



# TABLE OF CONTENTS

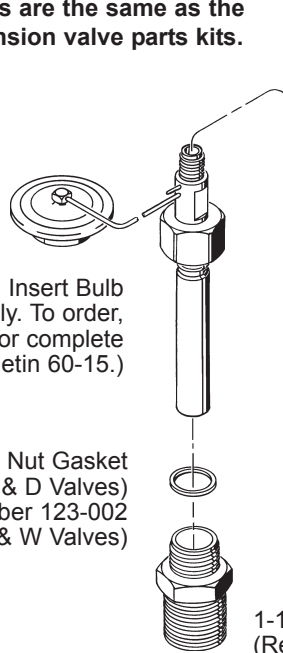
<b>LEVEL MASTER CONTROL</b> .....	3
<b>THERMOSTATIC EXPANSION VALVES</b>	
Types BF, SBF, EBF .....	4
Type F, EF .....	5
Types G, EG, C .....	6
Types S, EBS, P .....	7
Type O .....	8
Type Q, BQ .....	9-11
Thermostatic Expansion Valve Parts List.....	12-13
Types H, M .....	14
Types V, W .....	15
Types D, A .....	16
Internal Valve Parts Kits / Bottom Cap Assembly Kits .....	17
Valve / Element Identification .....	18-19
<b>SOLENOID VALVES</b>	
Rapid Cycle - Types XWG, XXF, XUP, XRN, XRM, XPO .....	20
Industrial Series - Types W3, W6, W14, W19, W25, (K)(B)R183, (K)(B)R184, (K)(B)R246, XOF, XJH .....	21
Normally Closed - Types A3, E3, E5, (M)B6, (M)E6, (C)(M)B9, (C)(M)B10, (C)(M)E10, (C)(M)B14, (C)(M)E14, (C)(M)B19, (C)(M)E19, (M)B25, (M)B33, (M)E34, (M)E42 .....	22, 24, 25
Normally Open - Types OB9, OE9, OB10, OE10, OB14, OE14, OB19, OE19, OB25, OE25, OB33, OE34, OE42 .....	23-25
Flange Type - Types MA5, MA17 .....	26-27
Types MA32, MA42, MA50 .....	26, 28
Three Way Valves - Types 8D, 12D, 16D, 10G .....	29-30
Replacement Parts Kits .....	31
<b>CAP SCREW, BOLT AND NUT SPECIFICATION TABLE</b> .....	32
<b>REPLACEABLE CORE TYPE CATCH-ALLS</b>	
Type C-R420 Series .....	33
Type C-480 Series through C-1920 Series .....	34-36
Type C-30000 and C-40000 Series .....	37
<b>REPLACEABLE SUCTION FILTERS</b>	
Types RSF-480 and RSF-960 Series .....	38
<b>PRESSURE REGULATING VALVES</b>	
Types (A)DRI(E), (A)DRS(E), (A)DRP(E), (A)DRH(E) .....	39
Types (S)ORIT-12, (S)ORIT-15, (S)ORIT-20 .....	40-41
Type (S)ORIT-PI .....	42
Types SHGB-8-0/100 .....	43
Types SHGB-15 .....	44
Types (O)LDR, XTM, XTO .....	45
Types DDR-20 .....	46
Types CRO(E)-4, CRO(T)-6, CRO(T)-10 .....	47
Types ORI(T)-6, ORI(T)-10, OROA-5 .....	47
Types ORIT-15, -20 65/225 and CROT-12, -15 65/225 .....	47
<b>AUTOMATIC EXPANSION VALVES</b>	
Types C, S, P, PDA, AJ(E), ADRI(E) .....	47
<b>STEP ELECTRIC "O" VALVES</b>	
Type SEO .....	48
Type CDS .....	49
Type SDR .....	50
Type SEI/SEH .....	51
<b>OIL LEVEL CONTROL SYSTEMS</b> .....	52
<b>SEE-ALL MOISTURE &amp; LIQUID INDICATORS</b> .....	53
<b>STRAINERS</b> .....	53
<b>ALPHA-NUMERIC PARTS LIST</b> .....	54-55

# LEVEL MASTER CONTROL

LMC Valve Internal Parts Kits are the same as the standard thermostatic expansion valve parts kits.

Thermostatic Element and Insert Bulb (supplied with heater assembly. To order, specify voltage and wattage. For complete element description, see Bulletin 60-15.)

Lock Nut Gasket  
Part Number 106-001 (A & D Valves)  
or Part Number 123-002  
(H, M, P, V, & W Valves)



1/2" Male Conduit Adapter  
Part Number 144-000

Spacer  
Part Number 149-000

2' Cord Length

Heater Assembly (consists of heater element, lead wire and protective thermostatic switch. All heater assemblies are supplied with the lock nut gasket, Part Number 106-001 or 123-002. (To order, specify voltage and wattage.)

1-1/4" Male Pipe Adapter  
(Retainer) Part Number  
148-000

## THERMOSTATIC EXPANSION VALVES

PART NUMBER	PART DESCRIPTION DRAWINGS ON PAGES 4, 5, 6, 7 & 8	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE													
		FLARE & SOLDER CONNECTIONS													
		F	EF	BF	EBF	SBF	G	EG	C	S	EBS	P	Small O	Large O	
772-000	Inlet Strainer						1								
3008-000		1		1											
1538-000		1		1				1							
588-000		3/8" SAE								1					
589-000		1/2" SAE								1					
590-000		5/8" SAE								1					
1524-000		3/8" ODF		1											
1935-000*									1						
3427-000**							1		1						
877-003						1									
1543-002			1/4" ODF		1										
877-004			1/2" ODF		1								1		
877-005			5/8" ODF										1		
220-000			Seal Cap											1	
420-000								1	1	1	1	1		1	
1053-000		1		1	1	1	1								
106-005	Seal Cap Gasket											1		1	
†	Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	
2113-000	Spring Guide											1	1		
413-000							1	1	1	1					
213-000														1	
688-002	Spring Guide Stamping						1	1	1	1	1				

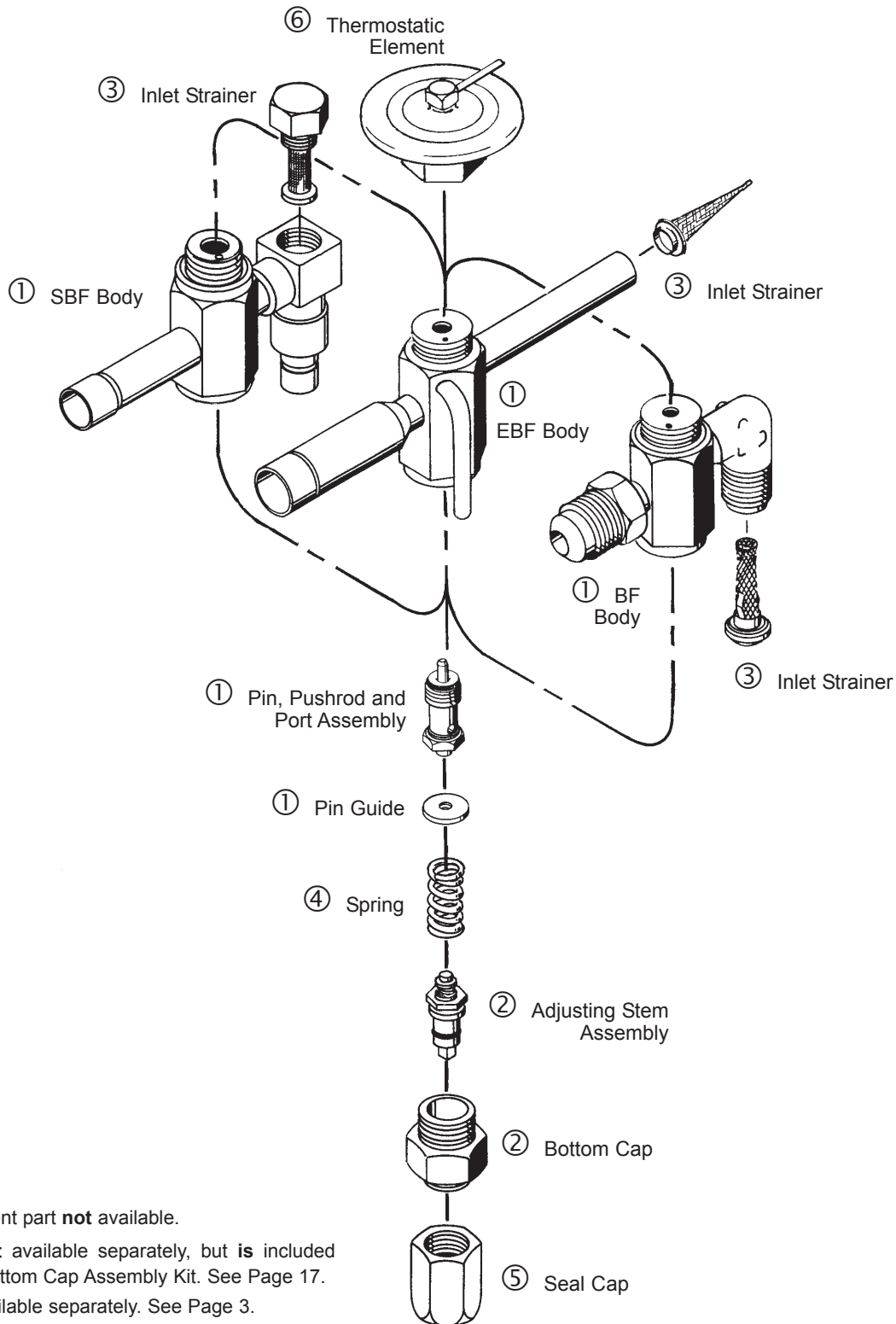
† Specify Thermostatic Charge and Valve Type.

\* Used on Type EG Valves manufactured prior to date code 2294. Strainer has 1/2" hex head.

\*\* Used on and after date code 2294. Strainer has 5/8" hex head.

# TYPES BF, SBF and EBF

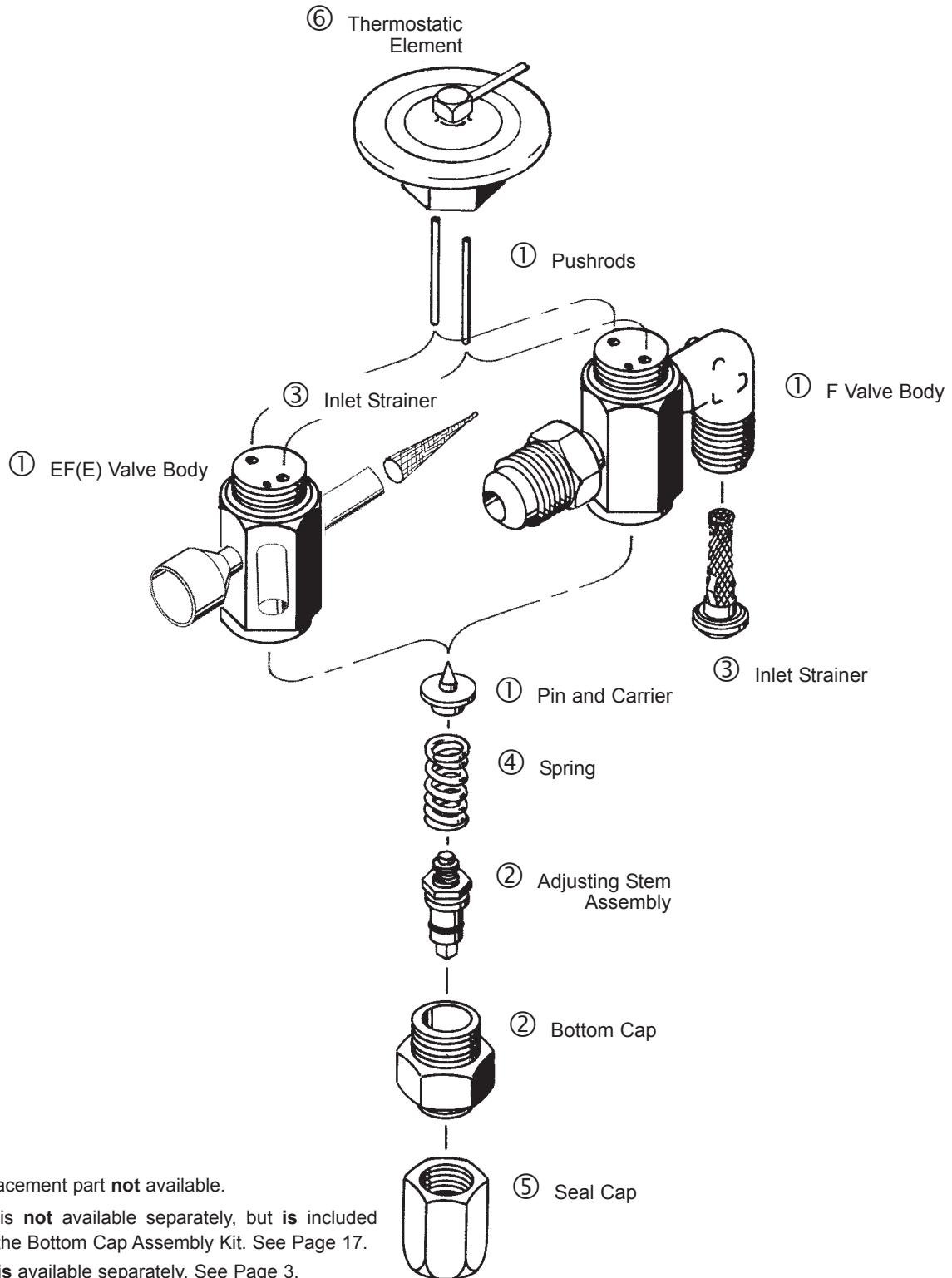
See Parts Table on Page 3



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ③ Part **is** available separately. See Page 3.
- ④ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑤ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑥ For replacement elements, See Pages 18 & 19.

# TYPES F and EF

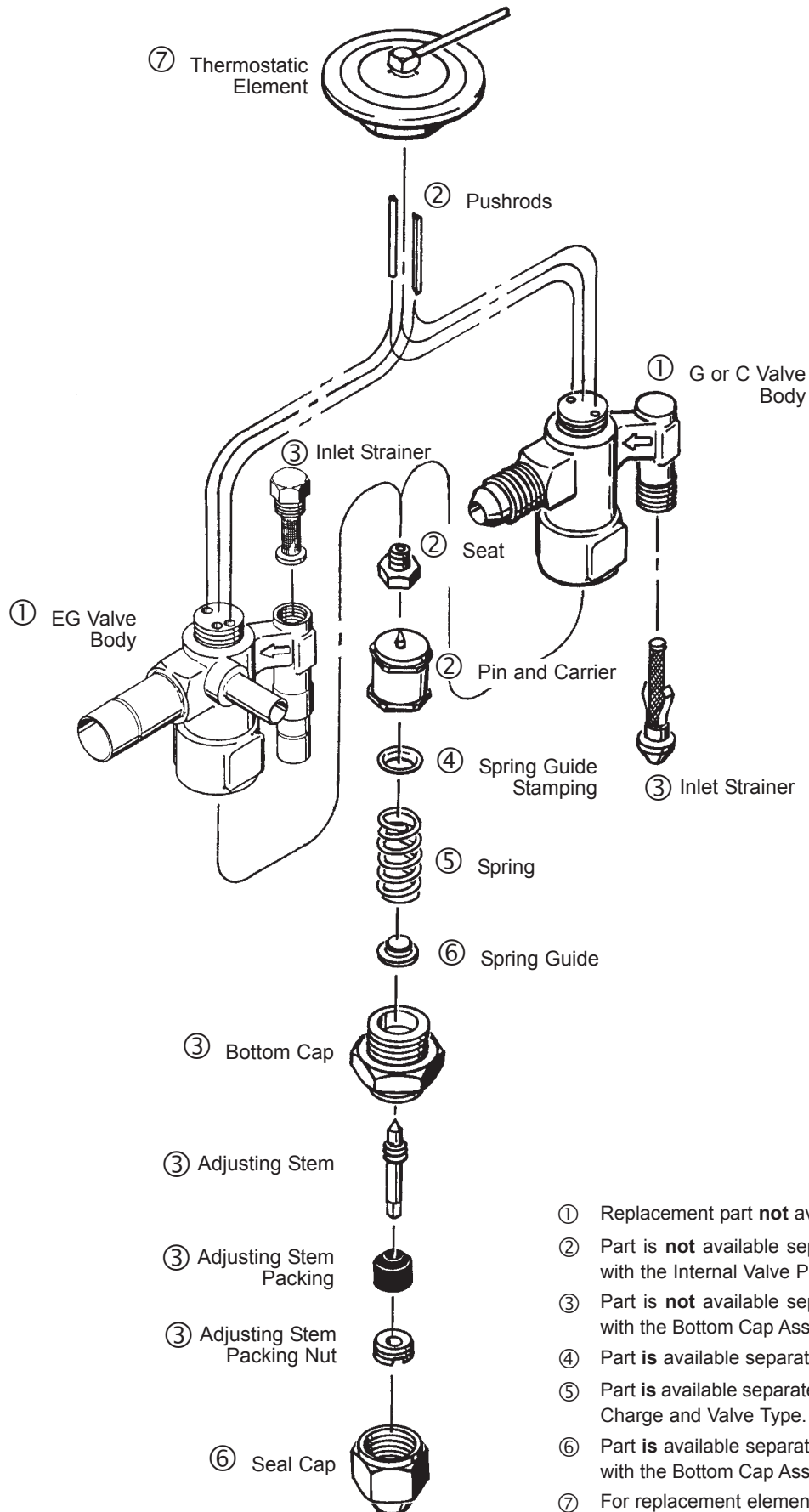
See Parts Table on Page 3



- ① Replacement part **not** available.
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- ③ Part **is** available separately. See Page 3.
- ④ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑤ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑥ For replacement elements, See Pages 18 & 19.

# TYPES EG, G or C

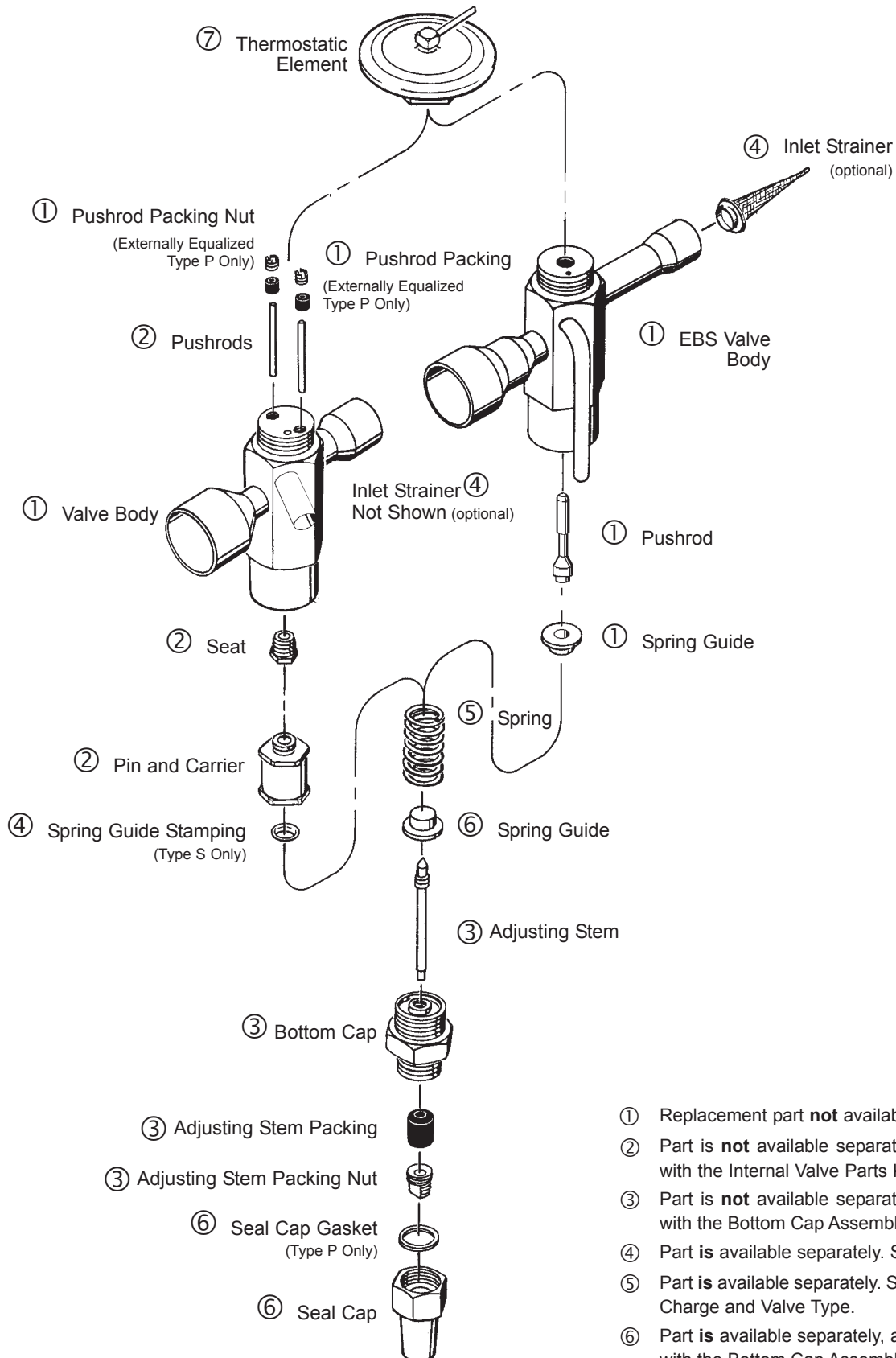
See Parts Table on Page 3



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Internal Valve Parts Kit. See Page 17.
- ③ Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ④ Part **is** available separately. See Page 3.
- ⑤ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑥ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑦ For replacement elements, See Pages 18 & 19.

# TYPES S, EBS or P

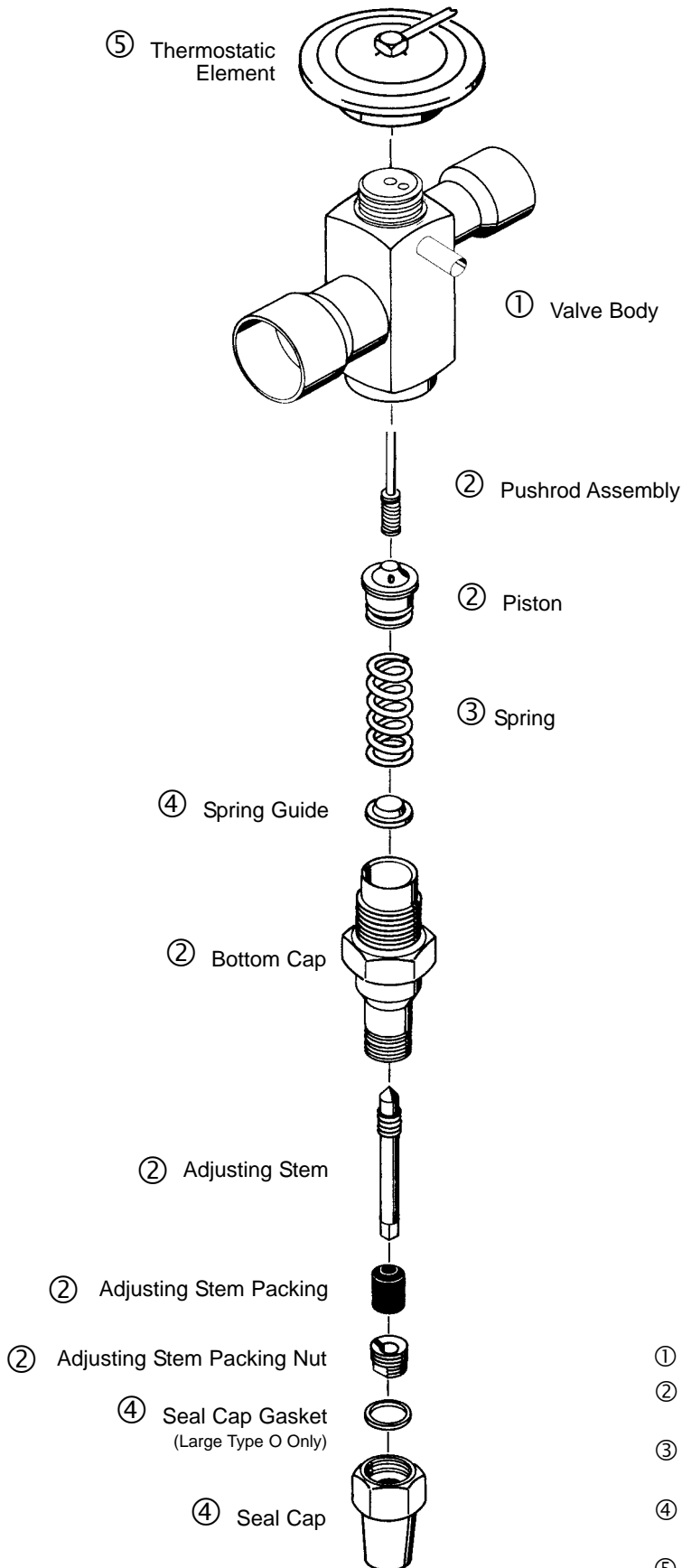
See Parts Table on Page 3



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Internal Valve Parts Kit. See Page 17.
- ③ Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ④ Part **is** available separately. See Page 3.
- ⑤ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑥ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑦ For replacement elements, See Pages 18 & 19.

# TYPE O (small and large)

See Parts Table on Page 3

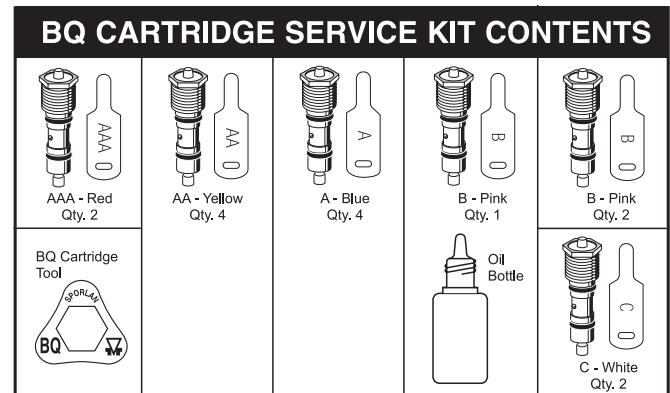
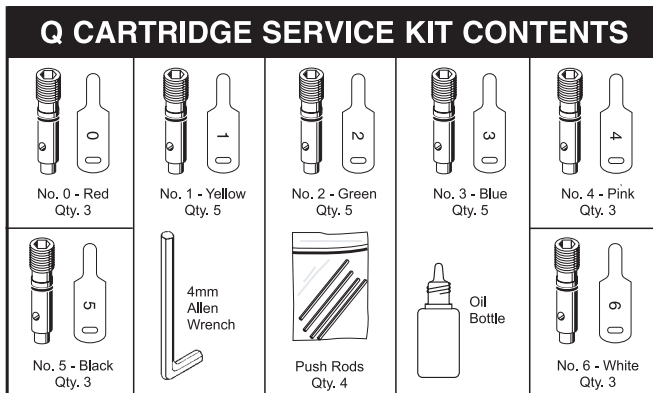


- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ③ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ④ Part is available separately and **is** also included with the Internal Valve Parts Kit. See Page 17.
- ⑤ For replacement elements, See Pages 18 & 19.

# TYPE Q and BQ

Q CARTRIDGE SERVICE KIT				BQ CARTRIDGE SERVICE KIT			
PART NO.	ITEM NUMBER	SIZE	COLOR CODE	PART NO.	ITEM NUMBER	SIZE	COLOR CODE
<b>CARTRIDGE AND I.D. TAG*</b>							
QC-0	168070	0	Red	BQC-AAA	168303	AAA	Red
QC-1	168072	1	Yellow	BQC-AA	168304	AA	Yellow
QC-2	168074	2	Green	BQC-A	168306	A	Blue
QC-3	168076	3	Blue	BQC-B	168307	B	Pink
QC-4	168078	4	Pink	BQC-C	168308	C	White
QC-5	168080	5	Black				
QC-6	168082	6	White				
<b>MISCELLANEOUS PARTS</b>				<b>MISCELLANEOUS PARTS</b>			
OB-1	184001	Oil Bottle (With Oil)		OB-1	184001	Oil Bottle (With Oil)	
AW-1	184002	4 mm Allen Wrench		4444-000	184008	BQ Cartridge Tool	
CSK-1	184003	Cartridge Service Kit (Empty)		BCSK-1	184010	Cartridge Service Kit (Empty)	
184000	184000	Cartridge Service Kit (See illustration below for kit contents)		184007	184007	Cartridge Service Kit (See illustration below for kit contents)	
2384-000	2384-000	(4) Pushrods - Not Available Separately		621-010	958093	Cartridge O-Ring (Cartridge Requires 2 O-Rings)	
791-001	184004	Cartridge O-Ring					

\* The ID tag is included with each cartridge.  
Each cartridge size is available only in multiples of 5.



