/3	6
	PN63	ALL	1375/5	7
	PN100	B8M CLASS 1	1475/5	-
		B8M CLASS 2	1650/5	-
		B7M	1650/5	-
		ALL	2175/5	8



**ITEM 9D - SEAT LEAK TEST PER FGS 4L5**

DESIGN	SEAT	SEAL OR PISTON RING	FLOW	CHARACTERISTIC	LEAK CLASS	VALUE	9D
EWD	METAL	PISTON RING	DOWN	EQUAL PERCENT	II(SCFH)	9349	1
					IV(SCFH)	108.9	5
				LINEAR	II(SCFH)	7505	2
					IV(SCFH)	150.1	6
			UP	Q-OPEN	II(SCFH)	5790	3
					IV(SCFH)	115.8	7
				WHISPER	II(SCFH)	7699	4
					IV(SCFH)	153.9	8
EWT	TIGHT SHUTOFF	SPRING LOADED W/ PEEK ANTI-EXTRUSION	DOWN	ALL	TSO	0 DROPS /30 SEC	23
	METAL	STANDARD & SPRING LOADED WITHOUT ANTI-EXTRUSION RING	DOWN	EQUAL PERCENT	IV(SCFH)	186	9
					IV(SCFH)	150	10
					IV(SCFH)	115	11
			UP	WHISPER	IV(SCFH)	153	12
		SPRING LOADED WITH PEEK ANTI-EXTRUSION	ALL	ALL	V WATER TEST (ML/MIN)	*	22
	COMP	STANDARD & SPRING LOADED WITHOUT ANTI-EXTRUSION RING	ALL	ALL	V AIR TEST (ML/MIN))	32.90	21
EWS	METAL	N/A	UP	EQUAL PERCENT	IV(SCFH)	194	13
					IV(SCFH)	148	14
					IV(SCFH)	109	15
					IV(SCFH)	153	17
	COMP	N/A	UP	ALL	VI(BUBBLE/MIN)	36	16

\*CLASS V MUST BE CALCULATED

EWT, SPRING LOADED SEAL RING W/ANTI-EXTRUSION RING ASSEMBLY DRAWING 21B2120

EWT, ASSEMBLY DRAWING 43B8590

EWS, ASSEMBLY DRAWING 31A9274

EWD, ASSEMBLY DRAWING 41A9275

EWD CLASS IV ASSEMBLY DRAWING 47A7189

**Revision Change Record**

The date recorded on this document reflects the effective date of this revision.

ECRN: 20170686

**Matrix Section:**

For ITEM - A VALVE BODY and Item 9C - CLASS/HYDRO: Updated the "WCC" Body to "WCC/WCB".