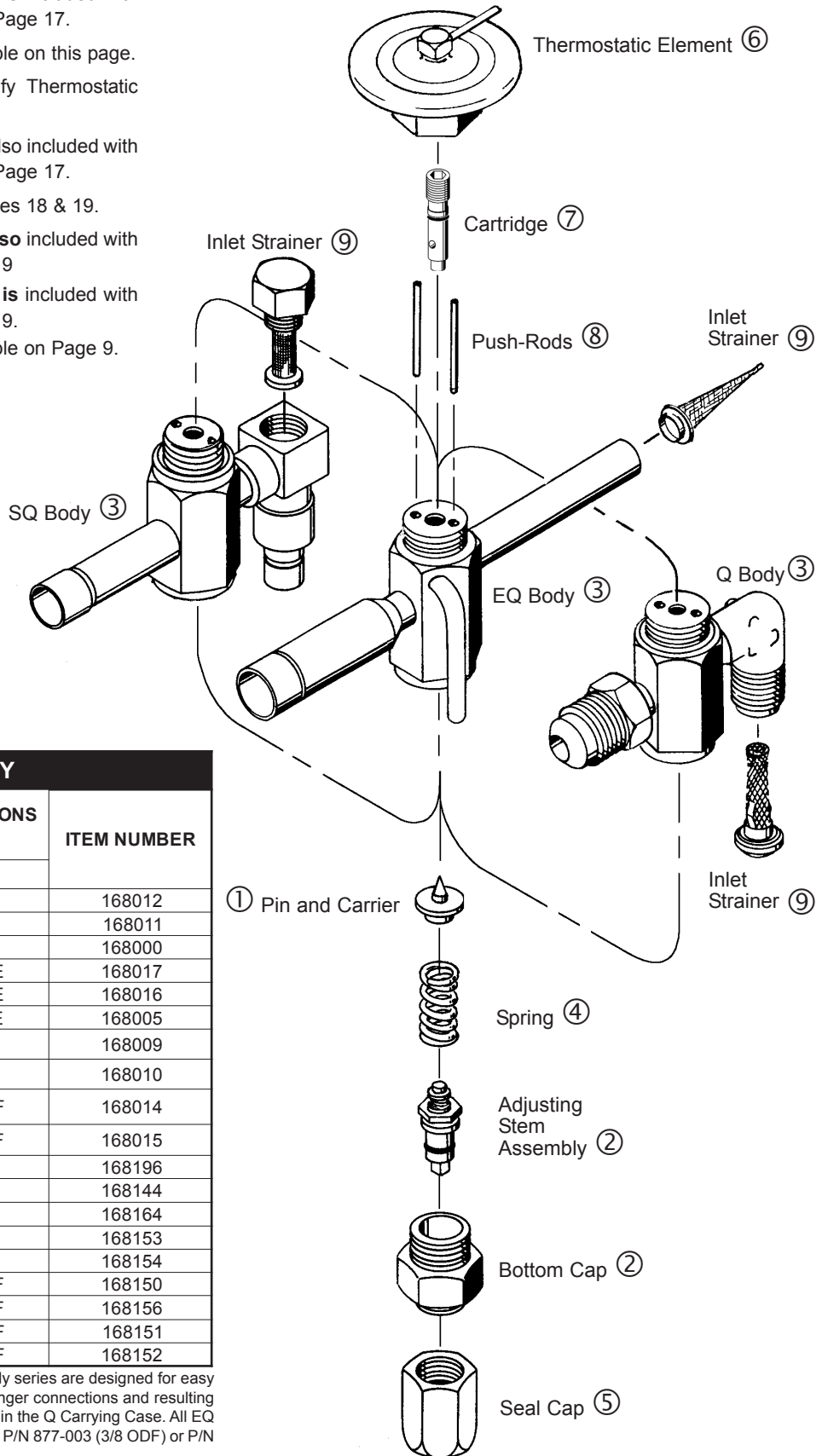
PART NUMBER	PART DESCRIPTION DRAWINGS ON PAGES 10 & 11**	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE						
		Q	SQ	EQ	BQ	SBQ	EBQ	
<b>FLARE &amp; SOLDER CONNECTIONS</b>								
3008-000	Inlet Strainer	1/4" SAE	1			1		
1538-000		3/8" SAE	1			1		
3427-000***		3/8" ODF		1			1	
877-003		1/2" ODF			1			1
877-004								1
1053-000	Seal Cap	1	1	1	1	1	1	
†	Spring	1	1	1	1	1	1	

† Specify Thermostatic Charge and Valve Type.  
\*\* See page 17 for Bottom Cap Assembly Kit.  
\*\*\* Used on and after date code 2294. Strainer has 5/8" hex head.

# TYPES Q, SQ or EQ

See Parts Table on Page 9

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ③ Part **is** available separately. See Table on this page.
- ④ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑤ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑥ For replacement elements, See Pages 18 & 19.
- ⑦ Part is available separately and **is also** included with the Cartridge Service Kit. See Page 9
- ⑧ Part **is** not available separately, but **is** included with the Cartridge Service Kit. See Page 9.
- ⑨ Part **is** available separately. See Table on Page 9.



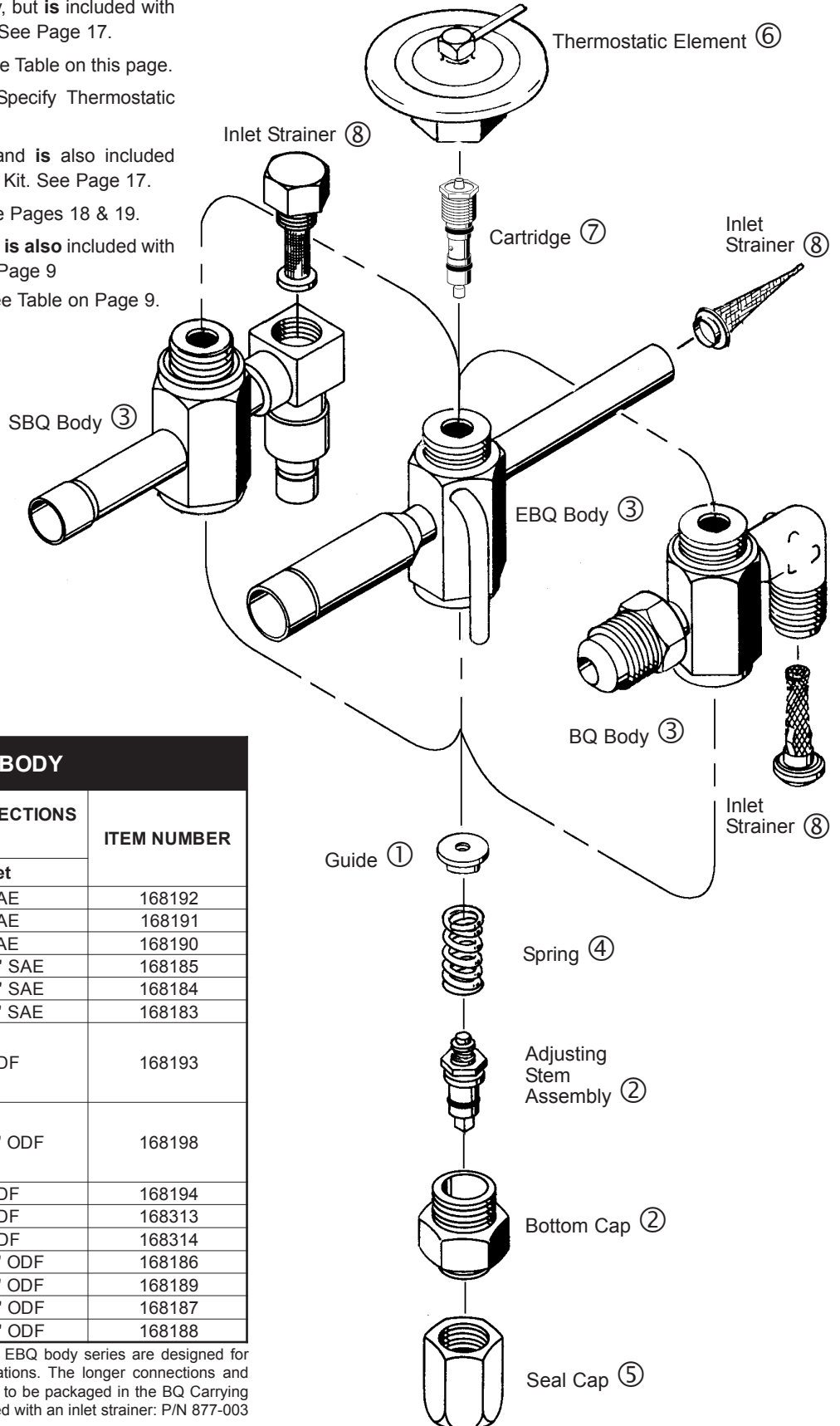
Q VALVE BODY		
VALVE TYPE	STANDARD CONNECTIONS	ITEM NUMBER
	Inches	
	Inlet x Outlet	
<b>Q</b> Internally Equalized	1/4" x 3/8" SAE	168012
	1/4" x 1/2" SAE	168011
	3/8" x 1/2" SAE	168000
<b>QE</b> Externally Equalized	1/4" x 3/8" x 1/4" SAE	168017
	1/4" x 1/2" x 1/4" SAE	168016
	3/8" x 1/2" x 1/4" SAE	168005
<b>SQ</b> Internally Equalized	1/4" x 1/2" ODF	168009
	3/8" x 1/2" ODF	168010
<b>SQE</b> Externally Equalized	1/4" x 1/2" x 1/4" ODF	168014
	3/8" x 1/2" x 1/4" ODF	168015
<b>EQ*</b> Internally Equalized	3/8" x 1/2" ODF	168196
	3/8" x 1/2" ODF	168144
	3/8" x 5/8" ODF	168164
	1/2" x 5/8" ODF	168153
	1/2" x 7/8" ODF	168154
<b>EQE*</b> Externally Equalized	3/8" x 1/2" x 1/4" ODF	168150
	3/8" x 5/8" x 1/4" ODF	168156
	1/2" x 5/8" x 1/4" ODF	168151
	1/2" x 7/8" x 1/4" ODF	168152

\* The straight extended connections of the EQ body series are designed for easy installation on air conditioning applications. The longer connections and resulting body configurations do not allow it to be packaged in the Q Carrying Case. All EQ and EQE bodies are supplied with an inlet strainer: P/N 877-003 (3/8 ODF) or P/N 877-004 (1/2 ODF).

# TYPES BQ, SBQ or EBQ

See Parts Table on Page 9

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ③ Part **is** available separately. See Table on this page.
- ④ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑤ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑥ For replacement elements, See Pages 18 & 19.
- ⑦ Part is available separately and **is also** included with the Cartridge Service Kit. See Page 9
- ⑧ Part **is** available separately. See Table on Page 9.



BQ VALVE BODY		
VALVE TYPE	STANDARD CONNECTIONS	ITEM NUMBER
	Inches	
	Inlet x Outlet	
<b>BQ</b> Internally Equalized	1/4" x 3/8" SAE	168192
	1/4" x 1/2" SAE	168191
	3/8" x 1/2" SAE	168190
<b>BQE</b> Externally Equalized	1/4" x 3/8" x 1/4" SAE	168185
	1/4" x 1/2" x 1/4" SAE	168184
	3/8" x 1/2" x 1/4" SAE	168183
<b>SBQ</b> Internally Equalized	3/8" x 1/2" ODF	168193
<b>SBQE</b> Externally Equalized	3/8" x 1/2" x 1/4" ODF	168198
<b>EBQ*</b> Internally Equalized	3/8" x 1/2" ODF	168194
	3/8" x 5/8" ODF	168313
	1/2" x 5/8" ODF	168314
<b>EBQE*</b> Externally Equalized	3/8" x 1/2" x 1/4" ODF	168186
	3/8" x 5/8" x 1/4" ODF	168189
	1/2" x 5/8" x 1/4" ODF	168187
	1/2" x 7/8" x 1/4" ODF	168188

\* The straight extended connections of the EBQ body series are designed for easy installation on air conditioning applications. The longer connections and resulting body configurations do not allow it to be packaged in the BQ Carrying Case. All EBQ and EBQE bodies are supplied with an inlet strainer: P/N 877-003 (3/8 ODF) or P/N 877-004 (1/2 ODF).

# THERMOSTATIC VALVE PARTS

PART NUMBER	PART DESCRIPTION DRAWINGS ON PAGES 14, 15 & 16	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE						
FLANGE TYPE CONNECTIONS		H	M	V	W	A	D	
106-001	Bottom Cap Gasket					1	1	
123-002			1	1				
123-005					1			
358-000	Bottom Cap Lock Nut		1	1		1		
958-000					1			
123-002	Bushing Gasket	2	**	**				
123-000			2	2				
108-000	Discharge Tube					1		
108-001		A - 1/8" (20T)				1		
108-002		A - 5/32" (30T)				1		
208-001		A - 3/16" (50T)				1		
208-002		D - 1/32" (1T)					1	
208-002		D - 1/16" (2T)					1	
208-000		D - 5/64" (5T)					1	
208-003		D - 7/64" (10T)					1	
208-004	D - 5/32" (15T)					1		
139-000	Element Cap Screw					2		
106-000	Element Gasket					1		
123-001			1	1	1			
106-002							1	
106-003	Flange Gasket					2		
106-004							2	
123-004					2			
224-000	Inlet Strainer Ring Only						1*	
124-000	Inlet Strainer Ring Only					1*		
1471-000	Inlet Strainer Screen Assy.					1		
763-000			1	1				
735-000					1			
3777-000	Inlet Strainer Screen Assy.	1 and 2 TON					1	
3777-001	Inlet Strainer Screen Assy.	5, 10, 15 TON					1	
961-000	Inlet Strainer Screen Retainer				1			
360-000	Pipe Flange (Female)	1/2" FPT	1 or 2	1 or 2				
360-001		3/4" FPT	1 or 2	1 or 2				
362-000		1" FPT	1 or 2	1 or 2				
374-000	Pipe Flange (Male)	1/2" FPT				1 or 2		
374-001		3/4" FPT				1 or 2		
375-000		1" FPT				1 or 2		
225-000		1/4" FPT	1 or 2***					2
225-001		3/8" FPT	1 or 2***					2
225-002		1/2" FPT	1 or 2***					2

\* Used in place of inlet strainer screen when external strainer is used with the valve.

\*\* M and V valves use wolverine style bushing gaskets which **are not compatible** with Ammonia. The gaskets used on the A valve and the MA17 solenoid valve are very similar to the M and V valve bushing gaskets; however this material **is compatible** with Ammonia.

\*\*\* Can be added to Type "H" valve with adaptor kit number K-1178.

(Table Continues on Page 13)

# THERMOSTATIC VALVE PARTS

PART NUMBER	PART DESCRIPTION DRAWINGS ON PAGES 14, 15 & 16		VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE						
			H	M	V	W	A	D	
<b>FLANGE TYPE CONNECTIONS</b>									
3123-000	Socket Flange (Female)	1/2" socket weld		1 or 2	1 or 2				
376-000		3/4" socket weld		1 or 2	1 or 2				
3146-000		1" socket weld		1 or 2	1 or 2				
580-000	Socket Flange (Male)	1/2" socket weld						1 or 2	
3122-000		1/2" socket weld					1 or 2		
377-000		3/4" socket weld					1 or 2		
3147-000		1" socket weld					1 or 2		
129-000	Pushrod Packing		2	2			2	2	
729-000					1				
737-000						1			
128-000	Pushrod Packing Nut						2	2	
128-001			2	2					
728-000					1				
736-000						1			
220-000			1						
220-001	Seal Cap			1	1		1	1	
720-000						1			
621-017	Seal Cap O-Ring		1						
123-003	Seal Cap Gasket					1			
106-005			1**	1	1		1	1	
3141-001	Solder Bushing	1/2" ODF Inlet	1						
574-001		1/2" ODF Outlet	1						
3141-002		5/8" ODF Inlet	1						
574-002		5/8" ODF Outlet	1						
367-001		7/8" ODF		1 or 2	1 or 2				
3141-003		7/8" ODF Inlet	1						
574-004		7/8" ODF Outlet	1						
368-000		1-1/8" ODF		1 or 2	1 or 2				
3141-004		1-1/8" ODF Inlet	1						
575-000		1-1/8" ODF Outlet	1						
368-001		1-3/8" ODF		1 or 2	1 or 2				
370-000		1-5/8" ODF		1	1				
576-000		Solder Flange	3/8" thru 7/8" ODF	1 or 2					
361-000			7/8" ODF		1 or 2	1 or 2			
361-001			1-1/8" ODF		1 or 2	1 or 2			
577-000	1-1/8" ODF		1 or 2						
742-000	1-1/8" ODF*						1 or 2		
363-000	1-3/8" ODF			1 or 2	1 or 2				
742-001	1-3/8" ODF*						1 or 2		
364-000	1-5/8" ODF			1	1 or 2				
742-002	1-5/8" ODF*						1 or 2		
742-003	2-1/8" ODF*						1 or 2		
†	Spring		1	1 or 2	1 or 2	1	1 or 2	1	
113-000	Spring Guide			1	1		1		
†			1						
713-000						1			
213-006								1	

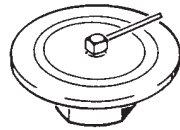
† Specify Thermostatic Charge and Valve Type.

\* Flange and bushing are one part.

\*\* Used on H Valve manufactured prior to March 1994.

# TYPES H or M

See Parts Table on Page 12 or 13



Thermostatic Element ⑩



Element Gasket ⑦  
(Type M Only)

④ Pushrod Packing

② Pushrods

① Valve Body

Pushrod Packing Nut ④

Nut ⑥

Solder Flange ④  
(or Pipe Flange)

Solder Bushing ④

Bushing Gasket ⑦

Inlet Strainer Screen ④  
(Available Separately on Type M Only)

⑥ Bolt

Seat ②

② Pin and Carrier

Spring (or Outer Spring on Type M) ⑤

⑤ Inner Spring  
(Type M Only)

Spring Guide ⑧

③ Adjusting Stem

Bottom Cap Gasket ⑨  
(Type M Only)

Bottom Cap ③

Adjusting Stem Packing ③

Adjusting Stem Packing Nut ③

Bottom Cap Lock Nut ⑧  
(Type M Only)

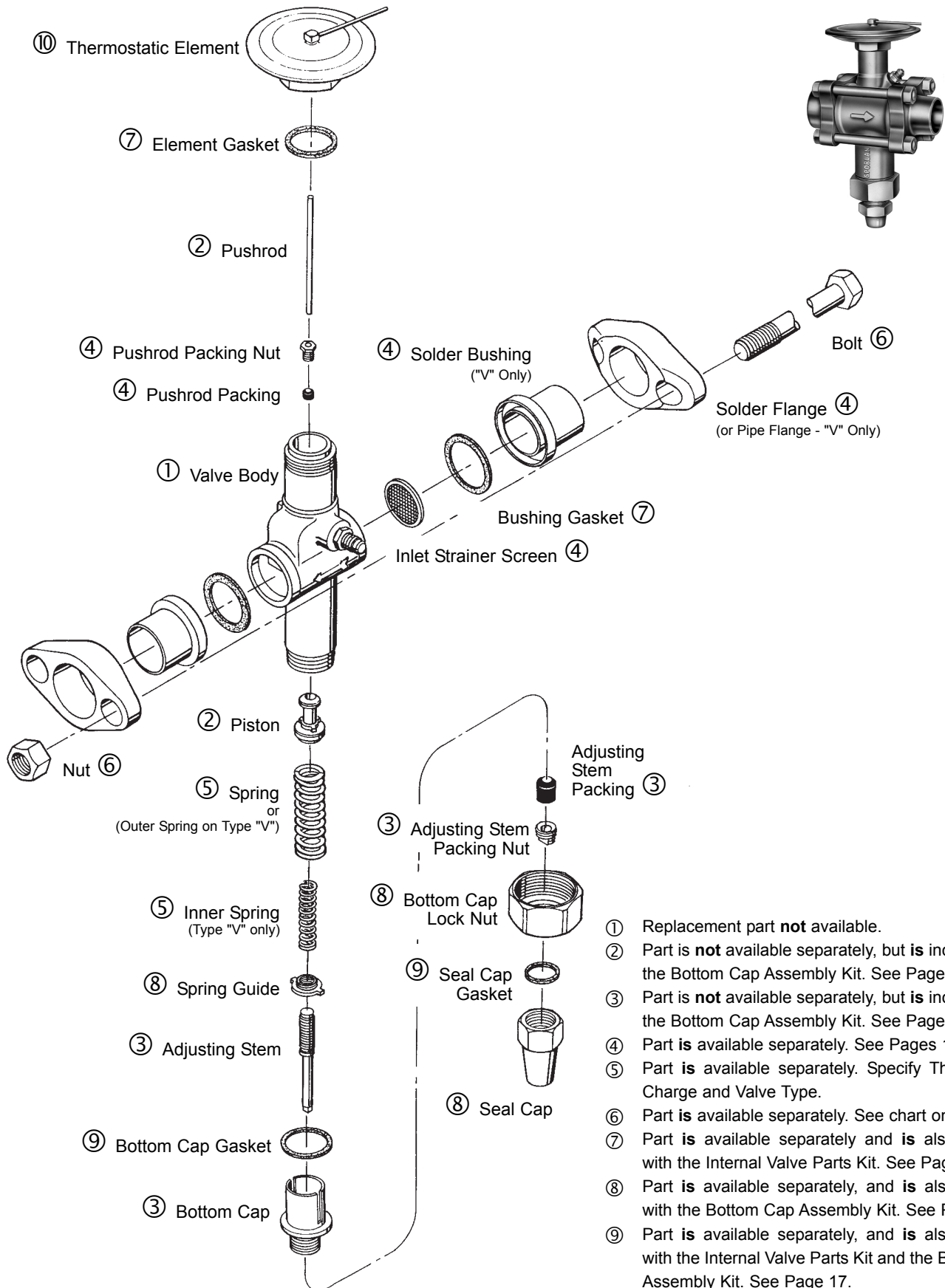
Seal Cap Gasket ⑨

Seal Cap ⑧

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ③ Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ④ Part **is** available separately. See Pages 12 and 13.
- ⑤ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑥ Part **is** available separately. See chart on Page 32.
- ⑦ Part **is** available separately and **is** also included with the Internal Valve Parts Kit. See Page 17.
- ⑧ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑨ Part **is** available separately, and **is** also included with the Internal Valve Parts Kit and the Bottom Cap Assembly Kit. See Page 17.
- ⑩ For replacement elements, See Pages 18 & 19.

# TYPES V or W

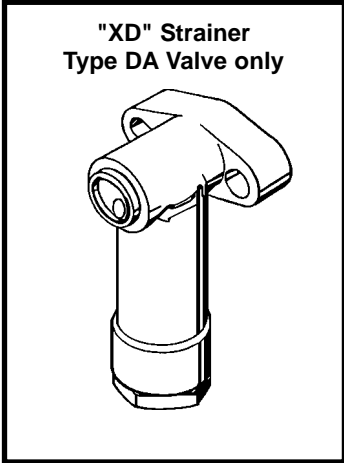
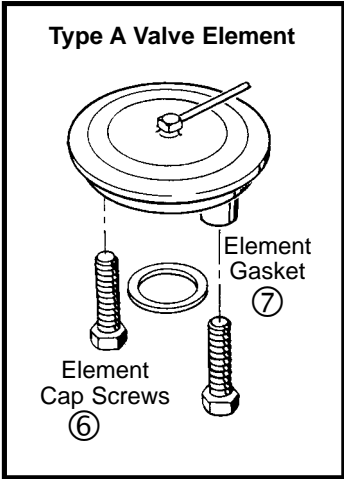
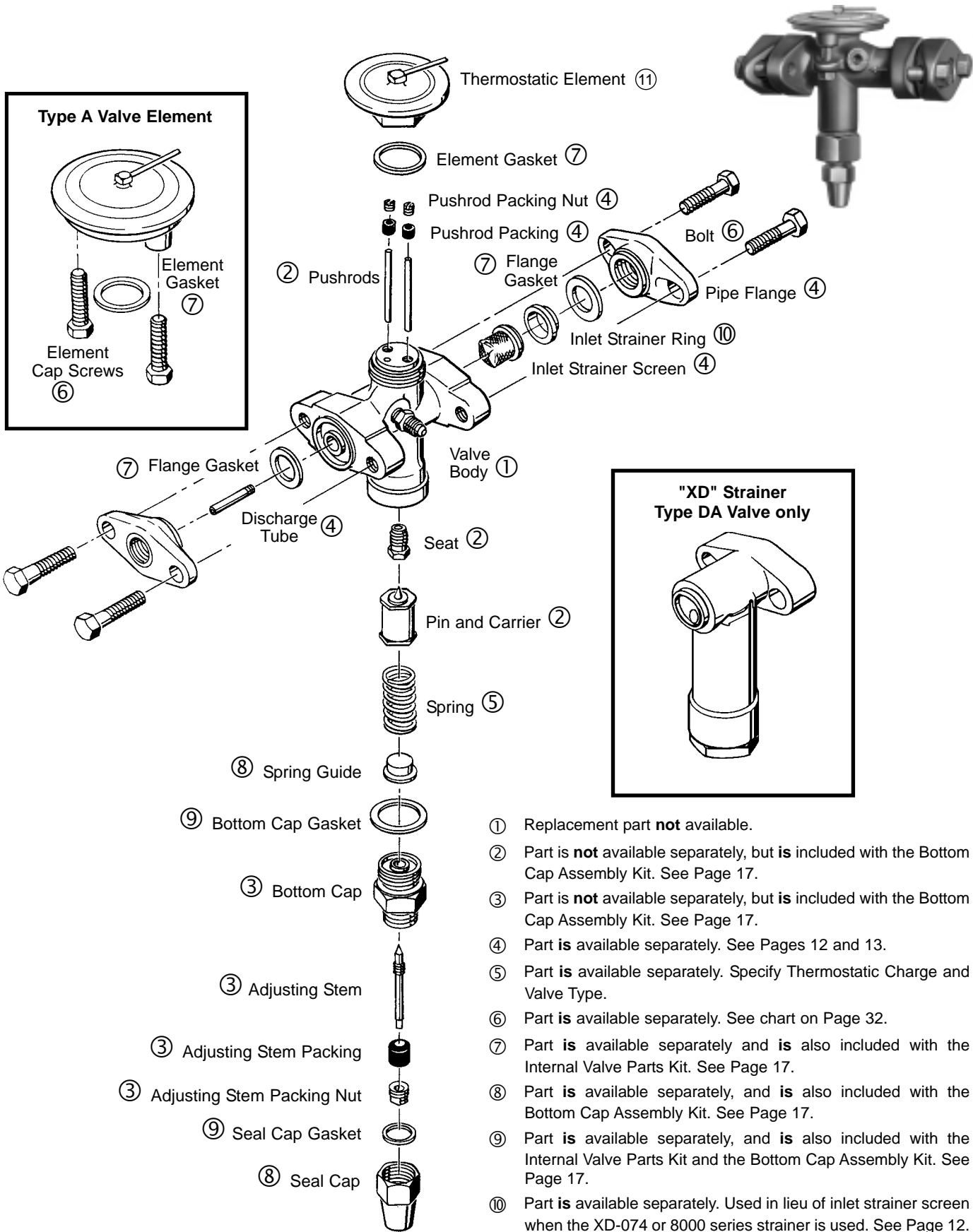
See Parts Table on Page 12 or 13



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ③ Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ④ Part **is** available separately. See Pages 12 and 13.
- ⑤ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑥ Part **is** available separately. See chart on Page 32.
- ⑦ Part **is** available separately and **is** also included with the Internal Valve Parts Kit. See Page 17.
- ⑧ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑨ Part **is** available separately, and **is** also included with the Internal Valve Parts Kit and the Bottom Cap Assembly Kit. See Page 17.
- ⑩ For replacement elements, See Pages 18 & 19.

# TYPES D or A

See Parts Table on Page 12 or 13



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ③ Part is **not** available separately, but **is** included with the Bottom Cap Assembly Kit. See Page 17.
- ④ Part **is** available separately. See Pages 12 and 13.
- ⑤ Part **is** available separately. Specify Thermostatic Charge and Valve Type.
- ⑥ Part **is** available separately. See chart on Page 32.
- ⑦ Part **is** available separately and **is** also included with the Internal Valve Parts Kit. See Page 17.
- ⑧ Part **is** available separately, and **is** also included with the Bottom Cap Assembly Kit. See Page 17.
- ⑨ Part **is** available separately, and **is** also included with the Internal Valve Parts Kit and the Bottom Cap Assembly Kit. See Page 17.
- ⑩ Part **is** available separately. Used in lieu of inlet strainer screen when the XD-074 or 8000 series strainer is used. See Page 12.
- ⑪ For replacement elements, See Pages 18 & 19.

## THERMOSTATIC EXPANSION VALVE Internal Valve Parts Kits for Current Valve Types

VALVE TYPE	Internal or External Equalizer	NOMINAL CAPACITY Tons of Refrigeration				KIT No.
		12	22	500	502	

The following Kits contain: 1 Seat, 1 Pin & Carrier, 2 Pushrods, Pushrod Gauge. **Type G** valves with external equalizer, **Type S** valves dated **B69** or later and **Type C** valves dated **C70** or later have packless pushrod construction. Due to the close tolerances, kits are not available for packless valves. The following internal parts kits are not to be used with packless valves.

<b>G</b>	Internal	1/4	1/2	1/4	1/4	KP01 0002
		1/2	1	1/2	1/2	KP01 0005
		1	1-1/2	1	1	KP01 0010
		1-1/2	2-1/2	2	1-1/2	KP01 0015
<b>C</b>	External	1	1-1/2	1	1	KP02 0010
	Internal	1-1/2	2	1-1/2	1-1/2	KP03 0015
	External					KP02 0015
	Internal	2	3	2-1/2	2	KP03 0020
	External					KP02 0020
	Internal	2-1/2	4	3	3	KP03 0025
	External					KP02 0025
	Internal	3	5	3-1/2	4	KP03 0030
	External					KP02 0030
	External	6	8	6	6	KP02 0050
<b>S</b>	Internal	1/4	1/2	1/4	1/4	KP03 0002
	Internal	1/2	1	1/2	1/2	KP03 0005
	External					KP02 0005
	Internal	1	1-1/2	1	1	KP03 0010
	External					KP02 0010
	Internal	1-1/2	2	1-1/2	1-1/2	KP03 0015
	External					KP02 0015
	Internal	2	3	2-1/2	2	KP03 0020
	External					KP02 0020
	Internal	2-1/2	4	3	3	KP03 0025
	External					KP02 0025
	Internal	3	5	3-1/2	4	KP03 0030
	External					KP02 0030
	External	5	8	6	6	KP02 0050
	External	6	10	7	7	KP02 0060

VALVE TYPES	Internal or External Equalizer	NOMINAL CAPACITY Tons of Refrigeration				KIT No.
		12	22	500	502	

The following Kits contain: 1 Seat, 1 Pin & Carrier, 2 Pushrods, 2 Bushing Gaskets, 1 Seal Cap Gasket, Pushrod Gauge.

<b>H</b>	Internal or External	1-1/2	2-1/2	—	1-1/2	KP13 0015
		3	5-1/2	—	3	KP13 0030
		4	7	—	4	KP13 0040
		5	11	5	6-1/2	KP13 0050
	8	16	8	9	KP13 0080	
External	12	20	14	12	KP13 0120	

The following Kits contain: 1 Pushrod and Seal Assembly, Piston, Bottom Cap Adjustment Assembly, Pushrod Gauge, and set of instructions.

<b>O</b>	83	External	6	10	7	6	KP19 0060
			9	15	11	9	KP19 0090
			12	20	14	12	KP19 0120
			16	30	20	21	KP19 0160
			23	40	28	30	KP20 0230
	33		32	55	40	35	KP20 0320
			40	70	50	45	KP20 0400

The following Kits contain: 1 Seat, 1 Pin & Carrier, 2 Pushrods; the following gaskets: 1 Element, 2 Bushings, 1 Bottom Cap, 1 Seal Cap, Pushrod Gauge.

<b>M</b>	External	5	8	6	—	KP08 0050
		7-1/2	12	9	9	KP08 0075
		11	18	13	—	KP08 0110
		13	21	15	15	KP08 0130
		15	26	18	20	KP08 0150
		20	34	25	25	KP08 0200
		25	42	30	30	KP08 0250

The following Kits contain: 1 Element Gasket, 2 Bushing Gaskets, 1 Bottom Cap Gasket, 1 Seal Cap Gasket, 1 Pushrod, 1 Pushrod Gauge, 1 Piston Assembly, 1 Seat Refinishing Tool with Grit Cloth, 1 Set of Instructions. These Kits are for use with V Valves dated B65 or later and for W Valves dated A66 or later. See Bulletin 210-40-2.

<b>V</b>	External	35	52	40	38	KP16 0350
		45	70	55	50	KP16 0450
		55	100	65	70	
<b>W</b>	External	80	135	95	100	KP17 0800
		110	180	130	130	

### REFRIGERANT 717 (Ammonia)

The following Kits contain: 1 Seat, 1 Pin & Carrier, 2 Pushrods, 1 Seal Cap Gasket, Pushrod Gauge.

<b>P</b>	Internal or External	1-1/2	2-1/2	—	1-1/2	KP12 0015
		3	5-1/2	—	3	KP12 0030
		4	7	—	4	KP12 0040
		5	11	5	6-1/2	KP12 0050
		8	16	8	9	KP12 0080
	External	12	20	14	12	KP12 0120

The following Kits contain: 1 Seat, 1 Pin & Carrier, 2 Pushrods; the following gaskets: 1 Element, 2 Flanges, 1 Bottom Cap, 1 Seal Cap, Pushrod Gauge.

<b>D</b>	Internal or External	1,2	KP10 0010
		5	KP10 0050
		10,15	KP10 0100
<b>A</b>	Internal or External	20,30	KP09 0200
		50,75	KP09 0500
		100	KP09 1000

## BOTTOM CAP ASSEMBLY KITS FOR THERMOSTATIC EXPANSION VALVES

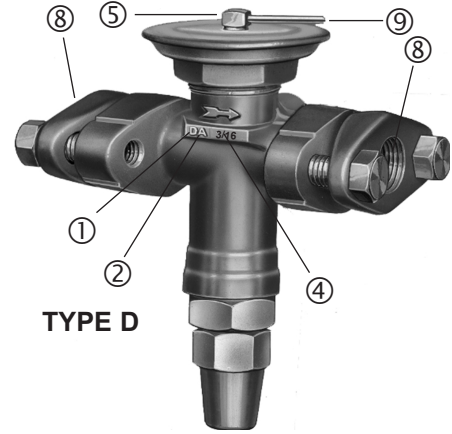
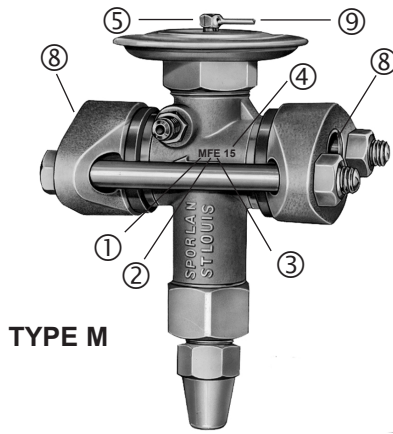
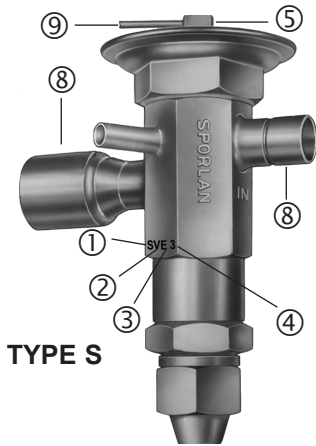
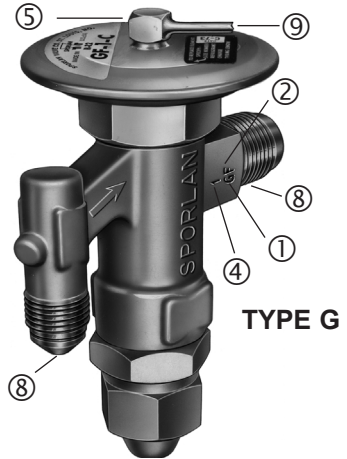
VALVE TYPE	BOTTOM CAP ASSEMBLY KIT NUMBER	BOTTOM CAP ASSEMBLY KIT CONTENTS									
		Spring Guide	Adj. Stem	Adj. Stem Assembly	Adj. Stem Packing	Adj. Stem Packing Nut	Bottom Cap Gasket	Bottom Cap Locknut	Bottom Cap	Seal Cap Gasket	Seal Cap
EG, G, EBS, C, (E)MC, S	KA-8	1	1		1	1			1		1
P, H, U	KA-3	1	1		1	1			1	1	1
X*	KA-5X	1	1		1	1			1		1
F, EF, BF, EBF, SBF, Q, EQ, SQ, BQ, EBQ, SBQ	KA-4			1					1		1
M, V, K	KA-6	1	1		1	1	1	1	1	1	1
W	KA-7	1	1		1	1	1	1	1	1	1
A	KA-1	1	1		1	1	1	1	1	1	1
DA	KA-2	1	1		1	1	1		1	1	1

\* For Type X Valve with straight through connections only.

# IDENTIFYING SPORLAN THERMOSTATIC EXPANSION VALVES

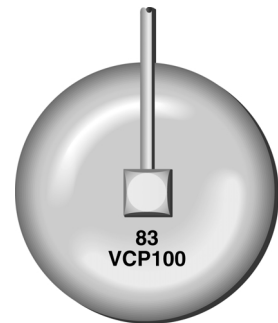
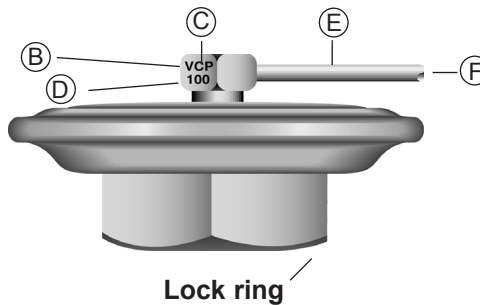
To completely identify a SPORLAN Thermostatic Expansion Valve the following information is required:

1. Type of valve (body style)
2. Refrigerant
3. External equalizer
4. Capacity in tons of refrigerant or port size
5. Type of Thermostatic Charge
6. Thermostatic bulb size if other than standard
7. Suffix letters - if any - indicate permanent bleed port or Rapid Pressure Balancer construction. (All valves except Type A & D)
8. Inlet and outlet connection sizes and style
9. Capillary tubing length
10. Prefix letters or numbers if any



To completely identify a SPORLAN Thermostatic Element the following information is required:

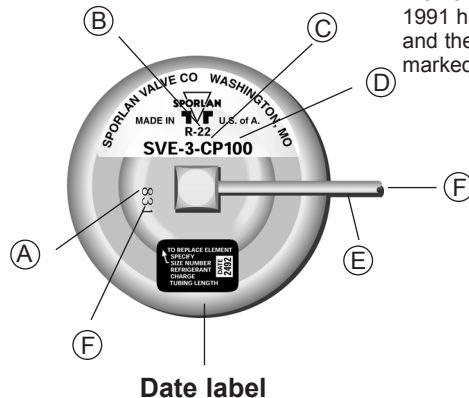
- A. Element size number
- B. Refrigerant
- C. Thermostatic Charge
- D. MOP (Maximum Operating Pressure) if other than standard
- E. Capillary tubing length
- F. Bulb size if other than standard



Replaceable Thermostatic Elements manufactured after 1991 had the element number and thermostatic charge marked on top of the element

## Refrigerant Designation, Letter and Color Code Used on Decals.

H - R-11 - Blue	J - R-134a - Blue
F - R-12 - Yellow	L - R-402A - Sand
E - R-13 - Blue	S - R-404A - Orange
T - R-13B1 - Blue	D - R-500 - Orange
V - R-22 - Green	R - R-502 - Purple
G - R-23 - Blue	W - R-503 - Blue
B - R-114 - Blue	P - R-507 - Teal
Q - R-124 - Green	A - R-717 - White
X - R401A - Coral	



Date label

# IDENTIFYING SPORLAN THERMOSTATIC EXPANSION VALVES

**TABLE A**  
**THERMOSTATIC ELEMENT KITS**

*Specify Refrigerant, Thermostatic Charge & Tubing Length*

**CURRENT VALVE TYPES**

VALVE TYPE	KIT NUMBER	KIT CONTENTS
A	KT-12	②
D	KT-23	
P,H, Large O	KT-33	③
Q, F, (E)BF, SBF	KT-43	
G, EG, X, MC, (E)MC	KT-53	
① M, V, W	KT-63	②
C, S, (E)BS Small O	KT-83	③

- ① No.63 element used on WFE-80, WDE-95, and WVE-135. No. 7 element used on WFE-110, WDE-130 and WVE-180.
- ② 1 Thermostatic Element, 2 Bulb Clamps, 1 Top Gasket, Instruction Bulletin
- ③ 1 Thermostatic Element, 2 Bulb Clamps, Instruction Bulletin.

**TABLE B**  
**RECOMMENDED THERMOSTATIC CHARGES**

REFRIGERANT	AIR CONDITIONING OR HEAT PUMP	COMMERCIAL REFRIGERATION +50°F to -10°F	LOW TEMPERATURE REFRIGERATION 0°F to -40°F	EXTREMELY LOW TEMPERATURE REFRIGERATION -40°F to -100°F
12	FCP60	FC	Z, FZP	—
22	VCP100, VGA	VC	VZ, VZP40	VX
134a	JCP60	JC	—	—
401A	XCP60	XC	—	—
402A	—	LC	LZ, LZP	LX
404A	SCP115	SC	SZ, SZP	SX
502	RCP115	RC	RZ, RZP	RX
507	—	PC	PZ, PCP	PX

The Sporlan Type ZP thermostatic charges have essentially the same characteristics as the conventional Z cross charges with one exception. They produce a pressure limit or MOP. The ZP charges are not intended as replacements for the Z charges – they should only be used where a definite pressure limit is required to prevent motor overloading.

A conventional Type L liquid charge is also available for all commonly used refrigerants in most of our element sizes.

Further identification of the element is provided by the use of two or three letters and sometimes two or three numbers stamped on the capillary button of the diaphragm case. The first letter indicates the refrigerant and the second letter (and third if used) the selective charge of the element. Numbers, if used, indicate a special MOP or maximum operating pressure. The Selective Charges C, CP, JC, Z, ZP, VGA, L and X are generally applied in the range of temperatures shown in Table B.

A Type VCP, Refrigerant 22 air conditioning or heat pump charge with a 100 psig limit is stamped "VCP100."

**TABLE C**  
**GA, CP, and ZP CHARGED VALVES**

Table C lists the standard Type "P" charge MOP's.

REFRIGERANT	*THERMOSTATIC CHARGE	MOP-PSIG FACTORY AIR TEST	NOMINAL SYSTEM
12	FCP60	60	50
	FZP	20	12
22	VGA	110	**100
	VCP100	100	90
	VZP40	40	30
	VZP	30	20
134a	JCP60	60	50
401A	XCP60	60	50
402A	LZP	45	35
404A	SCP115	115	105
	SZP	45	35
502	RCP115	115	105
	RZP	45	35
507	PZP	45	35

- \* A numeric suffix on a thermostatic charge designation indicates a special MOP. Omission of the number indicates standard MOP as shown.
- \*\* Not as well defined as the other Type "P" charges listed in this table.

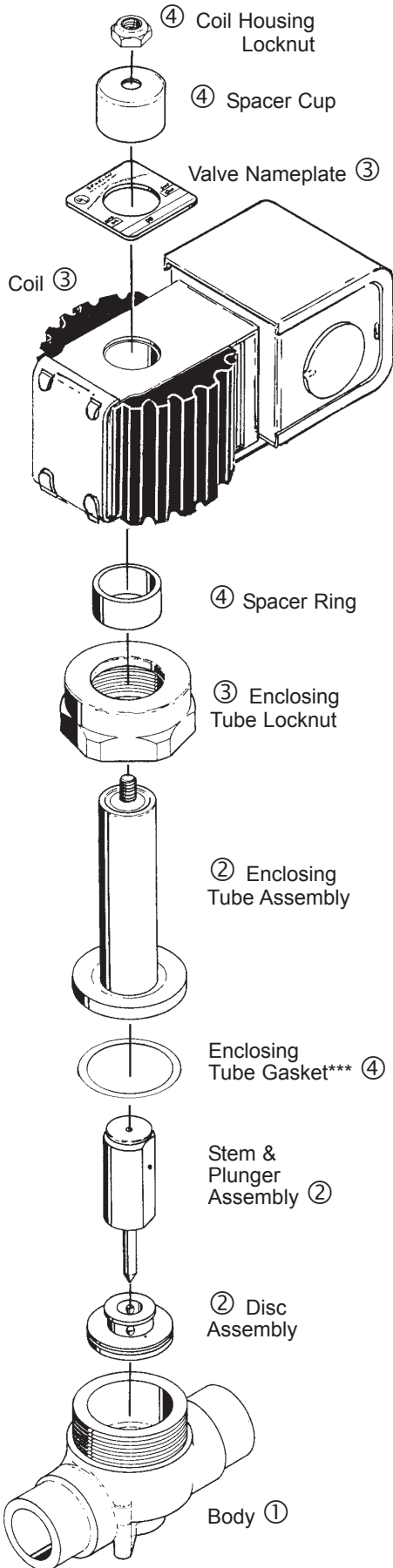
**Example:** VCP100 charge has a special air test MOP of 100.

**TABLE D**  
**BULB STRAP KITS FOR THERMOSTATIC EXPANSION VALVES**

VALVE TYPE	R-22** NOMINAL TONNAGE	KIT NUMBER	NUMBER OF STRAPS
A	R-717 20 thru 100	KT-131-E	2
BF*	AAA thru C	KT-131-A	2
C	4 thru 8	KT-131-B	2
D	R-717 1 thru 15	KT-131-E	2
EBF*	AAA thru C	KT-131-A	2
EBS	8 thru 20	KT-131-C	2
EG*	1/5 thru 3	KT-131-A	2
F*	1/4 thru 3	KT-131-A	2
G*	1/5 thru 3	KT-131-A	2
H	2-1/2 thru 20	KT-131-C	2
M	21 thru 34	KT-131-C	2
M	42	KT-131-D	2
NI	1/4 thru #1	KT-131-A	2
O Large	40 thru 70	KT-131-D	2
O Small	15 thru 30	KT-131-C	2
P	All	KT-131-C	2
RI	2 thru 5	KT-131-B	2
S	2 thru 5	KT-131-B	2
S	8 thru 15	KT-131-C	2
SBF*	AAA thru C	KT-131-A	2
V	52 thru 100	KT-131-D	2
W	135 & 180	KT-131-D	2

- \* For applications with an external equalizer use kit number KT-131-B.
- \*\* The R-22 nominal tonnage is used as a reference except as noted.  
Hex bolt for bulb strap P/N 137-000  
Nut for bulb strap P/N 138-000

# SOLENOID VALVES



PART NUMBER	PART DESCRIPTION	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE					
		WVG	XXF	XUP*	XRN*	XRM*	XPO*
<b>RAPID CYCLE</b>							
1025-7	Coil Housing Locknut	1	1	1			
1025-1	Coil Housing Locknut				1	1	1
13128-2	Enclosing Tube Locknut					1	
13252-1					1		
13256-2	Enclosing Tube Locknut		1	1			
13552-1							1
14000-1	Enclosing Tube Gasket ***		1	1			
14000-2					1		
14000-3						1	
14000-4							1
14115	Valve Nameplate	Specify valve type, voltage & frequency					
2371-13	Spacer Ring						1
2371-16					1		
2371-24						1	
15583-1	Spacer Ring		1	1			
15583-2			1				
15582-1	Spacer Cup	1					
15582-4				1	1		
2717-7					1	1	1
OMKC-1**	Coil	1	1	1			
OMKC-2**					1	1	1

\* Valves with the suffix "-1, -2, -3" etc. use the same parts.

\*\* Specify Voltage and Frequency.

\*\*\* See Table below regarding part numbers for the enclosing tube gasket and the new wolverine gasket.

New Style Wolverine Gasket	Old Style Tetraseal Gasket
14000-1	641-1
14000-2	641-3
14000-3	641-4
14000-4	641-5
14000-5	2645-000

B and E series Solenoid Valves have been redesigned. The new design can be easily identified as a thin, synthetic coated metal gasket, known as a Wolverine gasket. The old gasket is a thicker type of O-ring with a square cross section, known as a tetraseal. See the partial cross sections of the valve body above.

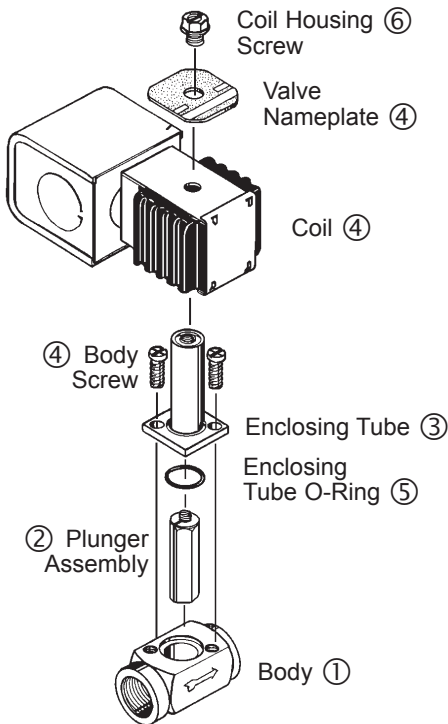
The gaskets and the enclosing tubes of the two designs are not interchangeable. The new enclosing tube assembly is included in the replacement parts kit. Page 31.

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Disc Parts Kit. See Page 31.
- ③ Part **is** available separately. See Chart above.
- ④ Part **is** available separately, and is included with the Disc Parts Kit. See Page 31.

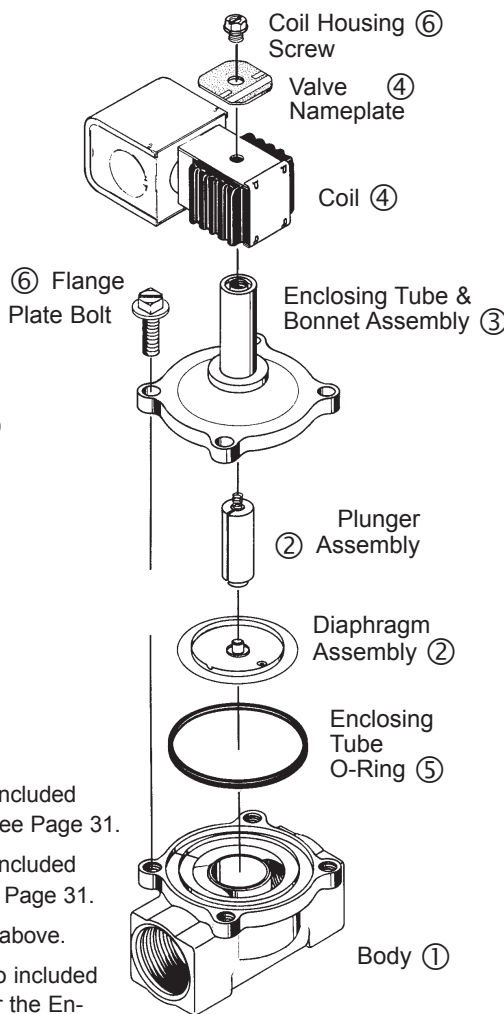
PART NUMBER	PART DESCRIPTION DRAWINGS BELOW TABLE	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE									
		W3	W6	W14	W19	W25	R183	R184	R246	XOF/XJH	
<b>INDUSTRIAL SERIES</b>											
2071-3	Body Screw	2									4
13444-1	Closing Spring			1							
13683-1					1	1					
1390-000	Coil Housing Screw	1	1	1	1	1	1	1	1	1	
14115	Valve Nameplate	Specify valve type, voltage, and frequency									
1328-14	Enclosing Tube O-Ring	1									
621-15											1
638-132	Enclosing Tube Gasket *						1	1	1		
14000-1			1								
14000-3				1							
14000-4					1						
14000-5						1					
13128-2	Enclosing Tube Locknut			1							
13256-2			1								
13552-1					1						
13681-1						1					
15052-4	Flange Plate Bolt						4	4	4		
MKC-1	Coil (Specify voltage & frequency)	1	1				1	1	1	1	
MKC-2				1	1	1					

\* See Table on Page 20 regarding part numbers for the enclosing tube gasket and the new wolverine gasket.

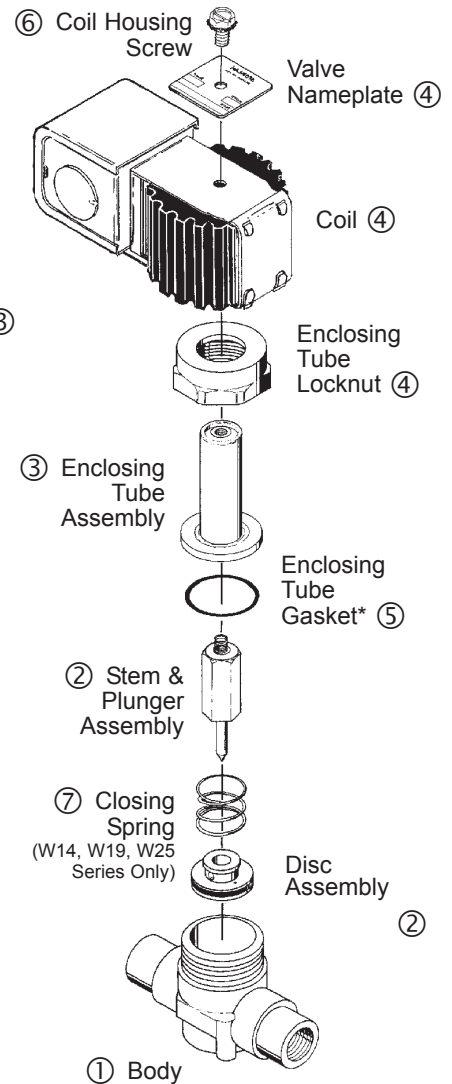
**TYPE W3, XOF, XJH**



**TYPE R183, R184, R246**

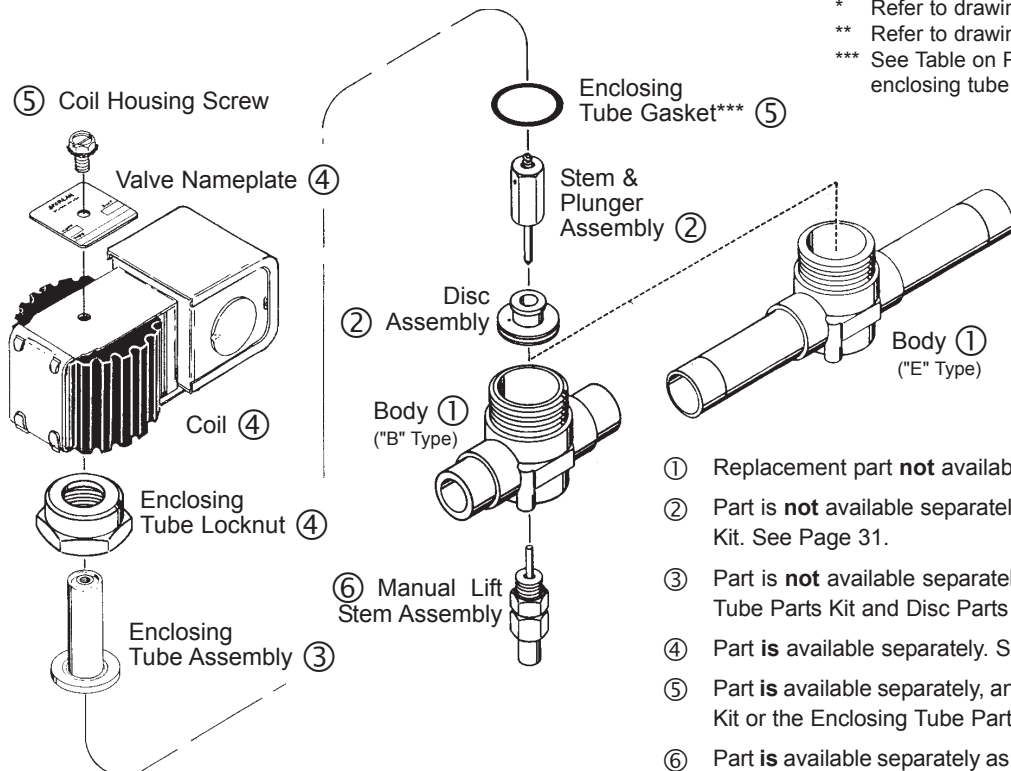


**TYPE W6 to W25**



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Disc or Diaphragm Parts Kit. See Page 31.
- ③ Part is **not** available separately, but **is** included with the Enclosing Tube Parts Kit. See Page 31.
- ④ Part **is** available separately. See Chart above.
- ⑤ Part **is** available separately, and **is** also included with the Disc or Diaphragm Parts Kit or the Enclosing Tube Parts Kit. See Page 31.
- ⑥ Part **is** available separately and **is** also included with the Enclosing Tube Parts Kit. See Page 31.
- ⑦ Part **is** available separately and **is** also include with the Disc Parts Kit. See Page 31.

PART NUMBER	PART DESCRIPTION DRAWINGS BELOW TABLE	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE											
		NORMALLY CLOSED											
		3	5	6	9	10	14	19	25	33*	34**	42**	
13850-2	Closing Spring											1	
14339-1													
1390-000	Coil Housing Screw	1	1	1	1	1	1	1	1	1	1	1	
13128-2							1	1					
13252-1	Enclosing Tube Locknut				1						1	1	
13256-2					1								
13552-1									1				
13681-1										1			
14000-1						1							
14000-2	Enclosing Tube Gasket ***				1						1	1	
14000-3						1	1						
14000-4									1				
14000-5										1			
621-008		Body Flange O-Ring									1		
2645-000	Body Flange Gasket for 33 & 34									1	1		
938-1	Body Flange Flat Gasket											1	
21007-7	Flange Plate Bolts											4	
4208-4											4	4	
2003-1	Seal Cap (For Manual Lift Stem)			1	1	1	1	1	1	1	1		
348-1												1	
349		Seal Cap Gasket											1
352-3	Packing Nut											1	
462-1	Packing											1	
934-1	Manual Lift Stem											1	
368-000	Solder Bushing	1-1/8								1 or 2			
368-001		1-3/8								1 or 2			
370-000		1-5/8									1 or 2		
123-000	Metal Bushing Gasket									2			
361-001	Solder Flange	1-1/8								1 or 2			
363-000		1-3/8								1 or 2			
364-000		1-5/8									1 or 2		
14115	Valve Nameplate	Specify valve type, voltage and frequency											
MKC-1	Coil (specify voltage and frequency)	1	1	1									
MKC-2					1	1	1	1	1	1	1	1	
4325-000	MKC-1 and MKC-2 Junction Box Cover	1	1	1	1	1	1	1	1	1	1	1	

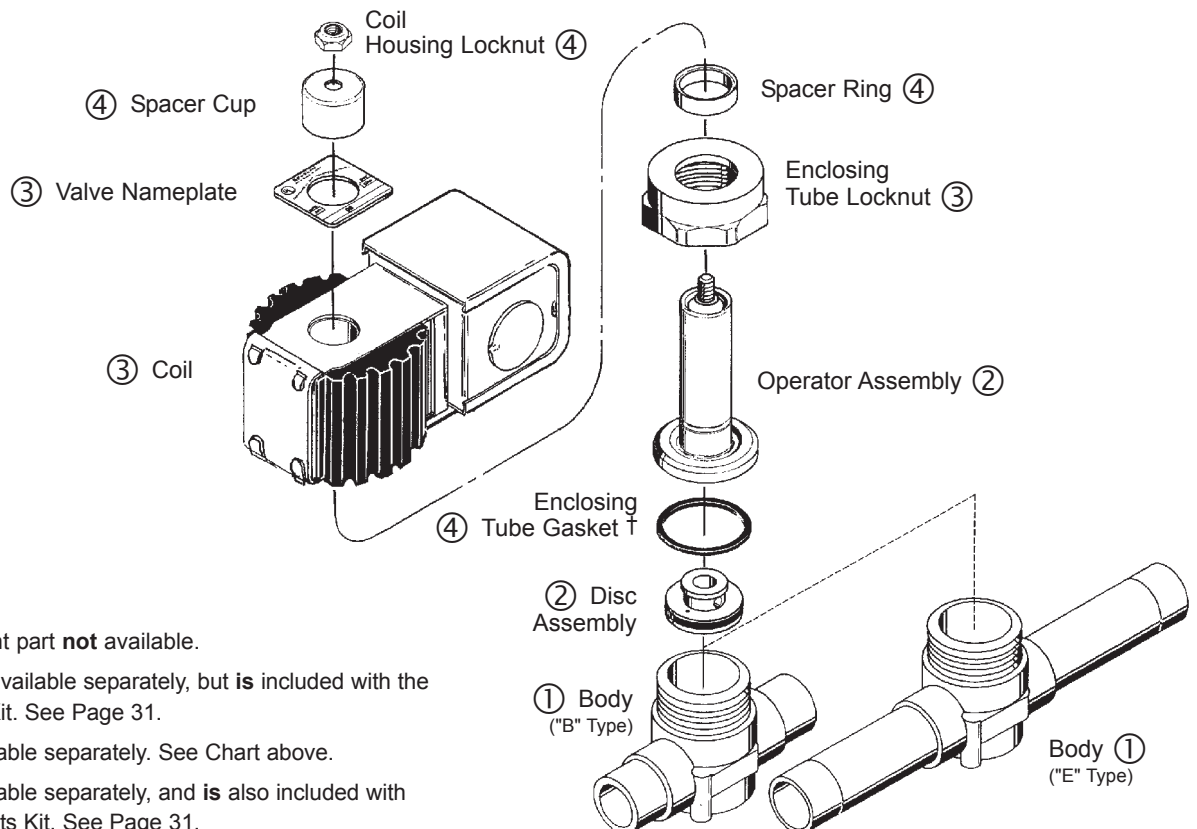


\* Refer to drawing on Page 24.  
 \*\* Refer to drawing on Page 25.  
 \*\*\* See Table on Page 20 regarding part numbers for the enclosing tube gasket and the new wolverine gasket.

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Disc Parts Kit. See Page 31.
- ③ Part is **not** available separately, but **is** included with the Enclosing Tube Parts Kit and Disc Parts Kit. See Page 31.
- ④ Part **is** available separately. See Chart above.
- ⑤ Part **is** available separately, and **is** also included with the Disc Parts Kit or the Enclosing Tube Parts Kit. See Page 31.
- ⑥ Part **is** available separately as a Manual Lift Stem Kit. See Page 31.