<b>Item</b>	<b>Module</b>	<b>Changes</b>
A	212	New – foreign manufacture, WCC/WCB body, -20+800 temperature °F, PN 10 rating, 145 CWP (PSI), EN 1092-1/B (RF) end connection, without drain tap body.
	213	New – foreign manufacture, WCC/WCB body, -20+800 temperature °F, PN 10 rating, 145 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	214	New – foreign manufacture, WCC/WCB body, -20+800 temperature °F, PN 16 rating, 232 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	215	New – foreign manufacture, WCC/WCB body, -20+800 temperature °F, PN 25 rating, 363 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	216	New – foreign manufacture, WCC/WCB body, -20+800 temperature °F, PN 40 rating, 580 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	217	New – foreign manufacture, WCC/WCB body, -20+800 temperature °F, PN 63 rating, 914 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	218	New – foreign manufacture, WCC/WCB body, -20+800 temperature °F, PN 100 rating, 1450 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	219	New – foreign manufacture, CF8M body, -325+1000 temperature °F, PN 10 rating, 145 CWP (PSI), EN 1092-1/B (RF) end connection, without drain tap body.
	220	New – foreign manufacture, CF8M body, -325+1000 temperature °F, PN 10 rating, 145 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	221	New – foreign manufacture, CF8M body, -325+1000 temperature °F, PN 16 rating, 232 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	222	New – foreign manufacture, CF8M body, -325+1000 temperature °F, PN 25 rating, 363 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	223	New – foreign manufacture, CF8M body, -325+1000 temperature °F, PN 40 rating, 580 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	224	New – foreign manufacture, CF8M body, -325+1000 temperature °F, PN 63 rating, 914 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	225	New – foreign manufacture, CF8M body, -325+1000 temperature °F, PN 100 rating, 1450 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	226	New – foreign manufacture, LCC/LCB body, -325+1000 temperature °F, PN 10 rating, 145 CWP (PSI), EN 1092-1/B (RF) end connection, without drain tap body.
	227	New – foreign manufacture, LCC/LCB body, -325+1000 temperature °F, PN 10 rating, 145 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	228	New – foreign manufacture, LCC/LCB body, -325+1000 temperature °F, PN 16 rating, 232 CWP (PSI), EN 1092-1/ B (RF) end connection, without drain tap body.
	229	New – foreign manufacture, LCC/LCB body, -325+1000 temperature °F, PN 16 rating, 232 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	230	New – foreign manufacture, LCC/LCB body, -325+1000 temperature °F, PN 25 rating, 363 CWP (PSI), EN 1092-1/ B (RF) end connection, without drain tap body.
	231	New – foreign manufacture, LCC/LCB body, -325+1000 temperature °F, PN 25 rating, 363 CWP (PSI), EN 1092-1/F end connection, without drain tap body.
	232	New – foreign manufacture, LCC/LCB body, -325+1000 temperature °F, PN 40 rating, 580 CWP (PSI), EN 1092-1/ B (RF) end connection, without drain tap body.
	233	New – foreign manufacture, LCC/LCB body, -50+650 temperature °F, PN 40 rating, 580 CWP (PSI), EN 1092-1/ F end connection, without drain tap body.
	234	New – foreign manufacture, LCC/LCB body, -50+650 temperature °F, PN 63 rating, 914 CWP (PSI), EN 1092-1/ B (RF) end connection, without drain tap body.
	235	New – foreign manufacture, LCC/LCB body, -50+650 temperature °F, PN 63 rating, 914 CWP (PSI), EN 1092-1/ F end connection, without drain tap body.



Item	Module	Changes(Continued)
	236	New – foreign manufacture, LCC/LCB body, -50+650 temperature °F, PN 100 rating, 1450 CWP (PSI), EN 1092-1/ B (RF) end connection, without drain tap body.
	237	New – foreign manufacture, LCC/LCB body, -50+650 temperature °F, PN 100 rating, 1450 CWP (PSI), EN 1092-1/ F end connection, without drain tap body.
9C	3	New – PN 10 RATING, 225/3 HYDRO (PSI/MIN) for WCC/WCB, CF8M, C5, WC9& LCC/LCB body material all body/bonnet bolting.
	4	New – PN 16 RATING, 350/3 HYDRO (PSI/MIN) for WCC/WCB, CF8M, C5, WC9& LCC/LCB body material all body/bonnet bolting.
	5	New – PN 25 RATING, 550/3 HYDRO (PSI/MIN) for WCC/WCB, CF8M, C5, WC9& LCC/LCB body material all body/bonnet bolting.
	6	New – PN 40 RATING, 875/3 HYDRO (PSI/MIN) for WCC/WCB, CF8M, C5, WC9& LCC/LCB body material all body/bonnet bolting.
	7	New – PN 63 RATING, 1375/5 HYDRO (PSI/MIN) for WCC/WCB, CF8M, C5, WC9& LCC/LCB body material all body/bonnet bolting.
	8	New – PN 100 RATING, 2175/5 HYDRO (PSI/MIN) for WCC/WCB, CF8M, C5, WC9& LCC/LCB body material all body/bonnet bolting.