PART NUMBER	PART DESCRIPTION DRAWING BELOW TABLE	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE							
		9	10	14	19	25	33*	34**	42**
<b>NORMALLY OPEN</b>									
13850-2	Closing Spring								1
14339-1							1	1	
1025-1	Coil Housing Locknut	1	1	1	1	1	1	1	1
13128-2	Enclosing Tube Locknut		1	1					
13252-1			1				1	1	1
13552-1					1				
13681-1						1			
14000-2			1				1	1	1
14000-3	Enclosing Tube Gasket †		1	1					
14000-4					1				
14000-5						1			
2645-000		Body Flange Gasket						1	1
621-008	Body Flange O-Ring						1		
938-1	Body Flange Flat Gasket							1	
21007-7	Flange Plate Bolts								4
4208-4							4	4	
368-000	Solder Bushing	1-1/8					1 or 2		
368-001		1-3/8					1 or 2		
370-000		1-5/8						1 or 2	
123-000	Metal Bushing Gasket						2		
361-001	Solder Flange	1-1/8					1 or 2		
363-000		1-3/8					1 or 2		
364-000		1-5/8						1 or 2	
2527-1	Spacer Ring	5/91 — Present	1					1	1
2371-14	Spacer Ring	Prior to 8/90	1				1***	1	1
2371-16		Present		1	1				
2371-11		Present				1			
2371-21		8/90 and 4/91	1					1	1
2371-7		Present					1		
2717-5	Spacer Cup	Prior to 8/90	1				1***	1	1
2717-6		Present	1	1	1	1		1	1
14115	Valve Nameplate	Specify Valve Type, voltage & frequency							
OMKC-2	Coil (Specify voltage & frequency)	1	1	1	1	1	1	1	1
4325-000	MKC-1 and MKC-2 Junction Box Cover	1	1	1	1	1	1	1	1

\* Refer to drawing on Page 24.  
 \*\* Refer to drawing on Page 25.  
 \*\*\* Still present part number.  
 † See Table on Page 20 regarding part numbers for the enclosing tube gasket and the new wolverine gasket.



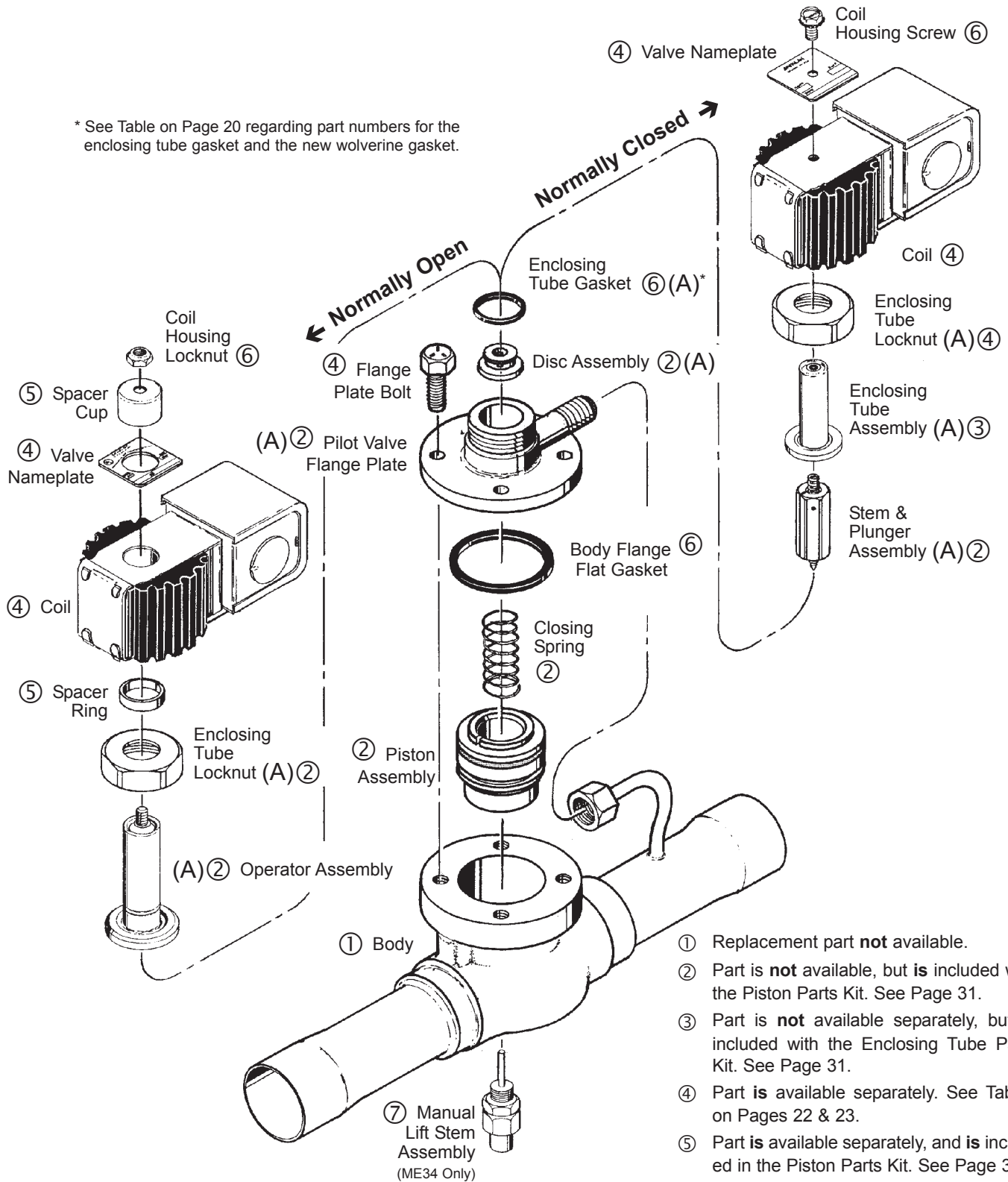
- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Disc Parts Kit. See Page 31.
- ③ Part **is** available separately. See Chart above.
- ④ Part **is** available separately, and **is** also included with the Disc Parts Kit. See Page 31.



# TYPES (O)E34, ME34, (O)E42 and ME42

See Parts Table on Page 22 and 23

\* See Table on Page 20 regarding part numbers for the enclosing tube gasket and the new wolverine gasket.



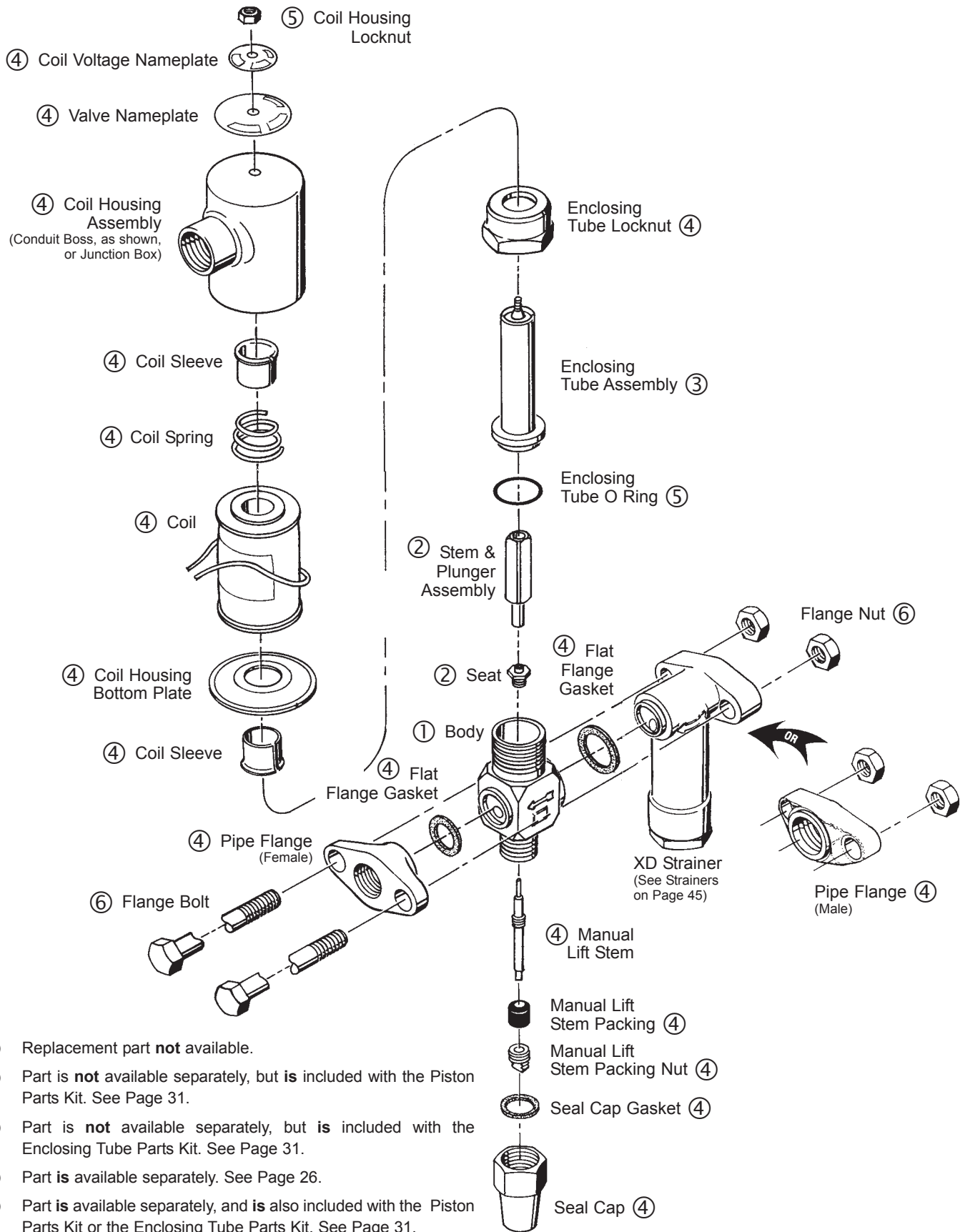
- ① Replacement part **not** available.
- ② Part is **not** available, but **is** included with the Piston Parts Kit. See Page 31.
- ③ Part is **not** available separately, but **is** included with the Enclosing Tube Parts Kit. See Page 31.
- ④ Part **is** available separately. See Tables on Pages 22 & 23.
- ⑤ Part **is** available separately, and **is** included in the Piston Parts Kit. See Page 31.
- ⑥ Part **is** available separately and **is** also included with the Piston Parts Kit or the Enclosing Tube Parts Kit. See Page 31.
- ⑦ Part **is** available separately as a Manual Lift Stem Kit. See Page 31.
- (A) Part **is** included in the Upper Valve Assembly.

PART NUMBER	PART DESCRIPTION DRAWINGS ON PAGES 27 AND 28		VAVE TYPE AND QUANTITY OF PART REQUIRED PER VALVE				
			MA5 ②	MA17 ③	MA32 ④	MA42 ④	MA50 ⑤
<b>FLANGE TYPE SOLENOID VALVES</b>							
X-3073-5	Coil Housing	Conduit Boss	1	1	1	1	1
X-2480-1		Junction Box	1	1	1	1	1
506-1	Coil Housing	Bottom Plate	1	1			
1025-1		Locknut	1	1	1	1	1
533-1	Coil Sleeve 1 ①		2	2	2	2	2
374-1	Coil Spring		1	1	1	1	1
1302	Coil Voltage Nameplate		Specify Valve Type, Voltage & Frequency				
KC-3	Coil		1	1	1	1	1
529-1	Enclosing Tube	Flange Plate			1		
887-1							1
947-1							1
1328-22		O-Ring	1	1			
530		Flat Gasket			1		
886							1
938-1						1	
1678-1	Locknut		1				
106-004			2				
546	Flat Flange Gasket			2			
106-003				2			
894						2	
929					2		
391-3	Flange Plate Bolt			4			
811-5						4	
946-4					4		
225-000	Pipe Flange	1/4" FPT (Inlet)	1				
225-001		3/8" FPT (Inlet)	1				
374-000		1/2" FPT (Inlet)		1			
225-002		3/4" FPT (Inlet)	1				
374-001		1" FPT (Inlet)			1		
555-1		1-1/4" FPT (Inlet)		1			
375-000		1-1/2" FPT (Inlet)				1	
555-2		2" FPT (Inlet)					1
933-1		1-5/8" ODF				2	
897-2		2-1/8" ODF				2	
926	Solder Flange (Inlet & Outlet)	2-1/8" ODF				2	
891		2-5/8" ODF				2	
928-000	Solder Bushing	1-5/8" ODF (Inlet)				1	
893-000		2-1/8" ODF (Inlet)				1	
931		2-5/8" ODF (Inlet)				1	
896-000						1	
701-1	Manual Lift Stem			1			
712-1			1				
881-1						1	
934-1					1		
532-1					1		
462-1	Manual Lift Stem	Packing	1	1	1	1	
352-3		Packing Nut	1	1	1	1	
573-000	Pipe Flange	1/4" FPT (Outlet)	1				
573-001		3/8" FPT (Outlet)	1				
360-000		1/2" FPT (Outlet)		1			
572-000		3/4" FPT (Outlet)	1				
360-001		1" FPT (Outlet)		1			
362-000		1-1/4" FPT (Outlet)			1		
554-1		1-1/2" FPT (Outlet)				1	
554-2		2" FPT (Outlet)					1
932-1		1-5/8" ODF (Outlet)				1	
898-2		2-1/8" ODF (Outlet)					1
927-000	Solder Bushing	2-1/8" ODF (Outlet)				1	
892-000		2-1/8" ODF (Outlet)				1	
930		2-5/8" ODF (Outlet)				1	
895-000		2-5/8" ODF (Outlet)				1	
348-1	Seal Cap		1	1	1	1	
349	Gasket		1	1	1	1	
1306	Valve Nameplate		Specify Valve Type, Voltage & Frequency.				

- ① For MA5 & MA42, DC voltage, use special sleeve part number 776-1 as top coil sleeve.
- ② Refer to drawing on page 27.
- ③ MA17 is similar to MA5 on Page 27. The MA17 piston is available in the internal parts kit, see Page 31.
- ④ Similar to MA50 on Page 28.
- ⑤ Refer to drawing on Page 28.

# TYPE MA5

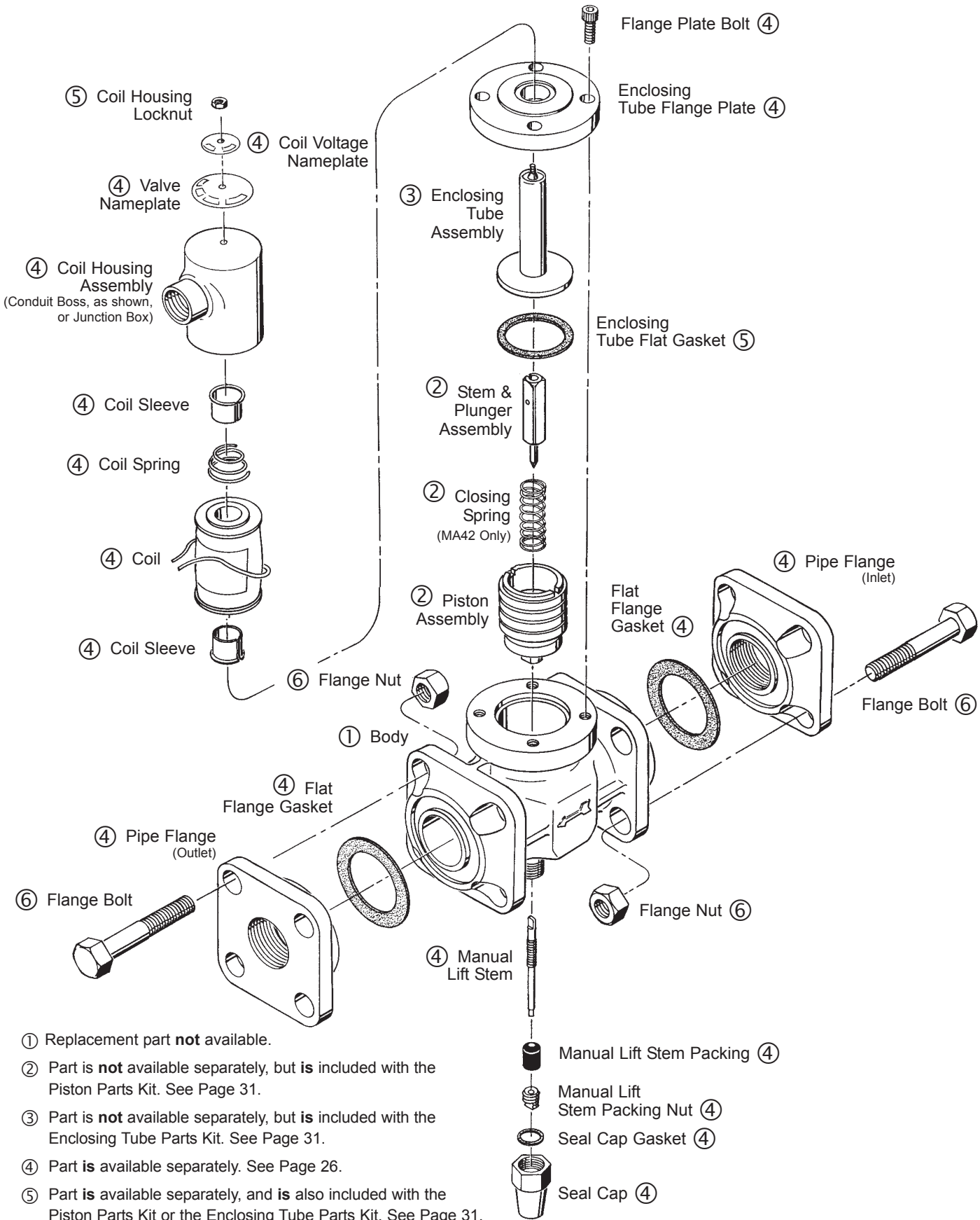
See Parts Table on Page 26



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Piston Parts Kit. See Page 31.
- ③ Part is **not** available separately, but **is** included with the Enclosing Tube Parts Kit. See Page 31.
- ④ Part **is** available separately. See Page 26.
- ⑤ Part **is** available separately, and **is** also included with the Piston Parts Kit or the Enclosing Tube Parts Kit. See Page 31.
- ⑥ See Parts Table on Page 32.

# TYPE MA50

See Parts Table on Page 26



① Replacement part **not** available.

② Part is **not** available separately, but **is** included with the Piston Parts Kit. See Page 31.

③ Part is **not** available separately, but **is** included with the Enclosing Tube Parts Kit. See Page 31.

④ Part **is** available separately. See Page 26.

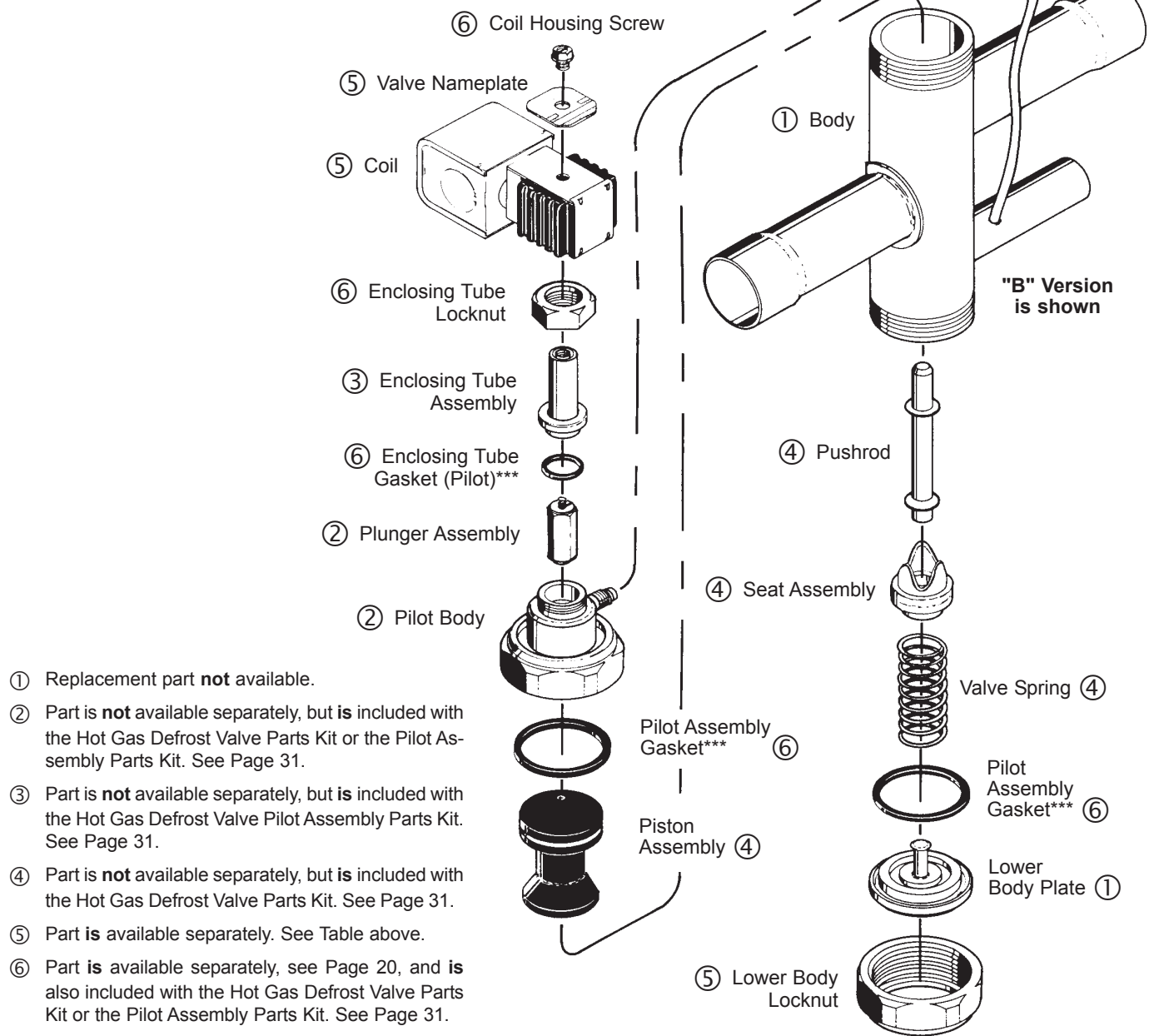
⑤ Part **is** available separately, and **is** also included with the Piston Parts Kit or the Enclosing Tube Parts Kit. See Page 31.

⑥ See Parts Table on Page 32.

# TYPE 10G HOT GAS DEFROST VALVE

PART NUMBER	PART DESCRIPTION DRAWING BELOW AND ON PAGE 26	VALVE TYPE and QUANTITY OF PART REQUIRED PER VALVE			
		8D/ 8D-SC*	12D/ 12D-SC	16D/ 16D-SC*	10G
13083-4	Coil Housing Screw	1	1	1	1
14000-1	Enclosing Tube Gasket (Pilot)***	1	1		1
14000-2				1	
14000-5	Pilot Assembly Gasket***	1	1		2
13252-1				1	
13256-2	Enclosing Tube Locknut	1	1		1
811-5				4	
946-4	Body Flange Bolt		4		
13681-1	Lower Body Locknut				1
1335-235				1	
14000-6**	Lower Body O-Ring	1			
623-137			1		
14115	Valve Nameplate	Specify Voltage & Frequency			
MKC-1	Coil (Specify Voltage & Frequency)	1	1		1
MKC-2				1	

\* Similar to 12D on Page 30.  
 \*\* 6-97 and before request part number 623-128  
 \*\*\* See Table on Page 20 regarding part numbers for the enclosing tube gasket and the new wolverine gasket.

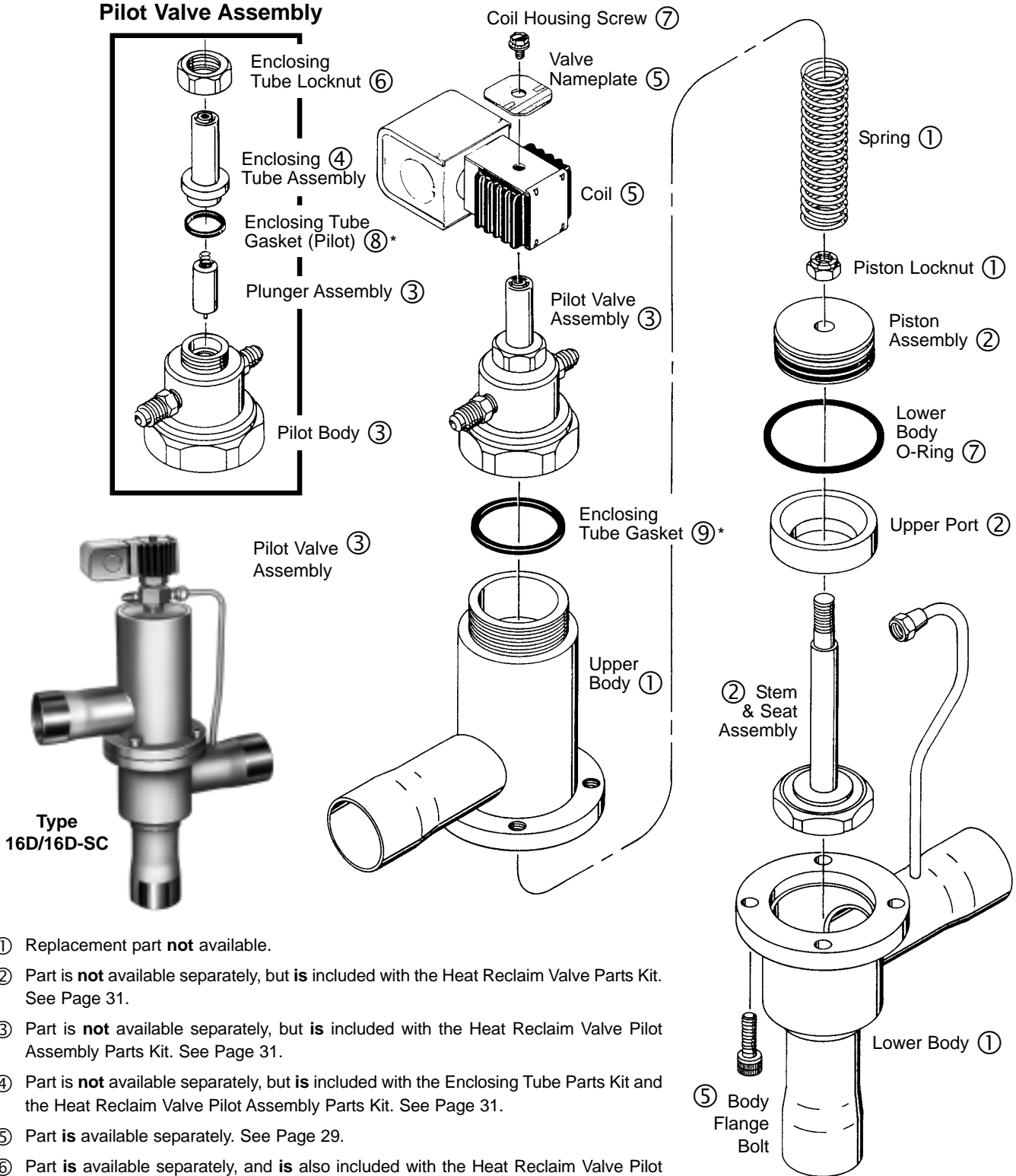


- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Hot Gas Defrost Valve Parts Kit or the Pilot Assembly Parts Kit. See Page 31.
- ③ Part is **not** available separately, but **is** included with the Hot Gas Defrost Valve Pilot Assembly Parts Kit. See Page 31.
- ④ Part is **not** available separately, but **is** included with the Hot Gas Defrost Valve Parts Kit. See Page 31.
- ⑤ Part **is** available separately. See Table above.
- ⑥ Part **is** available separately, see Page 20, and **is** also included with the Hot Gas Defrost Valve Parts Kit or the Pilot Assembly Parts Kit. See Page 31.

# TYPE 12D 3-WAY VALVE/12D-SC SPLIT CONDENSER VALVE

See Parts Table on Page 29

## Pilot Valve Assembly



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Heat Reclaim Valve Parts Kit. See Page 31.
- ③ Part is **not** available separately, but **is** included with the Heat Reclaim Valve Pilot Assembly Parts Kit. See Page 31.
- ④ Part is **not** available separately, but **is** included with the Enclosing Tube Parts Kit and the Heat Reclaim Valve Pilot Assembly Parts Kit. See Page 31.
- ⑤ Part **is** available separately. See Page 29.
- ⑥ Part **is** available separately, and **is** also included with the Heat Reclaim Valve Pilot Assembly Parts Kit. See Page 31.
- ⑦ Part **is** available separately, and **is** also included with the Heat Reclaim Valve Parts Kit or the Enclosing Tube Parts Kit.
- ⑧ Part **is** available separately, see Page 20, and **is** also included with the Heat Reclaim Valve Pilot Assembly Parts Kit or the Enclosing Tube Parts Kit. See Page 31.
- ⑨ Part **is** available separately, see Page 20, and **is** also included with the Heat Reclaim Valve parts Kit or the Pilot Assembly Parts Kit. See Page 31.

\* See Table on Page 20 regarding part numbers for the enclosing tube gasket and the new wolverine gasket.

# REPLACEMENT PARTS KITS for SOLENOID VALVES

DISC / PISTON / DIAPHRAGM KITS			DISC TYPE - INDUSTRIAL VALVES (continued)			
NORMALLY CLOSED VALVES			VALVE TYPE	KIT NUMBER	DESCRIPTION of CONTENTS	
VALVE TYPE	KIT NUMBER	DESCRIPTION of CONTENTS				
10	—	Hermetic Valve	W6	KS-W6	1 Stem & Plunger Assembly, 1 Closing Spring (Type W14, W19, W25 Only), 1 Disc Assembly, 1 Enclosing Tube Gasket	
A3/E3/E5	—	Non-Repairable	W14	KS-W14		
(M)B6/(M)E6	KS-B6/E6	1 Stem & Plunger Assembly, 1 Disc Assembly, 1 Enclosing Tube Gasket 1 Enclosing Tube Assy.	W19	KS-W19		
(M)B9/(M)E9	KS-B9/E9			W25		KS-W25
(M)A10	KS-A10			<b>DIAPHRAGM TYPE - INDUSTRIAL VALVES</b>		
(M)B10/(M)E10	KS-B10/E10			(K)R18	KS-R18	1 Plunger Assembly, 1 Diaphragm Assembly, 1 Enclosing Tube O-Ring
(M)B14/(M)E14	KS-B14/E14			(K)(B)R18	KS-BR18	
(M)B19/(M)E19	KS-B19/E19			(K)R24	KS-R24	
(M)B25/(M)E25	KS-B25/E25			(K)(B)R24	KS-BR24	
(C)(M)B9/(C)(M)E9	KS-CB9/CE9			<b>DIRECT CONNECTED VALVES</b>		
(C)(M)B10/(C)(M)E10	KS-CB10/CE10			DB14	KS-DB14	1 Stem, Plunger & Piston Assembly, 1 Enclosing Tube O-Ring or Gasket or Body Flange Flat Gasket
(C)(M)B14/(C)(M)E14	KS-CB14/CE14			DA17, DMA17	KS-DMA17	
(C)(M)B19/(C)(M)E19	KS-CB19/CE19			DMA17A, 8303	KS-DMA17	
(M)B6/(M)E6 - 20	KS-B6/E6 - 20			DB19	KS-DB19	
(M)B9/(M)E9 - 20	KS-B9/E9 - 20			DA24, DMA24, W24	KS-DMA24	
(M)B10/(M)E10 - 20	KS-B10/E10 - 20			DMA32, DB32, DC32	KS-DMA32	
(M)B14/(M)E14 - 20	KS-B14/E14 - 20		DMC32, 9002, 9003, 9006			
(M)B19/(M)E19 - 20	KS-B19/E19 - 20		<b>HEAT RECLAIM VALVES / SPLIT CONDENSER VALVES</b>			
(M)B25/(M)E25 - 20	KS-B25/E25 - 20		8D7B/8D9B	KS-8DB	1 Enclosing Tube Gasket, 1 Pilot Valve Gasket, 1 Stem and Seat Assembly, 1 Piston Assembly, 1 Lower Body O-Ring, 1 Lower Body Gasket (8D ONLY)	
MA5A3	KS-MA5A	1 Seat, 1 Stem & Plunger Assembly, 1 Enclosing Tube O-Ring	8D7C/8D9C	KS-8DC		
XJH/XOF	KS-XJH/XOF	1 Plunger Assembly, 1 Enclosing Tube O-Ring	8D9B-SC	KS-8DB-SC		
A17 & MA17	KS-MA17A	1 Stem & Plunger Assembly, 1 Piston Assembly, 1 Closing Spring (Type 42 Only), 1 Enclosing Tube O-Ring 1 Enclosing Tube Flat Gasket (Type MA32, MA42 & MA50 Only),	8D9C-SC	KS-8DC-SC		
83				12D11B/12D13B		KS-12DB
MA17A3				12D11C/12D13C		KS-12DC
90	KS-MA32		12D11B-SC/12D13B-SC	KS-12DB-SC		
9001				12D11C-SC/12D13C-SC		KS-12DC-SC
9005				16D17B		KS-16DB
MA32				16D17C		KS-16DC
B32 & MA32				16D17B-SC	KS-16DB-SC	
C32 & MC32	KS-MA42			16D17C-SC	KS-16DC-SC	
100				<b>PILOT ASSEMBLY</b>		
MA42 & E(M)B42			8D & 12D	KS-8D/12DP	1 Enclosing Tube Gasket, 1 Coil Housing Screw, 1 Pilot Valve Assembly	
110	KSMA50	8D-SC & 12D-SC	KS-8D/12DP-SC			
MA50			16D	KS-16DP	1 Coil Housing Screw, 1 Pilot Valve Assembly	
(M)B33, (M)E33, E(M)B33	KS-B33/E33	1 Coil Housing Screw, 1 Upper Valve Assembly, 1 Piston Assembly, 1 Closing Spring, 1 Body Flange Gasket or Flat Gasket	16D-SC	KS-16DP-SC		
(M)E34	KS-E34		<b>HOT GAS DEFROST VALVES</b>			
(M)E34-20	KS-E34-20		10G79B	KS-10G	1 Enclosing Tube Gasket 2 Pilot Assembly Gaskets, 1 Plunger Assembly, 1 Pushrod, 1 Seat Assembly, 1 Piston Assembly, 1 Valve Spring	
(M)E42	KS-E42		10G711A, B, C			
(M)E42-20	KS-E42-20		10G713			
<b>RAPID CYCLE VALVES *</b>			<b>PILOT ASSEMBLY</b>			
XUP/XXF	KS-XUP/XXF	1 Stem & Plunger Assembly, 1 Disc Assembly, 1 Enclosing Tube Assembly, 1 Coil Housing Locknut, 1 Spacer Ring, 1 Spacer Cup, 1 Gasket, 1 valve Nameplate	10G-B	KS-10GP-B	1 Enclosing Tube Gasket, 1 Pilot Valve Assembly, 1 Coil Housing Screw	
XRN	KS-XRN		10G-C	KS-10GP-C		
XRM	KS-XRM		<b>ENCLOSING TUBE KITS</b>			
XPO	KS-XPO		(R)W3	KE-3	1 Enclosing Tube Assembly, 1 Enclosing Tube Gasket or O-Ring, 1 Coil Housing Screw, 2 Body Screws (KE-3 Only)	
<b>NORMALLY OPEN VALVES</b>			(M)(B)6/(M)E6	KE-6		
OB9/OE9	KS-OB9/OE9	1 Disc or Piston Assembly, 1 Operator Assembly, 1 Enclosing Tube O-Ring Gasket, 1 Closing Spring (Type OB33 & OE33 Only), 1 Body Flange Gasket (Type OB33 or OE33 Only), 1 Spacer Cup, 1 Spacer Ring, 1 Coil Housing Locknut, 1 Pilot Valve Flange Plate (Type OB33 & OE33 Only)	(C)(M)B9/(C)(M)E9	KE-9		
OB10/OE10	KS-OB10/OE10		(M)E34			
OB14/OE14	KS-OB14/OE14		(M)E42			
OB19/OE19	KS-OB19/OE19		16D/16D-SC			
OB25/OE25	KS-OB25/OE25		SHGB-15	KE-10/14		
OB33/OE33	KS-OB33/OE33		(C)(M)B10/(C)(M)E10			
EOB33			(C)(M)B14/(C)(M)E14	W14		
OE34	KS-OE34	1 Upper Valve Assembly, 1 Piston Assembly, 1 Closing Spring, 1 Body Flange Gasket, 1 Spacer Ring, 1 Spacer Cup, 1 Coil Housing Locknut	(C)(M)B19/(C)(M)E19	KE-19		
OE42	KS-OE42		W19			
<b>DISC TYPE - INDUSTRIAL VALVES</b>			(M)B25/(M)E25	KE-25		
RW3	KS-RW3	1 Plunger Assembly, 1 Enclosing Tube O-Ring	W25	KE-33		
W3	KS-W3			8D/12D, 8D-SC/12D-SC	KE-8D/12D	
W7	KS-W7			MA5A3/MA17A3	KE-MA5/MA17	
				MA32	KE-MA32	
			MA42	KE-MA42	1 Enclosing Tube, & Bonnet Assembly, 1 Enclosing Tube O-Ring, 4 Flange Plate Bolts (KE-1824 Only)	
			MA50	KE-MA50		
			(K)(B)R18	KE-18/24		
			(K)(B)R24	KE-18/24	1 Coil Housing Screw or Locknut	
<b>DISC TYPE - INDUSTRIAL VALVES</b>			<b>MANUAL LIFT STEM KIT</b>			
			MB6/ ME6, ME9	KM-1	1 Manual Lift Stem Assembly (Includes P/N 2003-1 Seal Cap available separately)	
			MB9	KM-2		
			MB10	KM-3		
			MB14	KM-4		
			ME14	KM-4		
			ME10	KM-5		
			MB19/ME19			
			MB33/ME33			
			ME34	KM-6		
			MB25/ME25			

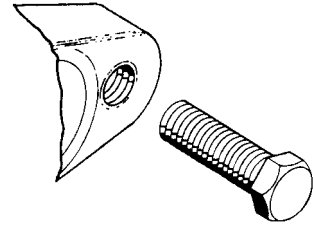
Note: Rapid Cycle Valves with "-" numbers use the same valve series kit.

# CAP SCREW, BOLT AND NUT SPECIFICATION TABLE

VALVE TYPE	INLET and OUTLET COMBINATION		BOLT DIA. Inches	BOLT LENGTH Inches	BOLT QUANTITY REQUIRED	NUT REQUIRED
	INLET	OUTLET				
<b>THERMOSTATIC EXPANSION VALVES</b>						
H		1/2, 5/8, 7/8	1124 Distributor		7/16	4
			Flange 5/8, 7/8, 1-1/8			
			1109, 1110, 1192 Distributor			
M, V	Flange	UP TO 1-3/8	UP TO 1/2 FPT		1/2	5-1/2****
			Flange UP TO 1-3/8			
			1119 Distributor			
			1121, 1193 Distributor			
			1-5/8 ODF			
			Flange UP TO 1 FPT			
W		1-1/8, 1-3/8, 1-5/8, 2-1/8 ODF	1-1/8, 1-3/8, 1-5/8, 2-1/8 ODF		1/2	5
			Flange UP TO 1 FPT			
D	Flange	1/4, 3/8, 1/2 FPT	1/4, 3/8, 1/2 FPT		7/16	1-3/4
			XD Strainer			
			XD Strainer x MA5 Solenoid			
			1130, 1182 Distributor			
			1132 Distributor			
			1180 Distributor			
A	Flange	1/2, 3/4, 1 FPT	8000 Strainer		1/2	1-3/4
			Flange 1/2, 3/4, 1 FPT			
			8000 Strainer x MA17 Solenoid			
			1138, 1185 Distributor			
			Flange on Valve Body Female Threaded Connections on Element			
<b>COMBINATION VALVES</b>						
XD-074, MA5, SA-K87, D*			7/16	6	2	
XD-074, MA5, SA-K87, Flange (Female)			7/16	6-1/2	2	2
8000, MA17, SA-K90, A*			1/2	7	2	
8000, MA17, SA-K90, Flange (Female)			1/2	7-1/2	2	2
8000, 1179, MB33, SA-K90, Flange (Female)**			1/2	8	2	2
<b>DISTRIBUTORS</b>						
1138 1185 1130 1182 1133 1132 1180	Flange	1/2, 3/4, 1 FPT			1/2	2-1/2
		1/4, 3/8, 1/2 FPT		7/16	2	2
<b>SOLENOID VALVES</b>						
MA5A3	Flange	1/4, 3/8, 1/2 FPT	Flange 1/4, 3/8, 1/2 FPT		7/16	4
			Type D Expansion Valve			
			Flange 1/4, 3/8, 1/2 FPT			
			Type D Expansion Valve			
MA17A3	Flange	1/2, 3/4, 1 FPT	Flange 1/2, 3/4, 1 FPT		1/2	6
			Type A Expansion Valve			
			Flange 1/2, 3/4, 1 FPT			
			Type A Expansion Valve			
MA32P3	Flange	1, 1-1/4 FPT	Flange 1, 1-1/4 FPT		5/8	3
			9008, 9010 Strainer			
MA42P3	Flange	1-1/2 FPT	Flange 1-1/2 FPT		5/8	3-1/4
			9012 Strainer (Obsolete)			
MA42S3	Flange	1-5/8, 2-1/8 ODF	Flange	1-5/8, 2-1/8 ODF	5/8	3-1/2
MA50S3	Flange	2-1/8, 2-5/8 ODF	Flange	2-1/8, 2-5/8 ODF	1/2	7
B33S2	Flange	1-1/8, 1-3/8 ODF	Flange 1-1/8, 1-3/8 ODF		1/2	7-1/2
			1-5/8 ODF			
<b>STRAINERS</b>						
XD-074 8000 9008/9010			1/4, 3/8, 1/2 FPT		7/16	3-1/2
			Flange 1/2, 3/4, 1 FPT			
			1, 1-1/4 FPT			
<b>SEE-ALLS</b>						
SA-K87	Flange	1/4, 3/8, 1/2 FPT	Flange	1/4, 3/8, 1/2 FPT	7/16	3-1/2
SA-K90		1/2, 3/4, 1 FPT		1/2, 3/4, 1 FPT	1/2	5

## ORDERING INSTRUCTIONS

**CAP SCREW:** This terminology refers to a bolt that mates to a threaded flange and does not require a nut.



**CAP SCREW**

To order, specify "Cap Screw" (and give bolt diameter and length).

**BOLT and/or NUT**

To order a Bolt, specify "Bolt" (and give bolt diameter and length).

To order a Nut, specify "Nut" (and give hole diameter).

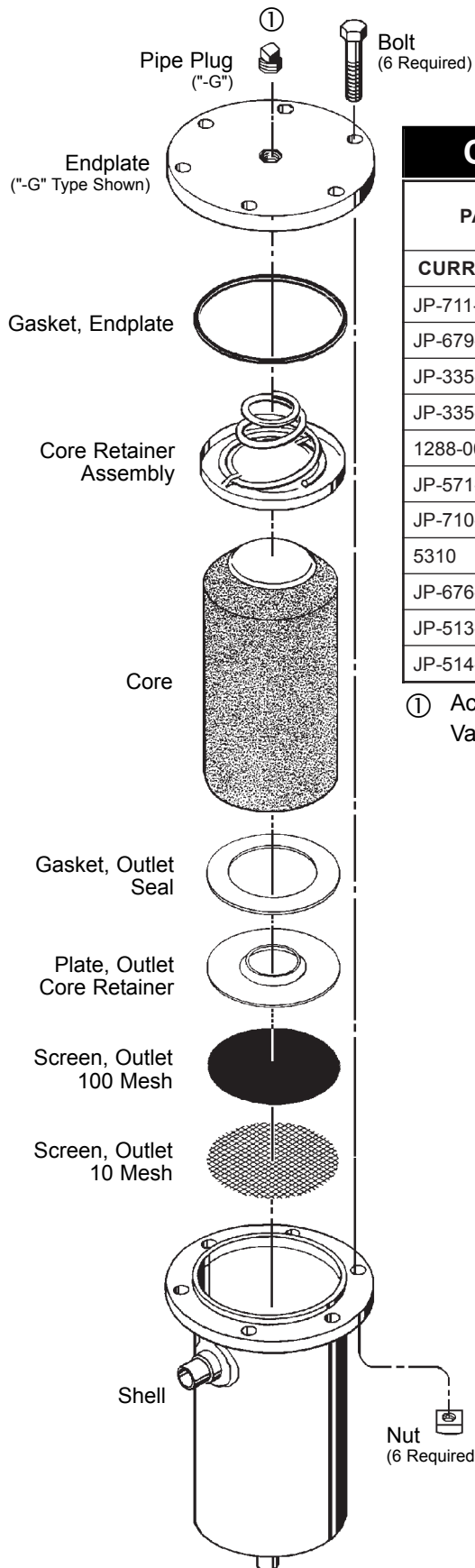
\* Note those combinations which bolt to either the Type D or A Valve do not require nuts since valve flanges are threaded.

\*\* The combination with the MB33 Solenoid Valve would not normally be bolted to a TEV (Type M Valve) due to the long length (13") of the bolt.

\*\*\* 4" bolts less nuts required for older style 1124 Distributors with threaded bolt holes.

\*\*\*\* 5" bolts less nuts required for older style 1121 & 1193 distributors with threaded bolt holes.

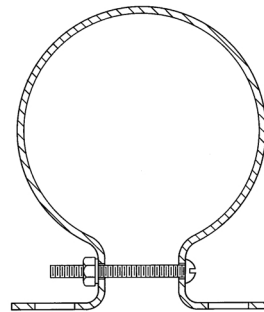
# CATCH-ALLS®



## C-R420 SERIES REPLACEMENT and KITS

PART NUMBER		DESCRIPTION	NOT SUPPLIED IN KIT	C-R420 SERIES INTERNAL PARTS KIT (K-RC420)
CURRENT	OBSOLETE			
JP-711-000	4163-9	Bolt 5/16" x 1-1/2" (6 Req'd)	X	
JP-679-000	6162	Core Retainer Assembly		1
JP-335-001	6154	Endplate (Plain)	X	
JP-335-000	6154-2	Endplate ("-G" Type)	X	
1288-005	6153-2	Gasket, Endplate	X	
JP-571-001	6155-2	Gasket, Outlet Seal		1
JP-710-000	Ñ	Nut Ñ 5/16" (6 Req'd)	X	
5310	Ñ	Pipe Plug ("-G")	X	
JP-676-000	6163	Plate, Outlet Core Retainer		1
JP-513-005	6172-1	Screen, Outlet Ñ 10 Mesh		1
JP-514-005	6171-4	Screen, Outlet Ñ 100 Mesh		1

① Access Valve (P/N: 183174) is available.  
 Valve Core (P/N: 480088) can be purchased separately.



## MOUNTING BRACKET

A-175-1 – Mounting Bracket for shell types C-R424, C-R425, C-R427 and ROF-413 ONLY. One bracket per package. Usually one bracket is adequate for mounting these Catch-Alls or Oil Filters. All brackets are supplied with a bolt, nut, and washer.

## C-480 thru C-19200 SERIES REPLACEMENT PARTS and KITS

PART NUMBER			DESCRIPTION	NOT SUPPLIED IN KIT	INTERNAL PARTS KIT					
DESIGN					C-480 SERIES			C-960 SERIES		
A	B	C			K-RC480-A	K-RC480-B	K-RC480-C	K-RC960-A	K-RC960-B	K-RC960-C
4163-11 (Quantity Req. = 8)			Bolt 5/16" x 1-3/4" (8 Req'd) Heat Treated Steel - Zinc Plated ①	X						
4086-11 (Quantity Req. = 8)			Bolt 5/16" x 1-3/4" (8 Req'd) Sermagard Coated Steel ②	X						
—			Bolt 5/16" x 1-3/4" (8 Req'd) Stainless Steel (Obsolete- Use Sermagard)	X						
5318-3	5318-3	5318-3	Endplate (Plain)	X						
5318-5	5318-5	5318-5	Endplate ("G" Type) ③	X						
5319-1	5319-1	5319-1	Gasket, Endplate (1/16" Thick)	X						
5454	5383-3	5383-5	Gasket, Outer Retainer Plate		1	1	1	1	1	1
—	5372-1	—	Gasket, Outlet Screen (Felt)			1		1		
6244-2	6244-2	6244-2	Nut - 5/16" (8 Required)	X						
5310	5310	5310	Pipe Plug ("G")	X						
5296-5	5296-5	5296-5	Plate, Core Positioning (Solid)		1	1	1	1	1	1
5296-3	5296-3	5296-3	Plate, Core Spacer				1	1	1	
5326-1	5321-10	5295-2	Plate, Outlet Core Retainer		1	1	1	1	1	1
—	6172-6	—	Screen, Outlet - 10 Mesh			1		1		
—	6171-5	6171-5	Screen, Outlet - 100 Mesh			1	1	1	1	1
5327-3	5327-3	5327-3	Spring, End		1	1	1	1	1	1
5320-1	5320-1	5320-1	Tie Rod C-480		3	3	3			
5320-2	5320-2	5320-2	Tie Rod C-960					3	3	3

PART NUMBER			DESCRIPTION	NOT SUPPLIED IN KIT	INTERNAL PARTS KIT					
DESIGN					C-1440 SERIES			C-19200 SERIES		
A	B	C			K-RC1440-A	K-RC1440-B	K-RC1440-C	K-RC1920-A	K-RC1920-B	K-RC1920-C
4163-11 (Quantity Req. = 8)			Bolt 5/16" x 1-3/4" (8 Req'd) Heat Treated Steel - Zinc Plated ①	X						
4086-11 (Quantity Req. = 8)			Bolt 5/16" x 1-3/4" (8 Req'd) Sermagard Coated Steel ②	X						
—			Bolt 5/16" x 1-3/4" (8 Req'd) Stainless Steel (Obsolete- Use Sermagard)	X						
5318-3	5318-3	5318-3	Endplate (Plain)	X						
5318-5	5318-5	5318-5	Endplate ("G" Type) ③	X						
5319-1	5319-1	5319-1	Gasket, Endplate (1/16" Thick)	X						
5454	5383-3	5383-5	Gasket, Outer Retainer Plate		1	1	1	1	1	1
—	5372-1	—	Gasket, Outlet Screen (Felt)			1		1		
6244-2	6244-2	6244-2	Nut - 5/16" (8 Required)	X						
5310	5310	5310	Pipe Plug ("G")	X						
5296-5	5296-5	5296-5	Plate, Core Positioning (Solid)		1	1	1	1	1	1
5296-3	5296-3	5296-3	Plate, Core Spacer		2	2	2	3	3	3
5326-1	5321-10	5295-2	Plate, Outlet Core Retainer		1	1	1	1	1	1
—	6172-6	—	Screen, Outlet - 10 Mesh			1		1		
—	6171-5	6171-5	Screen, Outlet - 100 Mesh			1	1	1	1	1
5327-3	5327-3	5327-3	Spring, End		1	1	1	1	1	1
5320-3	5320-3	5320-3	Tie Rod C-1440		3	3	3			
5320-4	5320-4	5320-4	Tie Rod C-19200					3	3	3

① Heat treated steel bolts are used on the Catch-All shell.

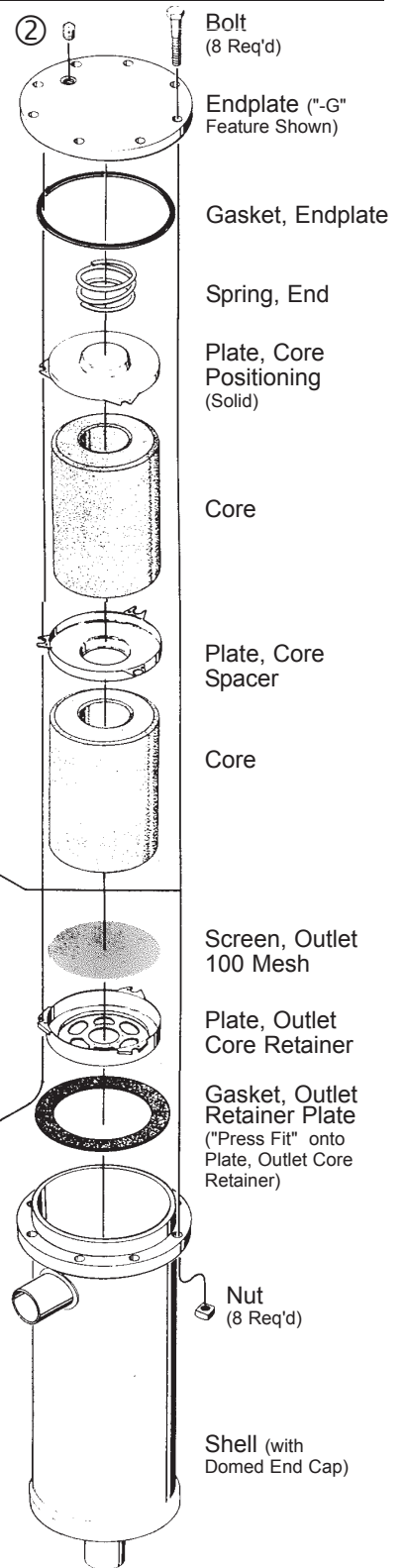
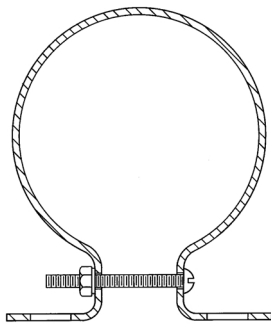
② Sermagard coated steel bolts can be used on the Catch-All shell for added corrosion resistance.

③ Endplates with 1/4" and 1/8" NPT holes are available, specify P/N: 5318-11.

# C-480 SERIES through C-19200 SERIES

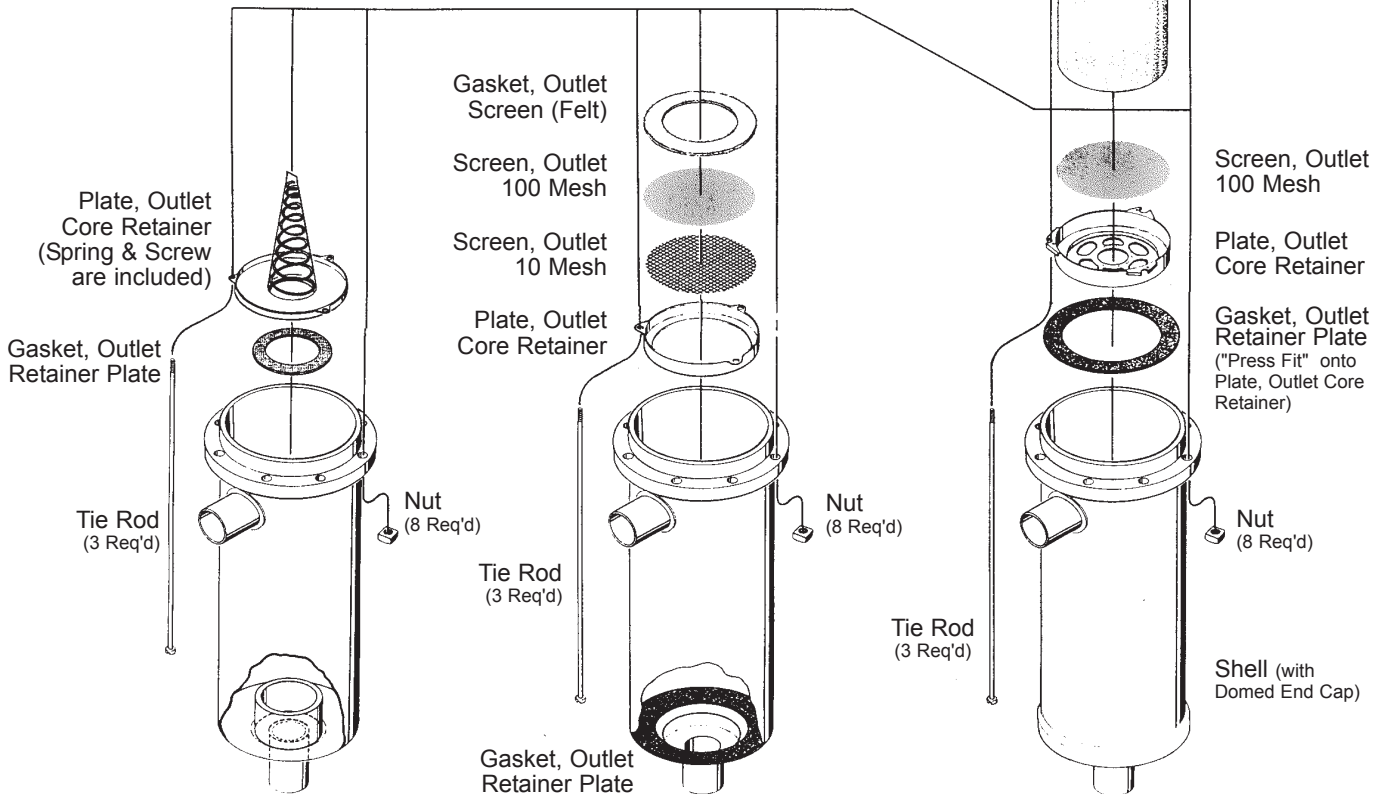
Replaceable Core Type Catch-Alls

See Parts Table on Page 34



## MOUNTING BRACKET

A-685 – Mounting Bracket for shell types C-480 thru C-1920 series. **One** bracket per package. Depending on shell size and installation requirements, more than one bracket may be required. Catch-Alls larger than the C-480 series generally require two brackets. These brackets are also used for Replaceable Suction Filters. All brackets are supplied with a bolt, nut, and washer.



**Design A**  
Manufactured until 1983

**Design B ①**  
Manufactured 1983 - 1991

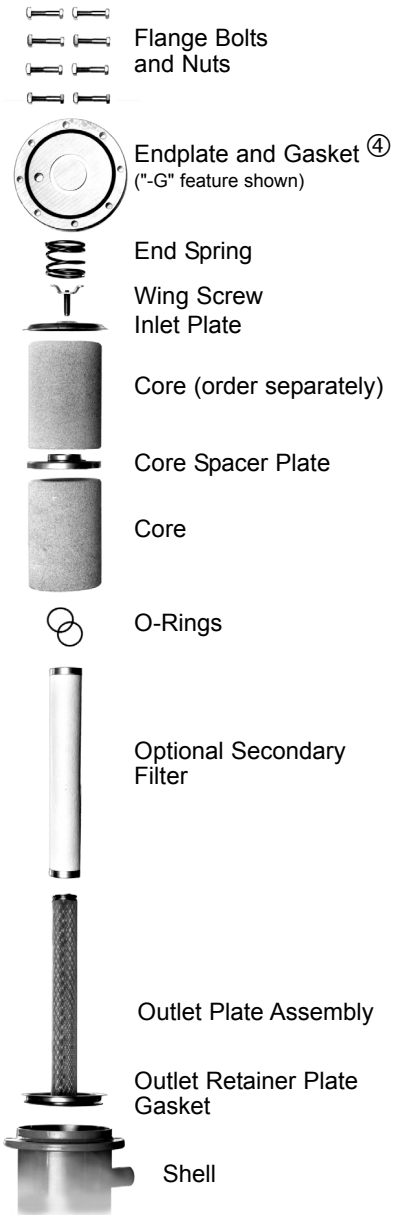
**Design C ①**  
Manufactured 1991 - Present  
(''-P'' Type Catch-Alls Only)

① The B & C/D designs can be differentiated by external shell appearance. The welded cap on the outlet of the shell fits inside the body shell on B versions and it slides over the body shell on C/D versions.  
② Access valve (P/N: 183174) is available. Valve core (P/N: 480088) can be purchased separately.

# C-480 SERIES through C-19200 SERIES

## Replaceable Core Type Catch-Alls

Part Number	Description	Not Supplied in Kit	Internal Parts Kit			
			C-480 Series	C-960 Series	C-1440 Series	C-19200 Series
			K-RC480-D	K-RC960-D	K-RC1440-D	K-RC19200-D
4163-11 (Quantity req'd = 8)	Bolt 5/16" x 1-3/4" (8 req'd) Heat treated Steel - Zinc Plated ①	X				
4086-11 (Quantity req'd = 8)	Bolt 5/16" x 1-3/4" (8 req'd) Sermagard Coated Steel ②	X				
6244-2	Nut 5/16" (8 req'd)	X				
5318-3	End Plate (Plain)	X				
5318-5	End Plate ("-G" Type)	X				
5310	Pipe Plug ("-G")	X				
5319-1	Gasket, End Plate (1/16" Thick)	X				
5383-5	Gasket, Outlet Retainer Plate		1	1	1	1
JP-741-000	C-480 Outlet Plate Assembly		1			
JP-741-001	C-960 Outlet Plate Assembly			1		
JP-741-002	C-1440 Outlet Plate Assembly				1	
JP-741-003	C-19200 Outlet Plate Assembly					1
JP-738-000	Plate, Inlet		1	1	1	1
JP-737-000	Plate, Core Spacer			1	2	3
JP-743-000	Screw		1	1	1	1
JP-744-000	End Spring		1	1	1	1
Optional Secondary Filter - Order Separately ③						
Filter Part Number	Description	Quantity Required				
FS-480	Filter for C-480 Series Shell	1				
FS-960	Filter for C-960 Series Shell	1				
FS-1440	Filter for C-1440 Series Shell	1				
FS-19200	Filter for C-19200 Series Shell	1				



- ① Heat treated steel bolts are used on the Catch-All shell.
- ② Sermagard coated steel bolts can be used on the Catch-All for added corrosion resistance.
- ③ Two O-rings are required for each internal assembly and are supplied with each secondary filter. The O-rings, part no. 621-025, can also be purchased separately.
- ④ Access valve (P/N: 183174) is available. Valve core (P/N: 480088) can be purchased separately.

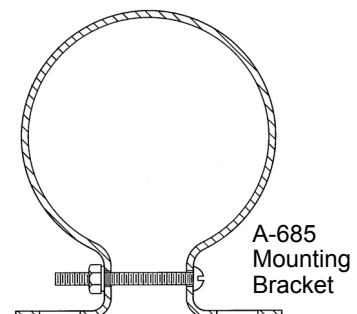
**Previous Designs** – Parts kits for the new internal construction fit in shell Designs B and C. Converting shell Design B requires a thicker outlet retainer plate gasket, part no. 1288-014.

The new internal construction cannot be used in Design A shells.

The B and C/D designs can be differentiated by external shell appearance. The welded end cap on the outlet of the shell fits inside the body shell on the B versions and it slides over the body shell on the C/D versions.(see illustrations on page 35)

## MOUNTING BRACKET

A-685 – Mounting Bracket for shell types C-480 thru C-1920 series. **One** bracket per package. Depending on shell size and installation requirements, more than one bracket may be required. Catch-Alls larger than the C-480 series generally require two brackets. These brackets are also used for Replaceable Suction Filters. All brackets are supplied with a bolt, nut, and washer.

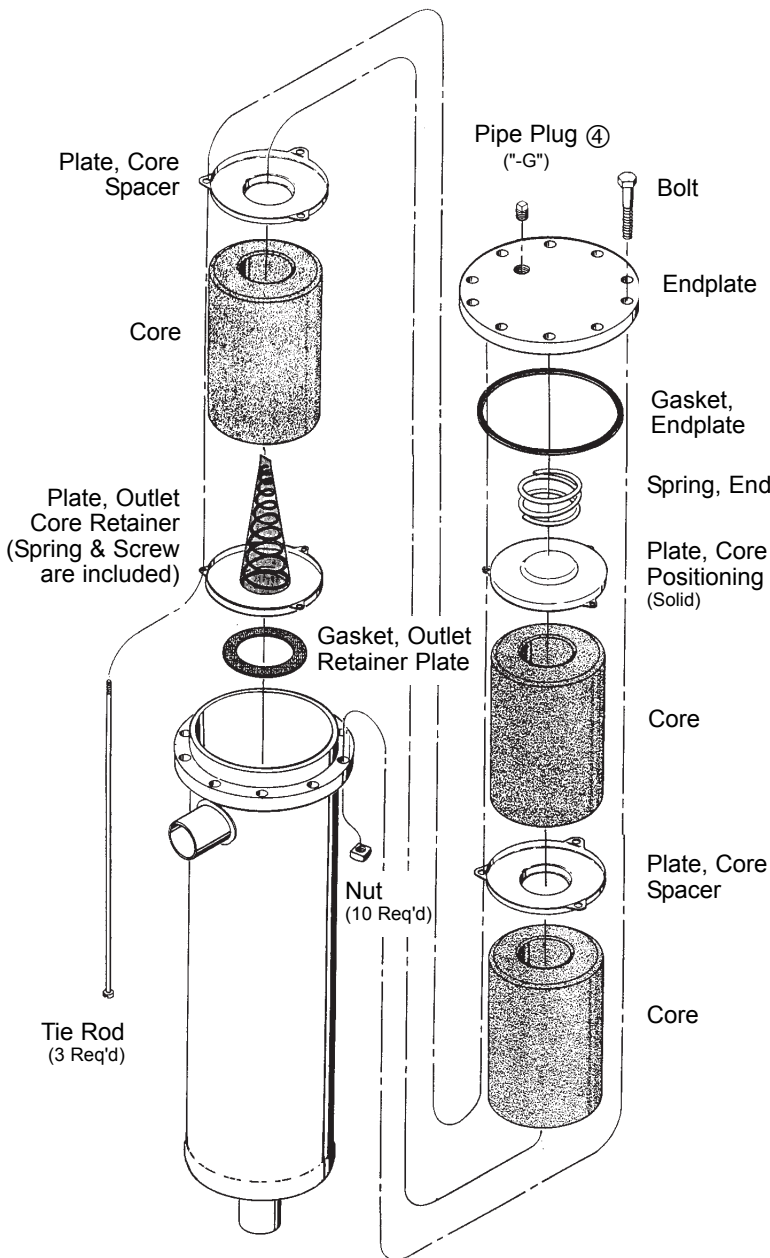


## Design D

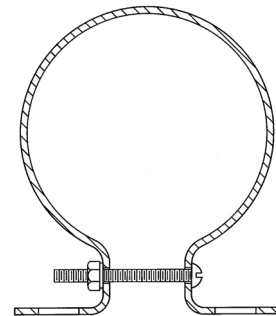
Manufactured 6/99-Present  
(Liquid Line Only)

# C-30000 & C-40000 SERIES REPLACEMENT PARTS & KITS

PART NUMBER	DESCRIPTION		NOT SUPPLIED IN KIT	INTERNAL PARTS KIT	
				C-30000 Series	C-40000 Series
				K-RC-300	K-RC-400
4103-15	Bolt	Heat Treated Steel - Zinc Plated ①	X		
4087-15	3/8" x 2-1/4" (10 Req'd)	Sermagard Coated Steel ②	X		
—		Stainless Steel (Obsolete - Use Sermagard)	X		
6278-2	Endplate (Plain)		X		
6278-4	Endplate ("-G") ③		X		
6229-2	Gasket, Endplate (1/16" Thick)		X		
6230-1	Gasket, Outlet Retainer Plate			1	1
6244-3	Nut, 3/8" (10 Req'd)		X		
5310	Pipe Plug ("-G")		X		
6260-5	Plate, Core Positioning (Solid)			1	1
6260-6	Plate, Core Spacer			2	3
6273-1	Plate, Outlet Core Retainer			1	1
6242-1	Spring, End			1	1
6243-2	Tie Rod C-30000			3	
6243-1	Tie Rod C-40000				3



- ① Heat treated steel bolts are used on the Catch-All shell.
- ② Sermagard coated steel bolts can be used on the Catch-All for added corrosion resistance.
- ③ Endplates with 1/4" and 1/8" holes are available, specify P/N: 6278-5.
- ④ Access valve (P/N: 183174) is available. Valve core (P/N: 480088) can be purchased separately.



## MOUNTING BRACKET

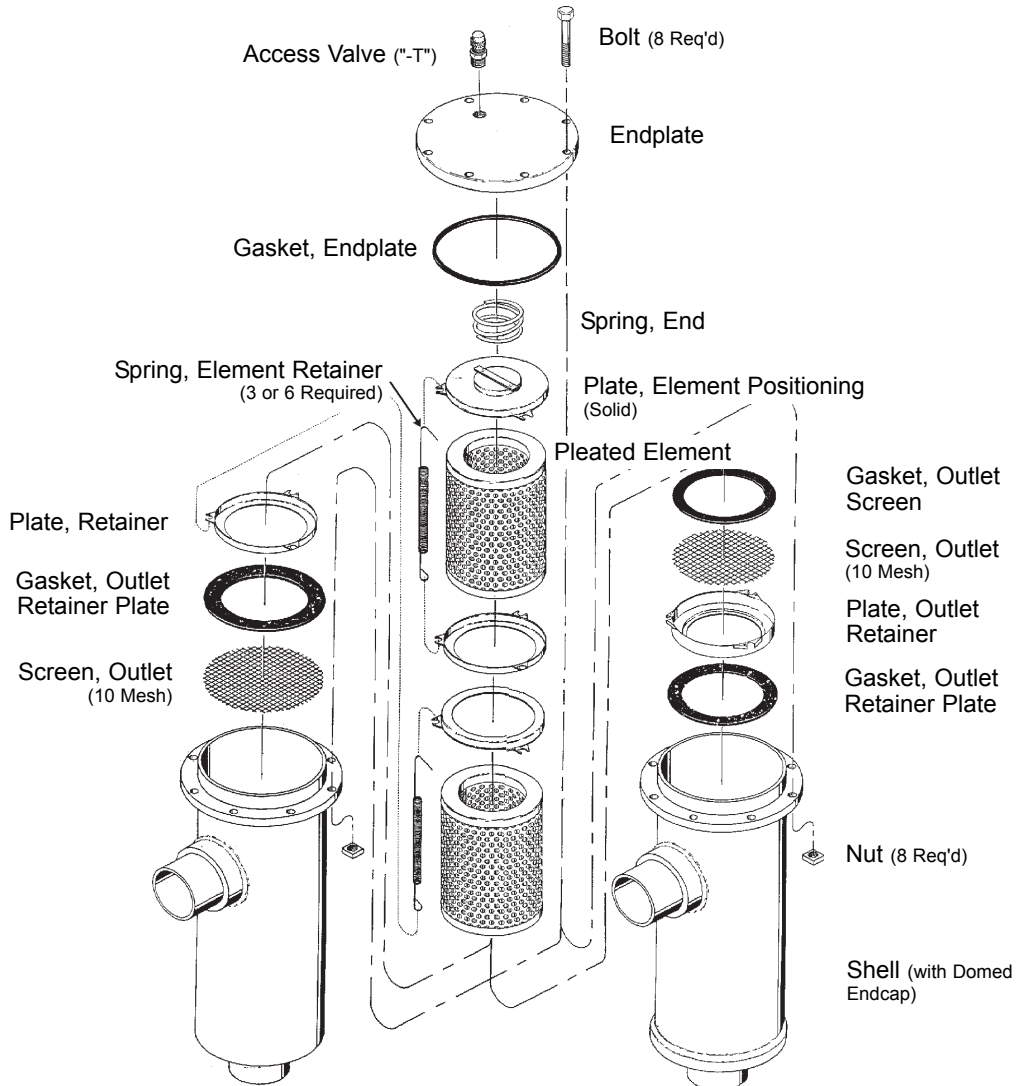
A-175-2 – Mounting Brackets for shell types C-30000 and C-40000 series. **Two** brackets per package. Two brackets are generally adequate for mounting these large Catch-Alls. All brackets are supplied with a bolt, nut, and washer.

# RSF-480 and RSF-960 REPLACEMENT SUCTION FILTERS REPLACEMENT PARTS and KITS

PART NUMBER		DESCRIPTION	NOT SUPPLIED IN KIT	INTERNAL PARTS KIT					
				DESIGN		RSF-480 SERIES		RSF-960 SERIES	
				B	C	K-RSF480-B	K-RSF480-C	K-RSF960-B	K-RSF960-C
183174	183174	Access Valve Kit (1/4" SAE x 1/4" NPT) ①	X						
4086-11	4086-11	Bolt 5/16" x 1-3/4" (8 Req'd)	X						
5318-5	5318-5	Endplate	X						
5319-1	5319-1	Gasket, Endplate (1/16" Thick)	X						
5383-3	5383-5	Gasket, Outlet Retainer Plate		1	1	1	1		
—	5383-6	Gasket, Outlet Screen			1		1		
6244-2	6244-2	Nut — 5/16" (8 Req'd)	X						
5289-1	5289-1	Plate, Element Positioning (Solid)		1	1	1	1		
—	5295-3	Plate, Outlet Retainer			1		1		
5296-4	5296-4	Plate, Retainer (1 to 3 Req'd)		1		3	2		
6172-4	6172-6	Screen, Outlet — 10 Mesh		1	1	1	1		
6171-5	6171-5	Screen, Outlet — 100 Mesh ②	X						
4602-5	4602-5	Spring, Element Retainer		3	3	6	6		
5327-3	5327-3	Spring, End		1	1	1	1		

① Access valve kit includes valve core and cap. Valve core can be purchased separately (P/N: 480088).

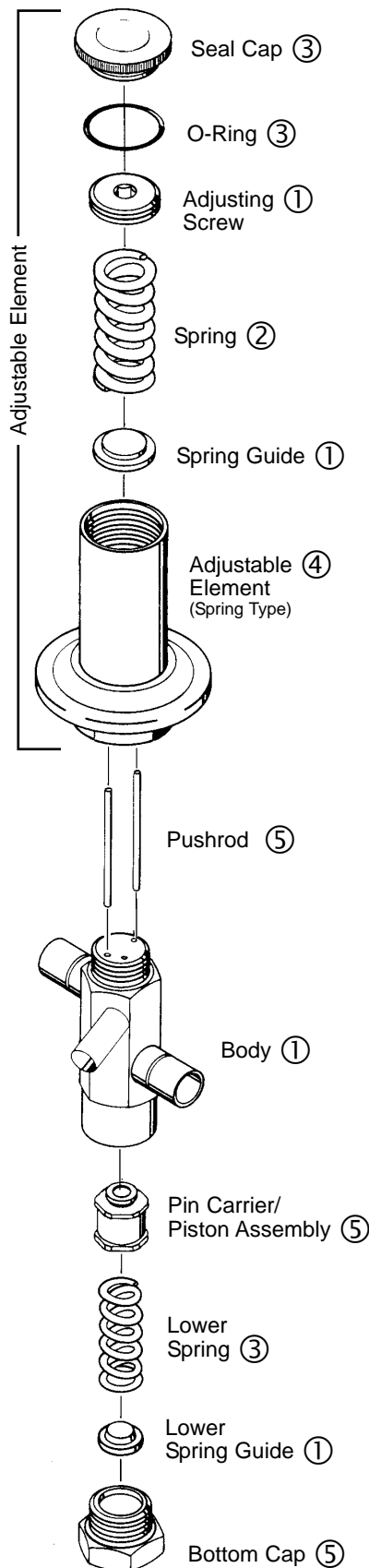
② When using replaceable suction filters with cores (i.e. RC-4864, RCW-48 or RC-4864-HH) remember to use the 100 mesh safety screen.



**All RSF-9625 Models & Design "B"**  
Manufactured until 1991

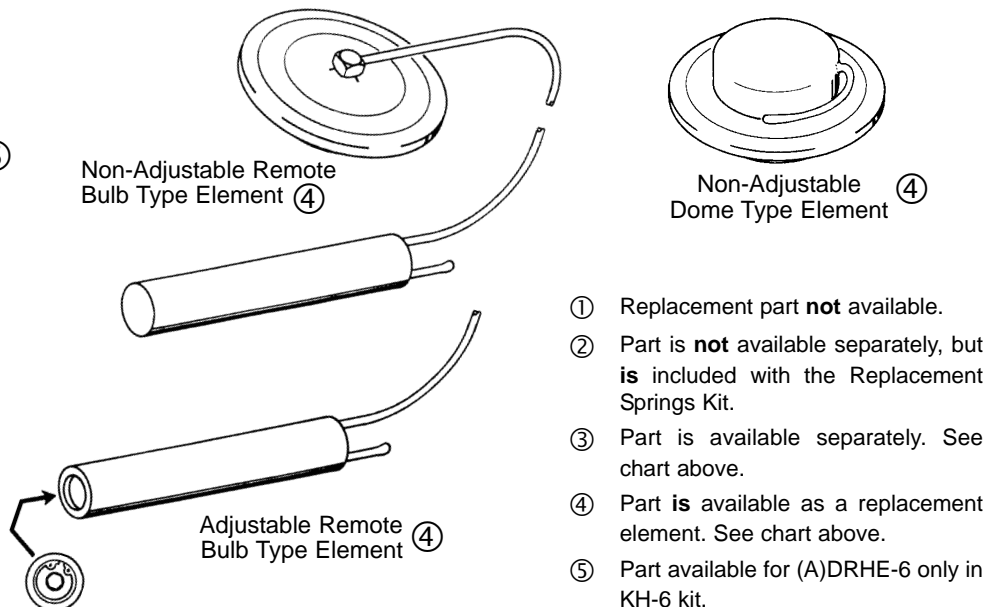
**Design C**  
Manufactured 1991 - Current

# PRESSURE REGULATING VALVES



PART NUMBER	PART DESCRIPTION	VALVE TYPE						
		(A)DR(E)	(A)DRS(E) - 2	(A)DRP(E) - 3	(A)DRH(E) - 6	DRS(E) - 2	DRP(E) - 3	DRH(E) - 6
QUANTITY REQUIRED								
<b>REPLACEMENT PARTS SOLD SEPARATELY</b>								
621-024	O-Ring		1	1	1			
1373-000	Seal Cap		1	1	1			
558-000	Lower Spring				1			1
559-000			1					
561-000							1	
696-000			1			1		
1031-000		1						
1524-000	Inlet Str. 3/8 ODF	1						
877-003	Inlet Str. 3/8 ODF		1			1		
877-004	Inlet Str. 1/2 ODF		1	1		1	1	
877-005	Inlet Str. 5/8 ODF		1	1	1	1	1	1
877-007	Inlet Str. 7/8 ODF				1			1
877-009	Inlet Str. 1-1/8 ODF				1			1
<b>REPLACEMENT SPRING KITS (FOR ADJUSTABLE ELEMENTS)</b>								
K-1800E-1	0/30 Adj. Range		1	1	1			
K-1800E-2	0/80 Adj. Range		1	1	1			
<b>REPLACEMENT ELEMENTS</b>								
A-4-****	Adjustable	1						
A-8-*			1					
A-3-*				1	1			
B-3P-**AR	Adjustable						1	
B-3H-**AR	Remote Bulb							1
D-8-***	Non-Adjustable Dome					1		
D-3P-***							1	
D-3H-***								1
R-8-***	Non-Adjustable Bulb					1		
R-3P-***							1	
R-3H-***								1
<b>REPLACEMENT INTERNAL PARTS KITS</b>								
KH-6	Includes: Pushrod, Piston Assy, Lower Spring, Bottom Cap				1			1

\* Specify 0/30 or 0/80 adjustment range.  
 \*\* Specify 25/35, 32/44, 55/70, 50/65, or 65/80 adjustment range.  
 \*\*\* Specify pressure setting.  
 \*\*\*\* Specify 0/55, 0/75 or 0/100 adjustment range. Available for replaceable element style valves only. The design change to replaceable elements began in 1993.



# (S)ORIT REPLACEMENT PARTS

PART NUMBER	DESCRIPTION	VALVE TYPE and SIZE					
		ORIT ②			SORIT ②		
		12	15	20	12	15	20
QUANTITY REQUIRED							
<b>REPLACEMENT PARTS SOLD SEPARATELY</b>							
2421-000	Adaptor		1			1	
2422-000				1			1
2420-000	Body Flange		1			1	
2423-000				1			1
1390-000	Coil Screw				1	1	1
14115-1	Valve Nameplate - Specify Valve Type, Voltage & Frequency				1	1	1
A-4 0/100 or 75/150	Element	1	1	1	1	1	1
A-4 75/150	Element	1	1	1	1	1	1
2625-001	Cap Screw			4			4
2625-002			4			4	
MKC-1 ①	Coil				1	1	1
2539-000	Adaptor Gasket - Wolverine			1			1
2645-000	Adaptor Gasket - Tetraseal	1	1		1	1	
4323-000	Gasket (Enclosing Tube Locknut Style from Date Code 3998 to Present) Not Shown				1	1	1
621-016	O-Ring (Enclosing Tube Locknut Style Prior to Date Code 3898) Not Shown				1	1	1
621-014	O-Ring (Enclosing Tube 4 Screw Style ONLY) Not Shown				1	1	1
13681-1	Locknut	1			1		
621-028	O-Ring		1			1	
621-031					1		1
2445-000	Strainer	1	1	1	1	1	1
JP-543-002	Copper Flare Gasket	1 ③					
<b>REPLACEMENT PARTS KITS</b>							
<b>PILOT ASSEMBLY KITS</b>							
K-Y1005-1	All Kits include: Pilot Assembly, Strainer, Gasket(s). The KS-CDA-12P also includes: Piston, Body Sleeve and Spring. The K-Y1005 and K-Y1010 also include outlet adaptors, bottom cap, copper gasket and cap screws. ③				1	1	1
K-Y1010		1	1	1			
<b>INTERNAL PARTS KITS</b>							
KS-ORI-12 ④	All Kits include: Gasket(s), Piston, and Spring. The KS-ORI-12 also includes the Adaptor. The KS-ORI/CDA-15, KS-ORI/CDA-20 and KS-SHGB-15 also include a Body Sleeve & O-Ring.	1			1		
KS-ORI/CDA-15			1			1	
KS-ORI/CDA-20				1			1
<b>CDA TO SORIT CONVERSION KITS</b>							
KSM-ORIT-12	All Kits include: Pilot Assembly Kit and Adaptor. KSM-(S)ORIT-15 & 20 also include: Body Flange. KSM-(S)ORIT-12 also includes: Piston and Locknut.	1					
KSM-ORIT-15			1				
KSM-ORIT-20				1			
KSM-SORIT-12 ⑤					1		
KSM-SORIT-15 ⑤						1	
KSM-SORIT-20 ⑤							1

① Specify voltage and frequency.

② See drawing on Page 41.

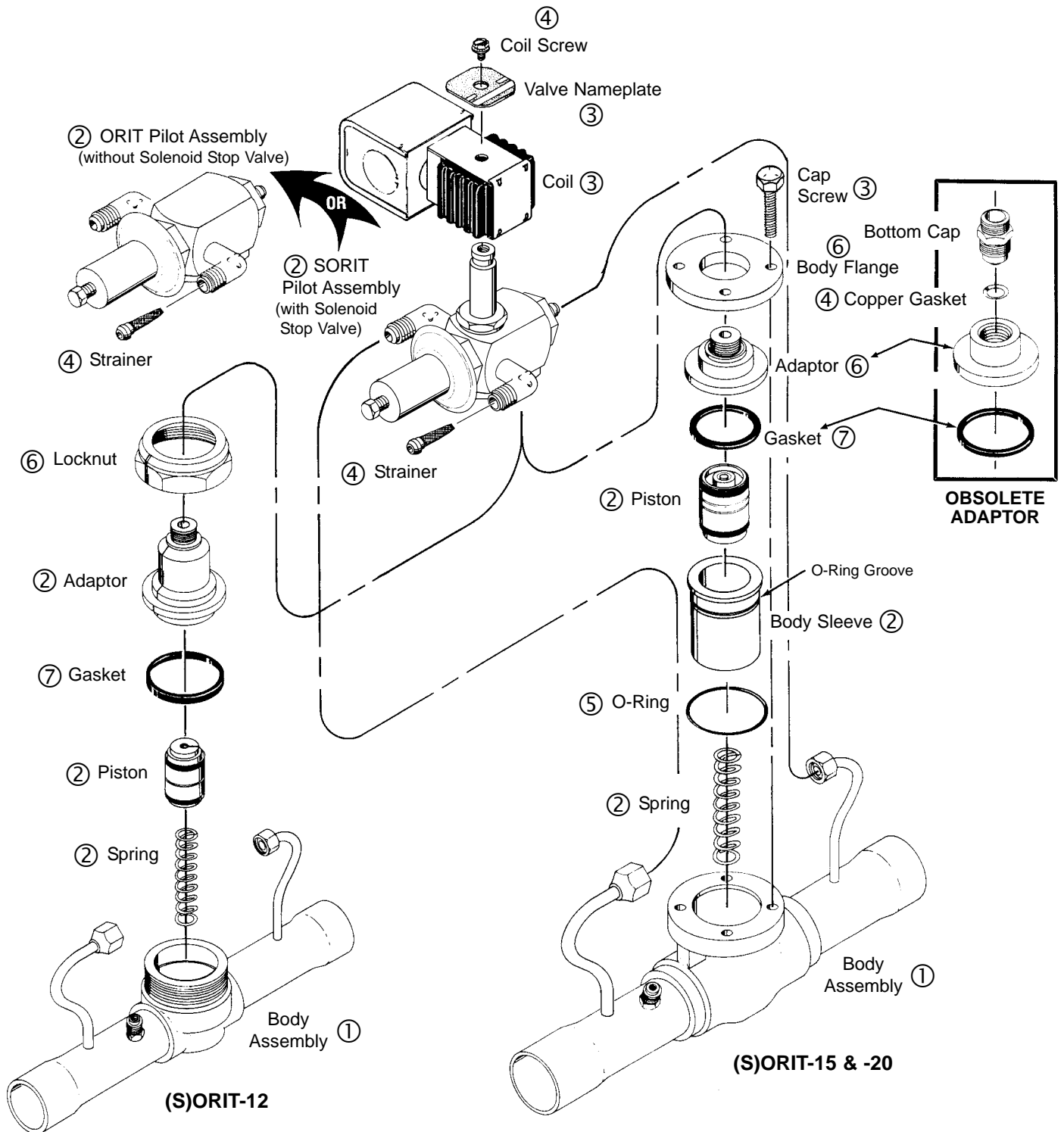
③ This part may be necessary to adapt a new (S)ORIT Pilot to some obsolete valves.

④ Replacement (S)ORIT-12 Internal Parts are only compatible with the Y1005 and Y1010 Pilot Valves. When using these parts with obsolete Pilot Valves, the Pilot Valve must also be replaced.

⑤ If ordering an ORIT to (S)ORIT CONVERSION KIT or a CDA to SORIT CONVERSION KIT, an MKC-1 coil is required. Order coil as a separate item and specify electrical specifications.

# (S)ORIT-12, -15 & -20

See Parts Table on Page 40



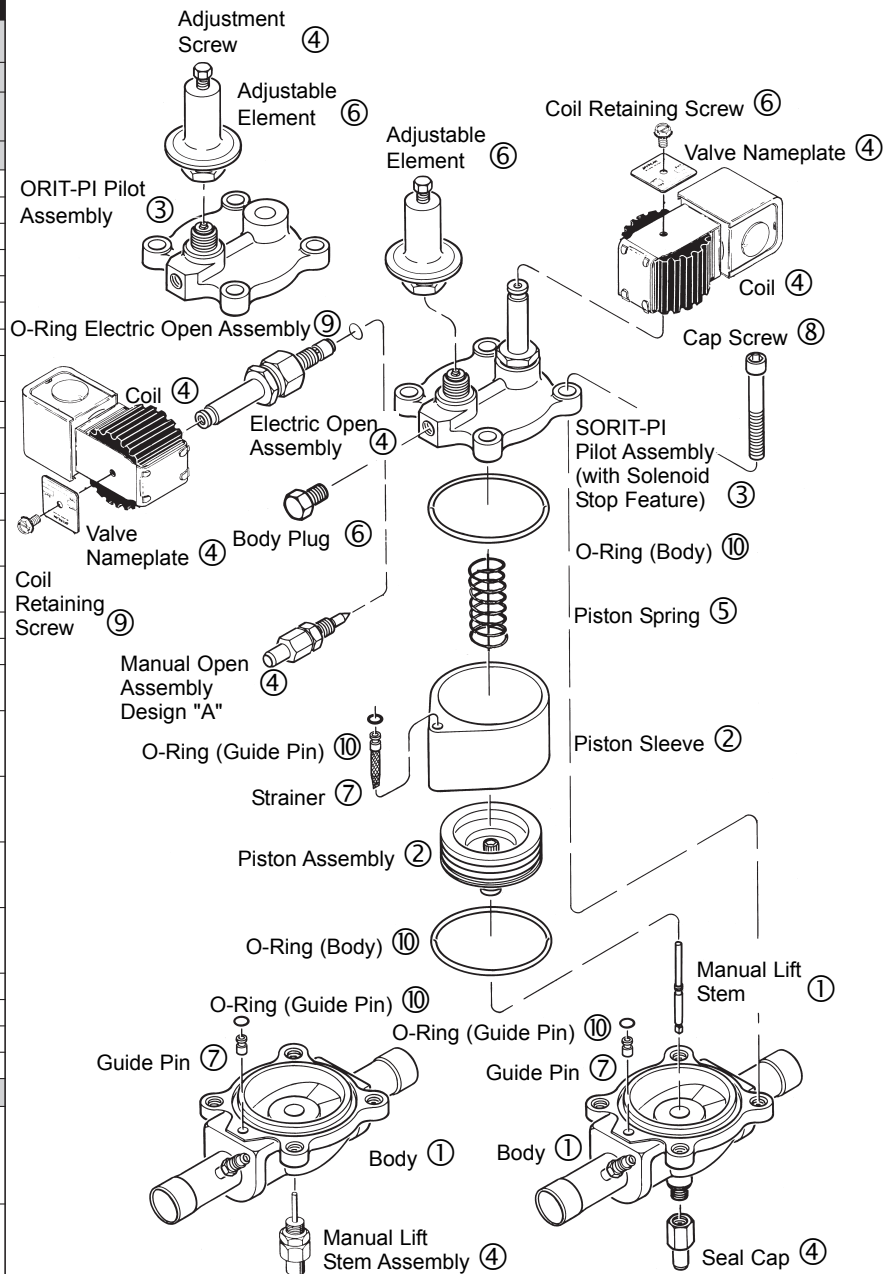
- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Parts Kits. See Page 40.
- ③ Part is available separately. See Page 40.
- ④ Part **is** available separately, and **is** also included with the Pilot Assembly Kit. See Page 40.

- ⑤ Part **is** available separately, and **is** also included with the Internal Parts Kit. See Page 40.
- ⑥ Part **is** available separately, and **is** also included with the CDA to SORIT CONVERSION KIT. See Page 40.
- ⑦ Part **is** available separately and **is** also included with the Pilot Assembly Kit and the Internal Parts Kit. See Page 40.

# (S)ORIT REPLACEMENT PARTS & PARTS KITS

REPLACEMENT PARTS AND PARTS KITS			
PART NUMBER	DESCRIPTION	VALVE TYPE	
		ORIT-PI	SORIT-PI
		QUANTITY REQUIRED	
<b>REPLACEMENT PARTS SOLD SEPARATELY</b>			
JP-2518-000	Access Valve Core (Not shown)	1	1
A-4-0/100	Adjustable Element	1	1
A-4-75/150	Adjustable Element	1	1
1806-002	Adjustment Screw	1	1
4089-000	Body Plug	1	1
JP-2520-003	Cap, Access Valve (Not shown)	1	1
506-008	Cap Screws-Stainless Steel	4	4
MKC-1 *	Coil, specify voltage and frequency	—	1
1390-000 *	Coil Retaining Screw	—	1
K-PI-E	Electric Open Assembly (Includes Nameplate, Coil Retaining Screw)	1	1
3743-000	Guide Pin	1	1
2000-10	Manual Open Stem Assembly (Required for Design "A" Only)	1	1
2000-11	Manual Lift Stem Assembly (Required for Design "A" Only)	1	1
621-143	O-Ring — Body	2	2
621-010	O-Ring — Guide Pin	2	2
621-010	O-Ring — Electric Open Assembly	1	1
4323-000	Gasket — Enclosing Tube (Not shown) For Date Codes 3598 to Present	—	1
621-016	O-Ring — Enclosing Tube (Not shown) For Date Codes through 3498	—	1
4323-000	Gasket — Electric Open Enclosing Tube (Not shown) For Date Codes 3798 to Present	1	1
621-016	O-Ring — Electric Open Enclosing Tube (Not shown) For Date Codes through 3698	1	1
3742-000	Piston Spring	1	1
4169-000	Seal Cap	1	1
4269-000	Strainer (200 Mesh)	1	1
14115-1 *	Valve Nameplate	—	1
<b>REPLACEMENT PILOT ASSEMBLY PARTS KITS</b>			
K-ORIT-PI	All kits include: Pilot Valve Assembly, Adjustable Element, Strainer, O-Rings (Body), O-Rings (Guide Pin), Guide Pin, (2) Cap Screws & body plug. The K-SORIT-PI kit also includes the Coil Retaining Screw.	1	—
K-SORIT-PI		—	1
<b>REPLACEMENT INTERNAL PARTS KITS</b>			
KS-(S)ORIT-PI-2	All kits include: Piston Sleeve, Piston Assembly, Piston Spring, O-Rings (Body), O-Rings (Guide Pin), Guide Pins and Strainer	1	1
KS-(S)ORIT-PI-3			
KS-(S)ORIT-PI-4			
KS-(S)ORIT-PI-5			

\* Increase quantity required by one when electric open assembly is used.



**(S)ORIT-PI-2, -3, -4**  
Manufactured 1995 - 1997  
Design "A"

**(S)ORIT-PI-2, -3, -4**  
Manufactured 1996 - Present

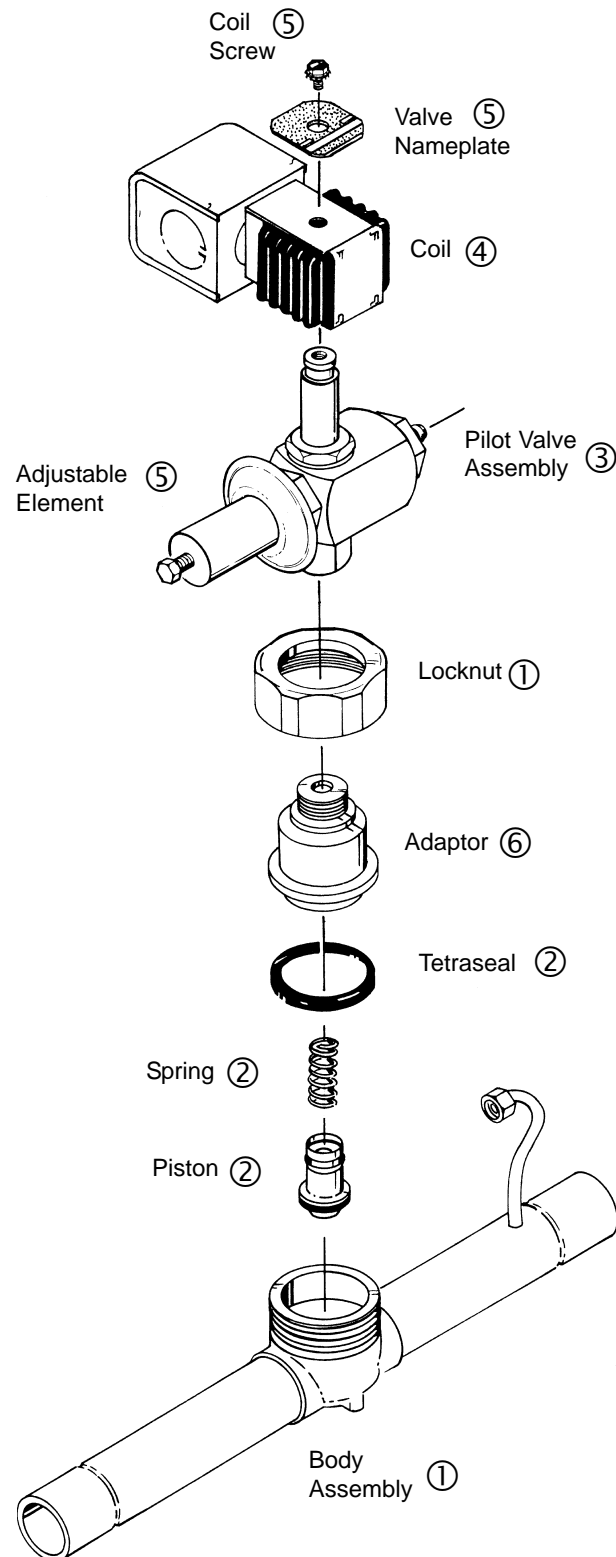
**(S)ORIT-PI-5**  
Manufactured 1998 - Present  
Design "B"

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Internal Parts Kits.
- ③ Part is **not** available separately, but **is** included with the Pilot Assembly Parts Kits.
- ④ Part is available separately.
- ⑤ Part **is** available separately, and **is** also included with the Internal Parts Kits.

- ⑥ Part **is** available separately, and **is** also included with the Pilot Assembly Parts Kits.
- ⑦ Part **is** available separately and **is** also included with the Pilot Assembly Kit and the Internal Parts Kit.
- ⑧ Part **is** available separately, however 2 cap screws are included in the Pilot Assembly Parts Kits.
- ⑨ Part **is** available separately, and **is** included with the K-PI-E Electric Open Assembly.
- ⑩ Part **is** available separately, and **is** included in the Internal Parts Kits and O-Ring Kit.

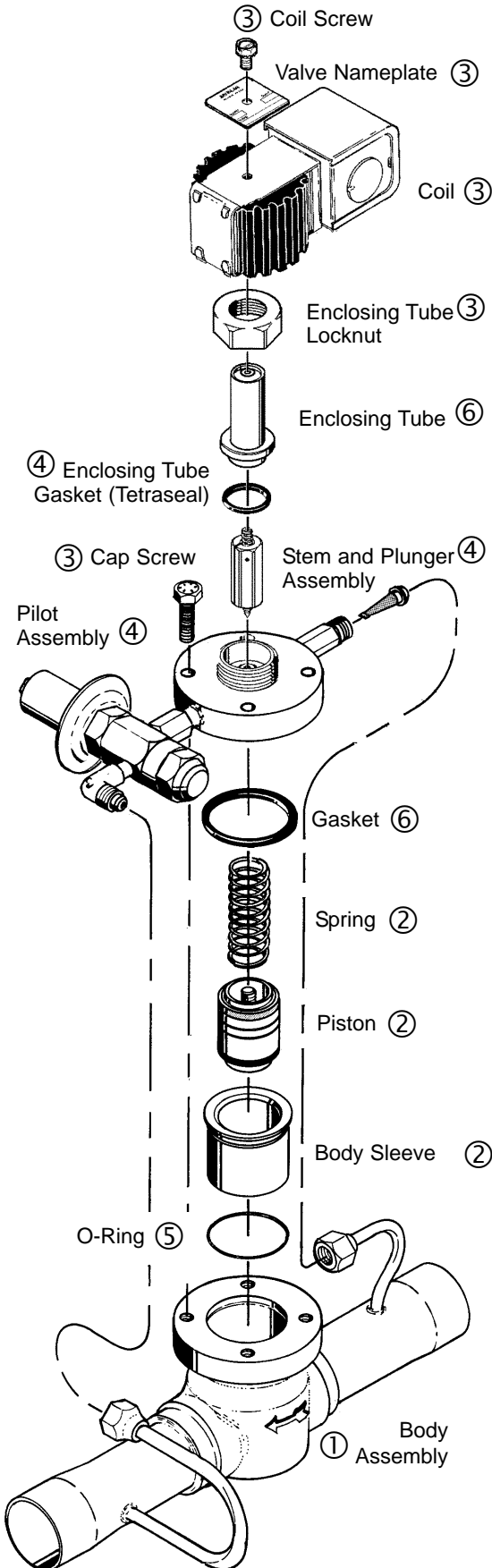
# SHGB(E)-8-0/100

SHGB(E)-8-0/100 REPLACEMENT PARTS and PARTS KITS		
REPLACEMENT PARTS SOLD SEPARATELY		
PART NUMBER	DESCRIPTION	QUANTITY REQUIRED
A-4-0/100 or <sup>75/150</sup>	Adjustable Element	1
1390-000	Coil Screw	1
MKC-1 Coil (Specify voltage and frequency)	MKC-1 Coil	1
5134-000	Tetraseal	1
5014-000	Valve Nameplate for SHGB-8	1
5014-001	Valve Nameplate for SHGBE-8	1
REPLACEMENT PARTS KITS		
PILOT ASSEMBLY KIT		
K-SHGB(E)-8	Includes: Pilot Valve Assembly, Tetraseal, Coil Screw, and Valve Nameplate	1
INTERNAL PARTS KIT		
KS-SHGB(E)-8	Includes: Adaptor, Tetraseal, Spring, and Piston	1



- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Parts Kit.
- ③ Part is **not** available separately, but **is** included with the Pilot Assembly Parts Kits.
- ④ Part is available separately.
- ⑤ Part **is** available separately. and **is** also included with the Pilot Assembly Parts Kits.
- ⑥ Part **is** available separately and **is** also included with the Pilot Assembly Kit and the Internal Parts Kit.

# SHGB(E)-15



SHGB(E)-15-0/75 REPLACEMENT PARTS and PARTS KITS		
PART NUMBER	DESCRIPTION	QUANTITY REQUIRED
A-4-0/75	Adjustable Element	1
2625-002	Cap Screw	4
1390-000	Coil Screw	1
MKC-2 Coil (Specify voltage and frequency)	MKC-2 Coil	1
641-3 *	Enclosing Tube Gasket	1
2645-000	Gasket	1
621-028	O-Ring	1
2445-000	Strainer	1
14115 (Specify valve type, voltage and frequency)	Valve Nameplate	1
REPLACEMENT PARTS KITS		
PILOT ASSEMBLY KIT		
K-Y917	Includes: Pilot Valve Assembly, Inlet Strainer Screen and Tetraseal, (4) Cap Screws	1
INTERNAL PARTS KIT		
KS-SHGB(E)-15	Includes: Piston, Body Sleeve, O-Ring, Spring and Gasket	1

\* Refer to the table below regarding part numbers for the enclosing tube gasket (tetraseal) and the new wolverine gasket.

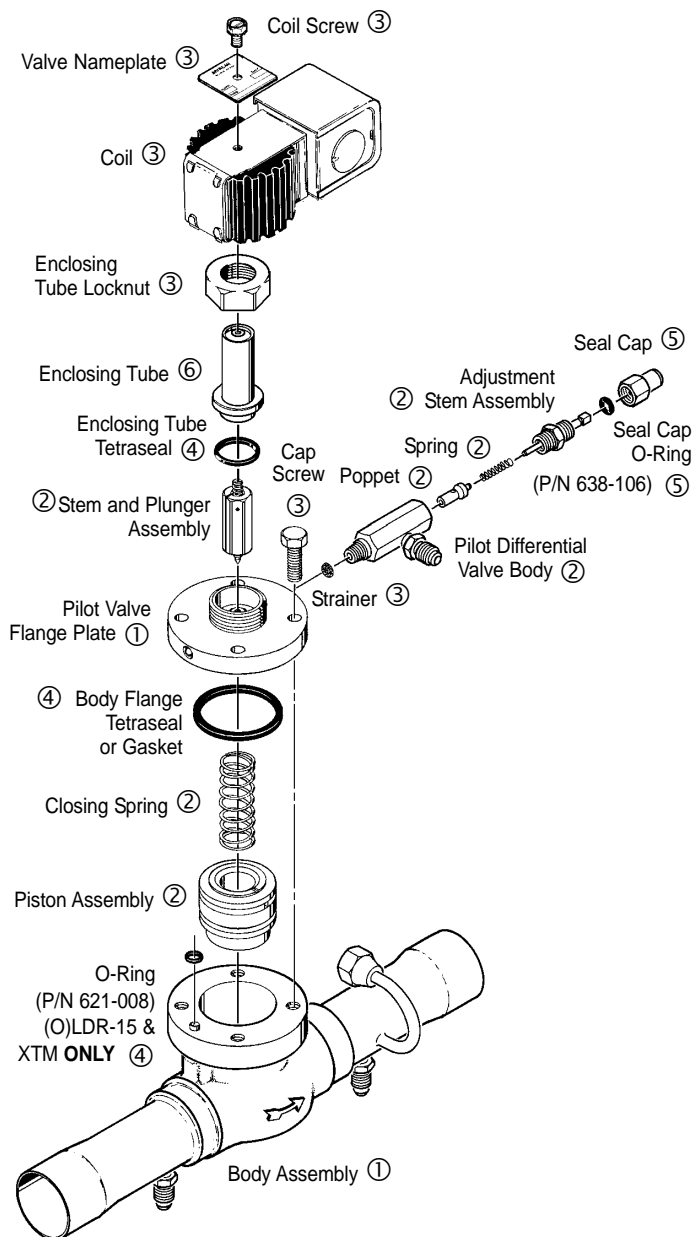


The SHGB(E)-15, OLDR-15, LDR-15, XTM, XTO, LDR-20, OLDR-20 and DDR-20 valves have been redesigned. The design change includes a new enclosing tube gasket that can easily be identified as a thin, synthetic coated metal gasket. The old gasket is a thicker type of O-ring with a square cross section, known as a tetraseal. See the partial cross sections of the valve body above.

The gaskets and the enclosing tubes of the two designs are not interchangeable. The new enclosing tube assembly with both a wolverine gasket and a tetraseal are included in the replacement parts kit for the valves listed above.

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Parts Kit.
- ③ Part is available separately.
- ④ Part **is** available separately. and **is** also included with the Pilot Assembly Parts Kits.
- ⑤ Part **is** available separately. and **is** also included with the Internal Parts Kits.
- ⑥ Part is **not** available separately, but **is** included with the Pilot Assembly Kit and the Internal Parts Kit.

# OLDR-15

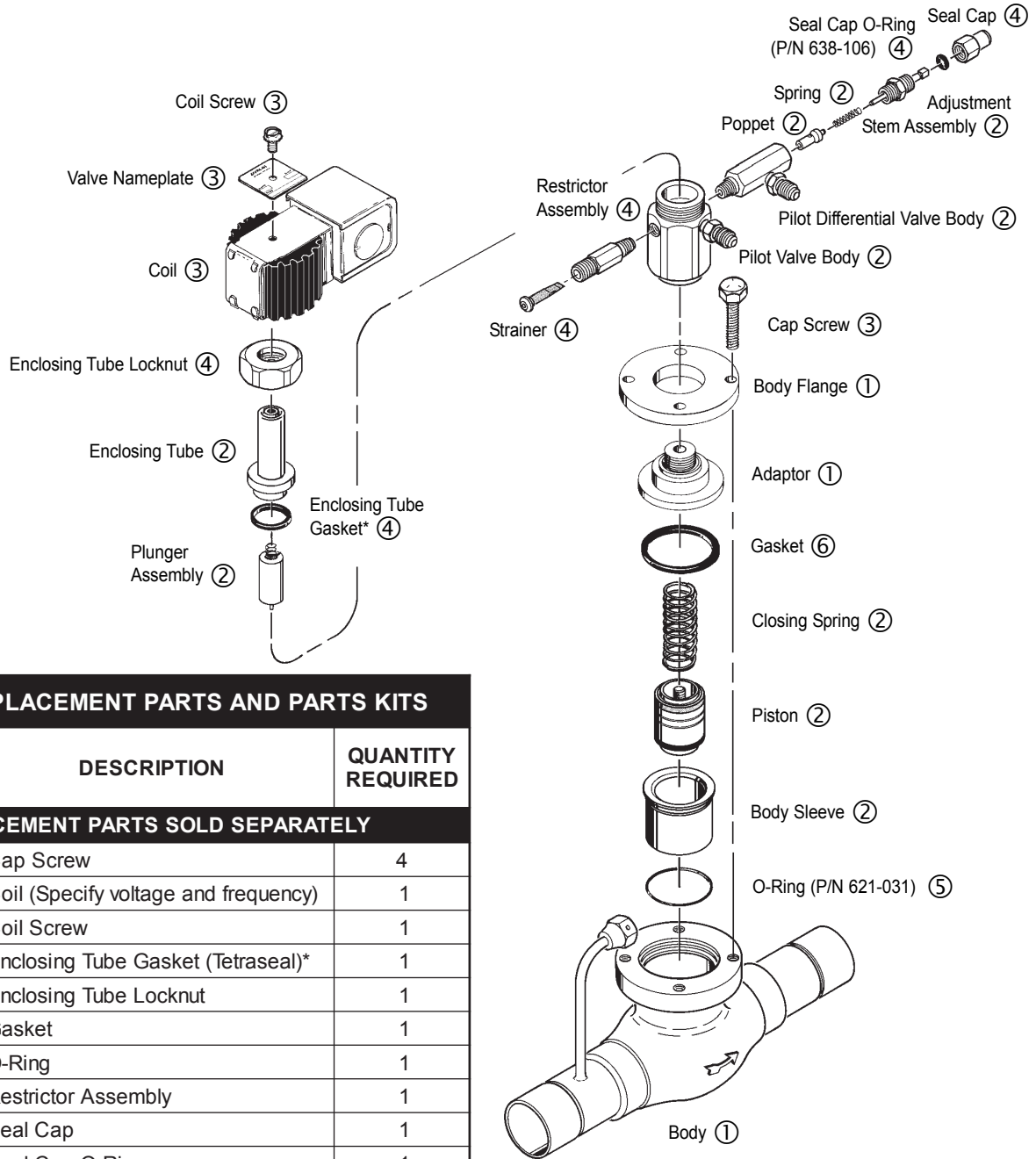


- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Parts Kit. See Table at right.
- ③ Part is available separately. See Table at right.
- ④ Part **is** available separately, and **is** also included with the Internal Parts Kits. See Table at right.
- ⑤ Part **is** available separately, and **is** also included with the Pilot Differential Assembly Kit. See Table at right.
- ⑥ Part **is** available separately, but may be included with the Parts Kit.

PART NUMBER	DESCRIPTION	VALVE TYPE AND SIZE					
		LDR-15	XTM	OLDR-15	LDR-20	XTO	OLDR-20
QUANTITY REQUIRED							
<b>REPLACEMENT PARTS SOLD SEPARATELY</b>							
2645-000	Body Flange Tetriseal	1	1	1			
21007-7	Cap Screw				4	4	4
4208-5		4	4	4			
MKC-2	Coil (Specify voltage and frequency)			1			1
OMKC-2		1	1		1	1	
1025-1	Coil Housing Locknut (not shown)	1	1		1	1	
1390-000	Coil Housing Screw			1			1
641-3	Enclosing Tube Gasket (Tetriseal)*	1	1	1	1	1	1
13252-1	Enclosing Tube Locknut	1	1	1	1	1	1
938-1	Gasket				1	1	1
621-008	O-Ring	1	1	1			
2003	Seal Cap	1	1	1	1	1	1
638-106	Seal Cap O-Ring	1	1	1	1	1	1
2527-1	Spacer (not shown)	1	1		1	1	
2717-6	Spacer Cup (not shown)	1	1		1	1	
173-000	Strainer	1	1	1	1	1	1
14115	Valve Nameplate-Specify valve type, voltage & frequency	1	1	1	1	1	1
<b>REPLACEMENT PARTS KITS</b>							
<b>PILOT DIFFERENTIAL ASSEMBLY KIT</b>							
KS-XTT-1	Pilot differential valve	1	1	1	1	1	1
<b>INTERNAL PARTS KITS</b>							
KS-XTM	Enclosing tube, enclosing tube gasket, stem & plunger assy., piston assy., closing spring, O-ring, body flange tetriseal	1	1				
KS-OLDR-15	Enclosing tube gasket, plunger assy., piston assy., closing spring, O-ring, body flange tetriseal, enclosing tube			1			
KS-XTO	Enclosing tube, enclosing tube gasket, stem & plunger assy., piston assy., closing spring, gasket				1	1	
KS-OLDR-20	Enclosing tube gasket, plunger assy., piston assy., closing spring, gasket, enclosing tube						1
<b>ENCLOSING TUBE KIT</b>							
KE-9	Enclosing tube assy., enclosing tube gasket, coil screw			1			1

\* Refer to the table on Page 44 regarding part numbers for the enclosing tube gasket (tetriseal) and the new wolverine gasket.

# DDR-20



## DDR-20 REPLACEMENT PARTS AND PARTS KITS

PART NUMBER	DESCRIPTION	QUANTITY REQUIRED
<b>REPLACEMENT PARTS SOLD SEPARATELY</b>		
2625-000	Cap Screw	4
MKC-2	Coil (Specify voltage and frequency)	1
1390-000	Coil Screw	1
641-3	Enclosing Tube Gasket (Tetraseal)*	1
13252-1	Enclosing Tube Locknut	1
2539-000	Gasket	1
621-031	O-Ring	1
2449-003	Restrictor Assembly	1
2003	Seal Cap	1
638-106	Seal Cap O-Ring	1
2445-000	Strainer	1
2383-000	Valve Nameplate - Specify Valve type, voltage and frequency	1
<b>REPLACEMENT PARTS KITS</b>		
<b>PILOT ASSEMBLY KITS</b>		
K-XUL	Pilot valve, pilot differential valve, enclosing tube locknut, enclosing tube, plunger assembly, enclosing tube gasket, restrictor assembly, strainer, gasket	1
<b>INTERNAL PARTS KITS</b>		
KS-DDR-20	Piston, body sleeve, closing spring, gasket, O-ring	1

\* Refer to the table on Page 44 regarding part numbers for the enclosing tube gasket (tetraseal) and the new wolverine gasket.

- ① Replacement part **not** available.
- ② Part is **not** available separately, but **is** included with the Parts Kit. See Table at left.
- ③ Part is available separately. See Table at right.
- ④ Part **is** available separately, and **is** also included with the Pilot Assembly Kit. See Table at left.
- ⑤ Part **is** available separately, and **is** also included with the Internal Parts Kit. See Table at left.
- ⑥ Part **is** not available separately, and **is** also included with the Pilot Assembly Kit and the Internal Parts Kit. See Table at left.

**REPLACEMENT PARTS****Crankcase PRVs - Evaporator PRVs - Head Pressure Regulating Valves**

Part Number	Description	Valve Type					
		CRO(E)-4	CRO(T)-6	CRO(T)-10	ORI(T)-6	ORI(T)-10	OROA-5
838-000 ⑦	Valve Cap		1		1		
895-000 ⑦				1		1	
621-016	O-Ring, Valve Cap		1		1		
621-023				1		1	
KO-6-100/290	Spring Kit ③				1		
KO-10-100/290	Spring Kit ④					1	
A-4S-①	Adjustable Element	1					
825-003	Inlet Strainer (3/8" ODF)	1					
825-004	Inlet Strainer (1/2" ODF)	1					
825-005	Inlet Strainer (5/8" ODF)		1		1		1
825-007	Inlet Strainer (7/8" ODF)		1	1	1	1	1
825-009	Inlet Strainer (1-1/8" ODF)		1	1	1	1	
825-011	Inlet Strainer (1-3/8" ODF)			1		1	

**CONSTANT PRESSURE (AUTOMATIC) EXPANSION VALVES**

Part Number	Description	Valve Type				
		C	S	P	PDA	AJ(E) OR ADR(E)
A-2-0/80	Adjustable Element				1	
A-3- ②				1		
A-4- ⑤ ⑥						1
A-8- ②		1	1			

Internal Parts Kits for Constant Pressure Expansion Valves are identical to the corresponding D, C, S, or P TEV Internal Parts Kits (refer to Page 17), however, the pushrod height requirements are different. The PDA-1-0/80 requires a pushrod height 0.008" greater than a DA(E)-1, the C and S Constant Pressure Expansion Valves require a pushrod height 0.018" greater than a C or S Thermostatic Expansion Valve and the P Constant Pressure Expansion Valve requires a pushrod height 0.010" greater than a P Thermostatic Expansion Valve. Internal Parts Kits are not available for AJ(E), NJ(E), or (A)DRI(E) valves.

- ① Specify 0/20, 0/50, 0/75 or 75/150 adjustment range.
- ② Specify 0/30 or 0/80 adjustment range.
- ③ Can be used with ORI-6-65/225 to change adjustment range to 80/325.
- ④ Can be used with ORI-10-65/225 to change adjustment range to 100/290.
- ⑤ Specify 0/55, 0/75 or 0/100 adjustment range.
- ⑥ Available for replaceable element style valves only. Design change began in 1993.
- ⑦ Specify valve type and adjustment range.

**PILOT OPERATED HEAD PRESSURE CONTROL VALVES****REPLACEMENT PILOT ASSEMBLY PARTS KITS**

	ORIT-15 -65/225	ORIT-20 -65/225	CROT-12 -65/225	CROT-15 -65/225
KS-ORI-15/20 P-65/225 Pilot Assembly Kit	1	1		
KS-CRO-12/15 P-65/225 Pilot Assembly Kit			1	1

**REPLACEMENT INTERNAL PARTS KITS**

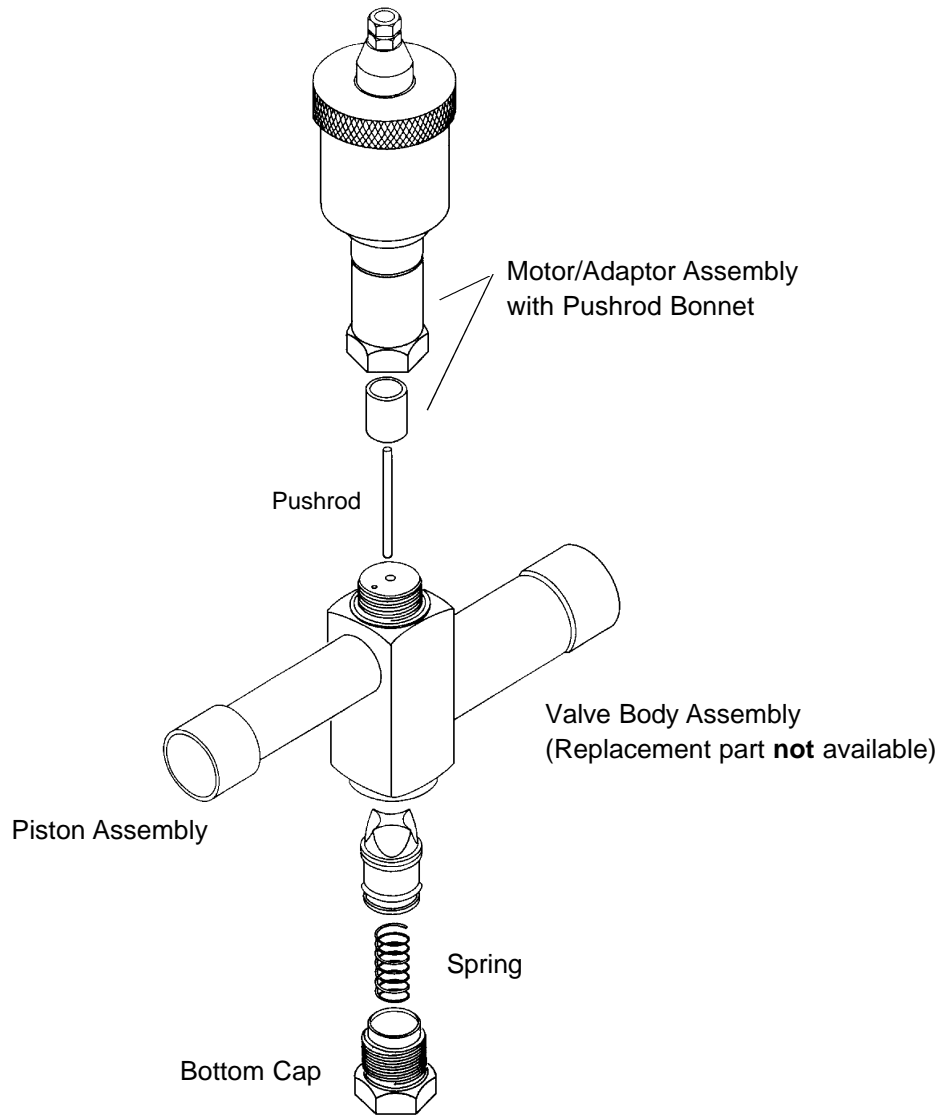
	ORIT-15 -65/225	ORIT-20 -65/225	CROT-12 -65/225	CROT-15 -65/225
KS-ORI-15-65/225 Internal Parts Kit	1			
KS-ORI-20-65/225 Internal Parts Kit		1		
KS-CRO-12-65/225 Internal Parts Kit			1	
KS-CRO-15-65/225 Internal Parts Kit				1

**HEAD PRESSURE CONTROL VALVES**

Part Number	Description	Valve Type		
		LAC-4	LAC-5	LAC-10
825-003	Inlet Strainer (3/8" ODF)	2		
825-004	Inlet Strainer (1/2" ODF)	2		
D3L- ①	Non-adjustable Dome Element		1	1
R3L- ①	Non-adjustable Remote Bulb Element		1	1

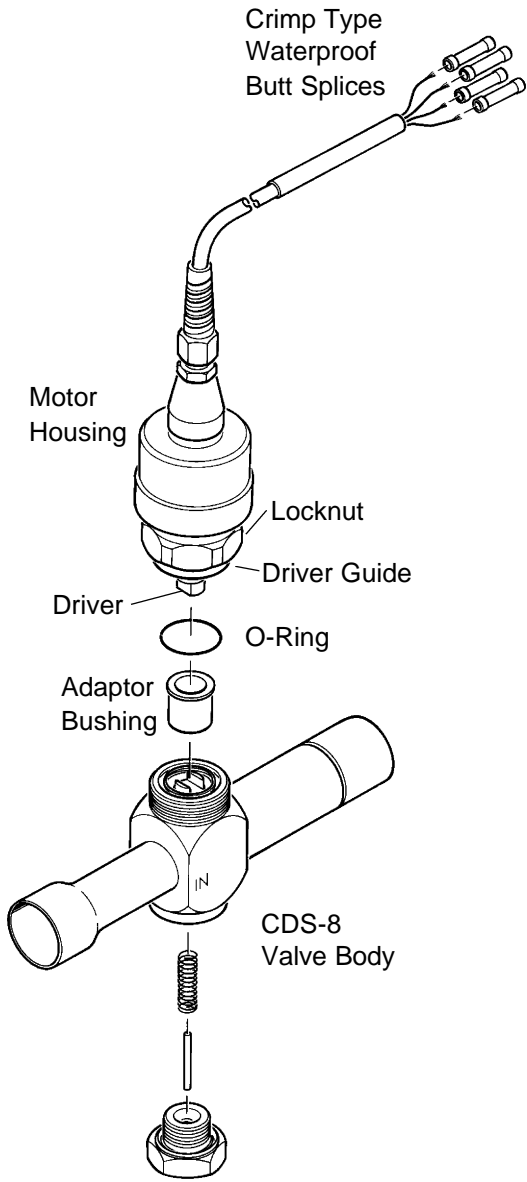
- ① Specify setting.

# SEO VALVE REPLACEMENT PARTS

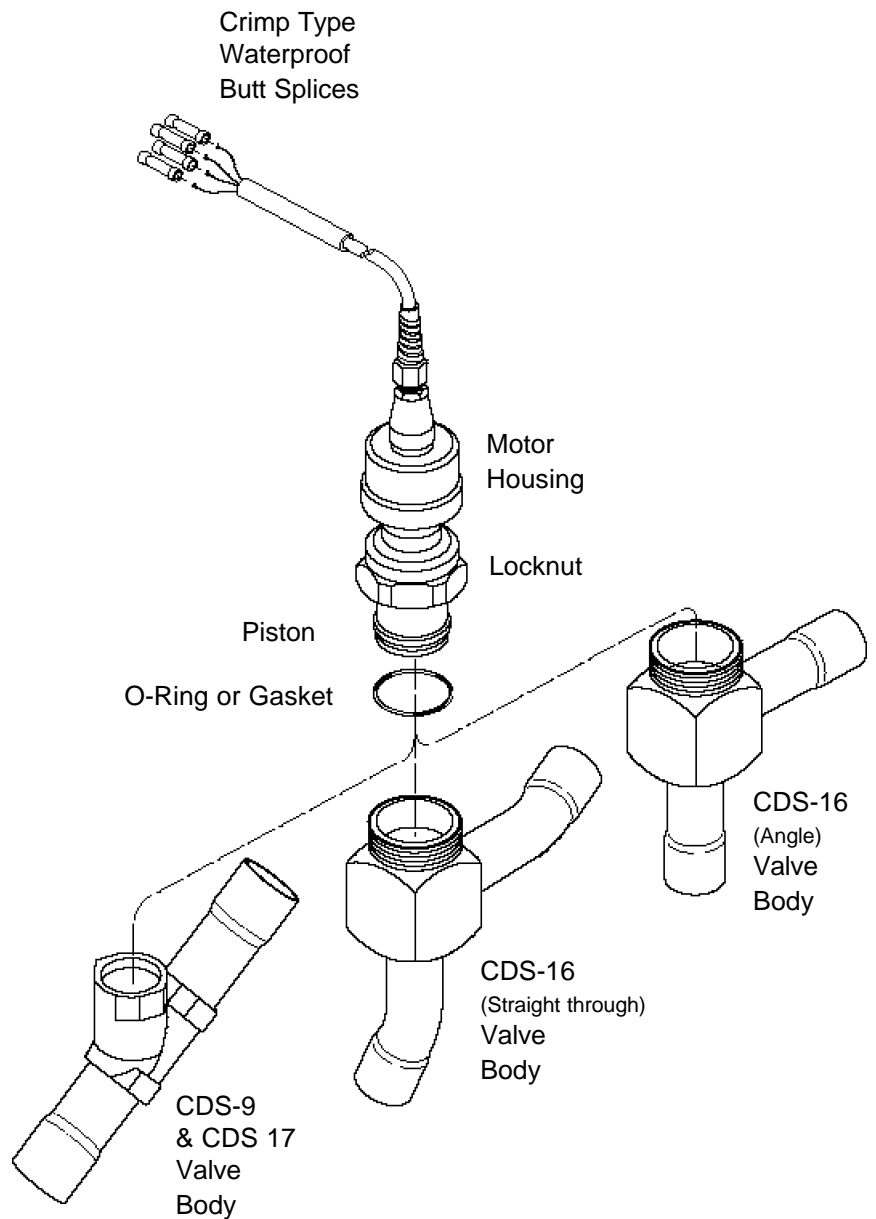


PARTS KITS													
ITEM	DESCRIPTION	VALVE PART NUMBER											
		SEO-20	SEO-40	SEO-70	SEO-100	SEO-140	SEO-170						
Parts Kit	<b>Motor &amp; Adaptor Kit:</b>	958718		958717									
1	1 Motor/Adaptor Assembly												
—	1 Pushrod Bonnett												
—	1 Label (Valve P/N)												
—	1 Instruction Sheet (SD-167)												
Parts Kit	<b>Internal Parts Kit:</b>	958719		958720		958721		958722		958723		958727	
2	1 Pushrod												
4	1 Piston Assembly												
5	1 Spring												
6	1 Bottom Cap												
—	1 Pushrod Gauge												
—	1 Instruction Sheet (SD-167)												
SDB-100	Diagnostic Test Instrument - Sporlan Controllers Only	958707											

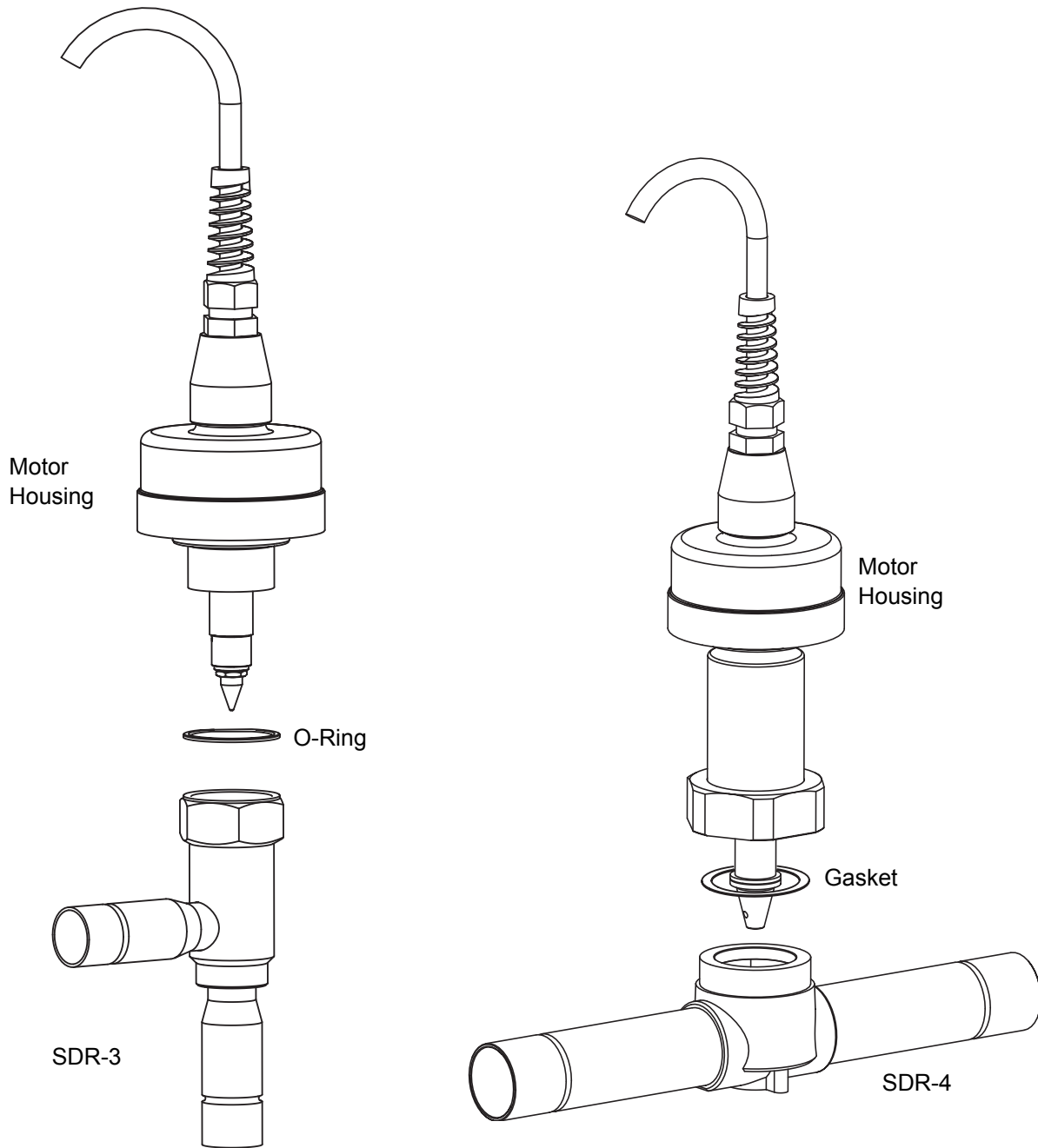
# CDS VALVE REPLACEMENT PARTS



PARTS KITS		
MODEL	Motor and Adaptor Assembly	Gasket or O-Ring
CDS-8	KS-CDS-8	O-Ring P/N 621-021
CDS-9	KS-CDS-9	None
CDS-16	KS-CDS-16	O-Ring P/N 621-127
CDS-17	KS-CDS-17	Gasket P/N 4425-000



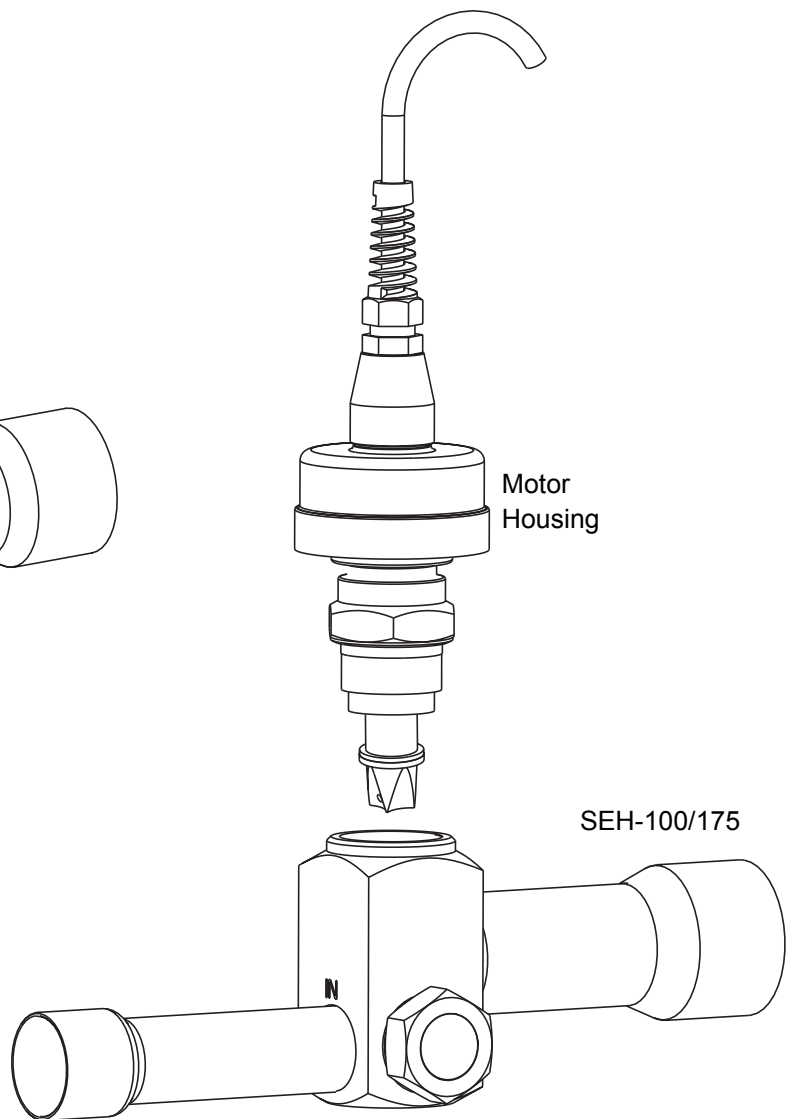
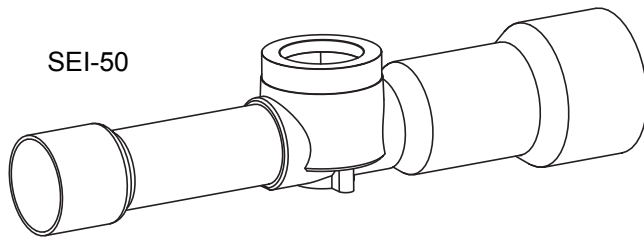
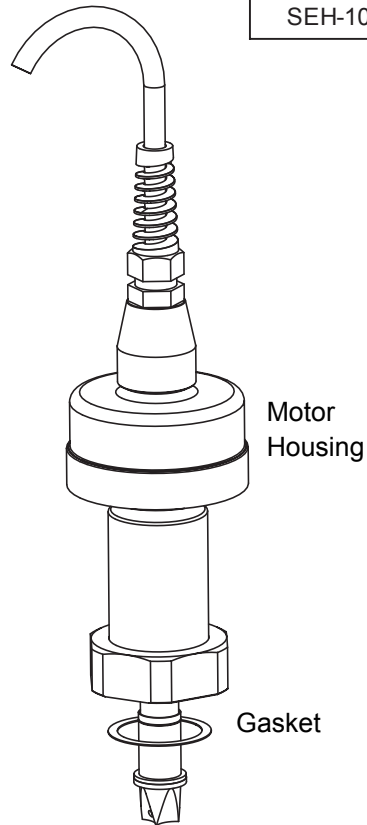
# SDR VALVE REPLACEMENT PARTS



PARTS KITS		
MODEL	Motor and Adaptor Assembly	Gasket or O-Ring
SDR-3	KS-SDR-3	O-Ring P/N 621-016
SDR-4	KS-SDR-4	Gasket P/N 123-002

# SEI-SEH VALVE REPLACEMENT PARTS

PARTS KITS			
MODEL	Motor and Adaptor Assembly	Gasket or O-Ring	Optional Sightglass
SEI-50	KS-SEI-50	Gasket P/N 123-002	—
SEH-100 & 175	KS-SEH-100/175	None	AC-20-K30



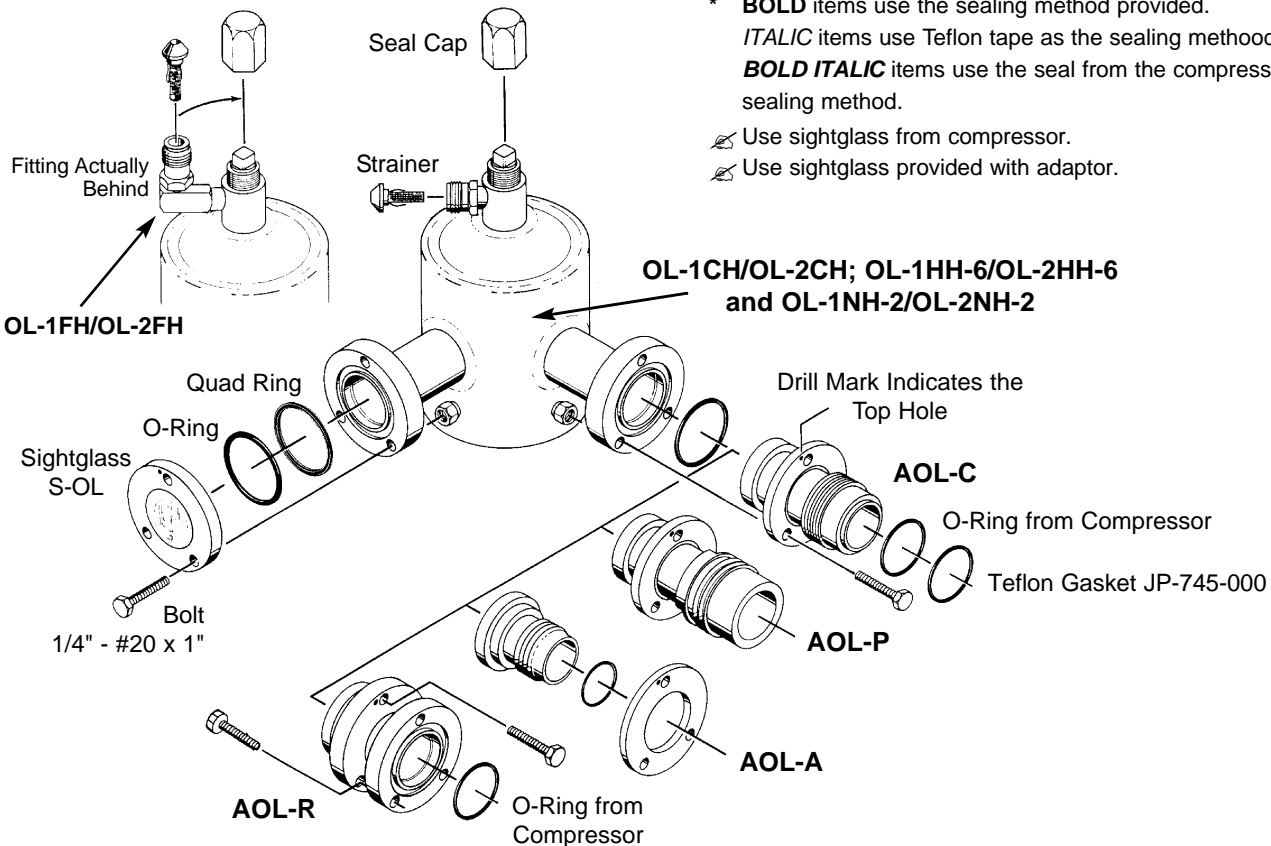
# OIL LEVEL CONTROL SYSTEMS

PART NUMBER*	PART DESCRIPTION
621-125	O-Ring 1-5/16 ID
JP-1222-000	Quad Ring 1-5/16 ID
JP-1218-000	Sightglass Cap Screws 1/4-20 x 3/4
JP-1218-001	Cap Screws 1/4 - 20 x 1
JP-1218-002	Cap Screws 1/4 - 20 x 1-1/4
JP-1215-000	Inlet Screen Assembly
14000-8	Reservoir Sightglass Gasket
AC-20-K27	Sightglass (threaded for Oil Reservoir)
S-OL	Sightglass, plate
K-OL-Kit	(1) JP-1222-000 Quad Ring, (1) 621-125 O-Ring, (3) JP-1218-001 1/4 - 20 x 1 Cap Screws (3) JP-1223-000 1/4 - 20 Locknuts

\* **BOLD** items are used on Oil Level Controls.  
*ITALIC* items are used on Oil Reservoirs.  
 Refer to Bulletin 110-11 for Kit Contents.

COMPRESSOR MANUFACTURER	COMPRESSOR MODEL NUMBER	COMPRESSOR ATTACHMENT PATTERN	SPORLAN ADAPTOR KIT NO.*
Bitzer	2U3-2N5	4 Bolt, 50mm B.C.	<b>AOL-BI</b> <i>✂</i>
	4Z5-4N20		
	4J13-6F40		
Bock	6E..., 6D...	3 Bolt, 1-7/8" B.C. (47.6mm B.C.)	<b>AOL-R-1</b> <i>✂</i>
	HA3-5, HG3-5, AMF2-5	4 Bolt, 50mm B.C.	<i>AOL-BO</i> <i>✂</i>
	HA8, HG6	4 Bolt, 50mm B.C.	<i>AOL-BO</i> <i>✂</i>
Bristol	F...	3 Bolt, 1-7/8" B.C. (47.6mm B.C.)	<b>AOL-R-1</b> <i>✂</i>
	—	15/16" - 20 Thread	<b>AOL-BR/TR</b> <i>✂</i>
Carrier	EA, ER, 6E Front	3 Bolt, 1-7/8" B.C. (47.6mm B.C.)	<b>AOL-R-1</b> <i>✂</i>
	DA, DR, 5F, 5H, 6D, 6E	1-1/2" - 18 Thread	<b>AOL-C</b> <i>✂</i>
Copeland	Over 5 Ton	3 Bolt, 1-7/8" B.C. (47.6mm B.C.)	<b>AOL-R-1</b> <i>✂</i>
	Under 5 HP	1-1/8" - 12 Thread	<b>AOL-A</b> <i>✂</i>
	8R, 8D, 3D Front, 2D, 4D, 6D	3 Bolt, 1-7/8" (47.6mm) B.C.	<b>AOL-R-1</b> <i>✂</i>
	Glacier Scroll	3/4" NPT	<i>AOL-K-1</i> <i>✂</i>
Dorin	4cyl-15 HP	3 Bolt, 1-7/8" (47.6mm) B.C.	Contact Sporlan
Dunham-Bush	Big 4	3 Bolt, 1-7/8" (47.6mm) B.C.	<b>AOL-R-1</b> <i>✂</i>
Frascold	All models	3 Bolt, 1-7/8" (47.6mm) B.C.	<b>AOL-R-1</b> <i>✂</i>
Maneurop	MT.,LT.,	1-1/8" - 18 Thread	<b>AOL-MATE</b> <i>✂</i>
Prestcold	E, C	42 MM Thread	<i>AOL-P</i> <i>✂</i>
Tecumseh	P, R, S, PA, RA, SA, CK, CM, CH, CG	1-1/8" - 12 Thread	<b>AOL-A</b> <i>✂</i>
	—	1-1/8" - 18 Thread	<b>AOL-MATE</b> <i>✂</i>
Trane	M, R	3 Bolt, 1-7/8" (47.6mm) B.C.	<b>AOL-R-1</b> <i>✂</i>
	K	3/4" NPT	<i>AOL-K-1</i> <i>✂</i>
	—	15/16" - 20 Thread	<b>AOL-BR/TR</b> <i>✂</i>
York	GC, GS, JS	3 Bolt, 1-7/8" (47.6mm) B.C.	<b>AOL-R-1</b> <i>✂</i>

\* **BOLD** items use the sealing method provided.  
*ITALIC* items use Teflon tape as the sealing method.  
**BOLD ITALIC** items use the seal from the compressor as the sealing method.  
*✂* Use sightglass from compressor.  
*✂* Use sightglass provided with adaptor.



# SEE•ALL® MOISTURE & LIQUID INDICATORS



Replacement is through the bottom

Replacement Indicator Paper–Sporlan Kit K-SA-4 consisting of a new slotted cylinder and indicator paper assembly is available for replacing the indicator in the fused glass style Sporlan See•Alls (1/4" thru 1-1/8" sizes) manufactured since 1984. Replacement is through the bottom. If the indicator becomes damaged, it is generally recommended that the entire See•All be replaced. However, the parts kit can be used in situations where it is difficult to remove the See•All.



SA-217

Types SA-211, 213 and 217 feature a **removable cartridge** containing the moisture indicating element. The cartridge has a knife edge joint and is available as a separate unit for field replacement purposes if necessary. It is designated as AC-20 and fits all three sizes.

AC-20



# STRAINERS

STRAINER TYPE	GASKET PART NUMBER	STRAINER SCREEN* PART NUMBER
XD-074	609	635-3
8004	4160	4097-3
8006		
9008	4111	4110-3
9010		
6022	NOT REQUIRED	4385-2
6023		4395-2
6034		4405-1
6056		4415-1
6088		

\*All replacement screens are supplied with gasket, if applicable.

# OIL FILTERS

PART NUMBER	DESCRIPTION	USED ON
JP-344-001	Endplate	ROF-413 Oil Filter
1288-005	Gasket, Endplate	
183174	Access Valve Kit (1/4" SAE x 1/4" NPT) Valve Core (P/N: 480088) can be purchased separately.	

# SPORLAN ALPHA-NUMERIC PARTS LIST

## Old to New Part Numbers

Sporlan has recently changed to a new part numbering system for the parts of some product groups. The following tables only include those items that have had a part number change. The table on this page is sorted in alpha-numeric order on the old part number. Page 55 is a table of the same parts only sorted on the new part number.

Old Part Number	New Part Number	Description
105-40-1	144-000	Conduit Hub for LMC
105-44	148-000	Male Pipe Adapter
105-45	149-000	Spacer for LMC
106-A	106-000	Gasket, Element
106-F	123-001	
108-20	108-000	Discharge Tube (A-1/8)
108-30	108-001	Discharge Tube (A-5/32)
108-50	108-002	Discharge Tube (A-3/16)
112-A-1	356-000	Spring, Inner M/V/A
114-A	106-001	Gasket, Bottom Cap
114-F	123-002	Gasket, Bottom/Bushing
115-A	106-002	Gasket, Element
1176	1176-000	Adapter
1177	1177-000	
1178	1178-000	
1179	1179-000	
117-C	358-000	Bottom Cap Locknut (M/V)
122-1	122-000	Screen, Inlet Flange
123-A	106-003	Gasket, Flange
123-F	123-000	
124-A	124-000	Ring, Inlet Strainer
125-0	377-000	Flange, Socket Weld
125-F-11F	368-001	Bushing, 1-3/8" ODF
125-F-13F	370-000	Bushing, 1-5/8" ODF
125-F-1"	362-000	FPT Flange
125-F-1-1/8"	361-001	Flange, Solder
125-F-1-3/8"	363-000	
125-F-1-5/8"	364-000	FPT Flange
125-F-1/2"	360-000	
125-F-3/4"	360-001	
125-F-7F	367-001	Bushing, 7/8" ODF
125-F-7/8	361-000	Flange, Solder
125-F-9F	368-000	Bushing, 1-1/8" ODF
125-L-7	372-000	Flange, Angle Solder
125-L-9	373-000	
125-M-1"	375-000	FPT Flange
125-M-1/2"	374-000	
125-M-3/4"	374-001	
125-N	376-000	Flange, Socket Weld
128	128-000	Pushrod Packing Nut
128-A	128-001	Pushrod Pckg Nut (1)
129-A	129-000	Pushrod Pckg Gland (1)
139	139-000	Capscrew, Element (A)
1412-DG	1412-000	Spring
1412-FG	1031-000	
1412-VG	1030-000	
1412-VG-1	1284-000	
1412-VG-2	1285-000	
1456	1456-000	Screen, Inlet 1/2 SAE
1524	1524-000	Screen, Inlet 3/8 ODF
1532-1	1532-000	Spring
1538	1538-000	Screen, Inlet 3/8 SAE
15477-1	173-000	Strainer
641-6	2645-000	Gasket

Old Part Number	New Part Number	Description
1542	1542-000	Screen, Inlet 1/4 SAE
1543	1543-000	Screen, Inlet 3/8 SAE
1543-2	1543-002	Screen, Inlet 1/4 ODF
208-1	208-001	Discharge Tube (D-1/32)
208-10	208-003	Discharge Tube (D-7/64)
208-15	208-004	Discharge Tube (D-5/32)
208-2	208-002	Discharge Tube (D-1/16)
208-5	208-000	Discharge Tube (D-5/64)
212-A	212-000	Spring
212-F	558-000	
212-M	559-000	
212-S	560-000	
212-V	561-000	Seal Cap
220-A	220-000	
220-A-1	220-001	FPT Flange
225-F-1/4"	573-000	Bushing, 3/8" ODF
225-F-23	574-000	Bushing, 1/2" ODF
225-F-24	574-001	Bushing, 5/8" ODF
225-F-25	574-002	Bushing, Solder
225-F-26	574-003	Bushing, 7/8" ODF
225-F-27	574-004	Bushing, 1-1/8" ODF
225-F-29	575-000	FPT Flange, 3/8 FPT
225-F-3/8"	573-001	Flange, 3/8 - 7/8" ODF
225-G	576-000	Flange, 1-1/8" ODF
225-H	577-000	Retainer Ring, Screen
225-K	578-000	Flange, Socket Weld
225-L	579-000	
225-M	580-000	FPT Flange
225-M-1/2"	225-002	
225-M-1/4"	225-000	
225-M-3/8"	225-001	Screen, Inlet Flange
226-K	226-000	Gasket, Seal Cap
319-A	106-005	Screen, Inlet 3/8 SAE
327-D	588-000	Screen, Inlet 1/2 SAE
327-E	589-000	Screen, Inlet 5/8 SAE
327-G	590-000	Spring
412-HV	698-000	
412-MF	694-000	
412-MFL	696-000	
412-S	692-000	Gasket, Endplate
412-SL	695-000	
412-V	697-000	
4163-9	JP-711-000	Endplate (Plain)
420-B	420-000	Endplate "-G" Type
427-D	770-000	Gasket, Outlet Seal
427-F	772-000	Plate, Core Retainer
6153-2	1288-005	Plate, Outer Core Ret
6154	JP-335-001	
6154-2	JP-335000	
6155-2	JP-571-000	
6162	JP-679-000	
6163	JP-676-000	

Old Part Number	New Part Number	Description
6171-4	JP-514-005	Screen, Outlet 100 Mesh
6172-1	JP-513-005	Screen, Outlet 10 Mesh
621-14	621-014	Gasket, Encl Tube
621-16	621-016	
621-18	621-018	
621-19	621-019	
621-22	621-022	O-Ring For SORIT/CDA
621-28	621-028	
621-31	621-031	Gasket
621-8	621-008	Spring, Outer V
712	712-000	Bottom Cap Locknut (W)
717-C	958-000	Seal Cap
720	720-000	Pushrod Pckg Nut (1)
728	728-000	Pushrod Pckg Gland (1)
729	729-000	Screen, Inlet Flange
735-A	735-000	Retainer Ring, Screen
735-B	961-000	Pushrod Pckg Nut (1)
736	736-000	Pushrod Pckg Gland (1)
737	737-000	Spring
738	738-000	Gasket, Bottom Cap
740	123-005	Gasket, Flange
741	123-004	Flange, Solder
742-1-1/8"	742-000	
742-1-3/8"	742-001	
742-1-5/8"	742-002	
742-2-1/8"	742-003	40 Mesh Strainer
825-11	825-011	
825-4	825-004	
825-5	825-005	
825-7	825-007	
825-9	825-009	CRO-6/ORI-6 Caps
838	838-000	100 Mesh Strainer
877-11	877-011	
877-3	877-003	
877-4	877-004	
877-5	877-005	
877-7	877-007	
877-9	877-009	S/A Dust Cvr, 1/2 Up
JP-1023	JP-1023-000	Color Tag (SAK-16)
JP-1066	JP-1066-000	Color Tag (SAK-13)
JP-1067	JP-1067-000	Saddle Adapter, 1-3/8
JP-1072-1	JP-1072-001	Saddle Adapter, 1-5/8
JP-1072-2	JP-1072-002	Saddle Adapter, 2-1/8
JP-1072-3	JP-1072-003	S/A Dust Cvr, 1/4 & 3/8
JP-1099	JP-1099-000	Adapter, Cap Tube
JP-232	JP-232-000	Gasket, Copper 3/8 SAE
JP-543-1	JP-543-001	Gasket, Copper 1/2 SAE
JP-543-2	JP-543-002	Gasket, Copper 5/8 SAE
JP-543-3	JP-543-003	SPL Gskt, Copper 1/4
JP-543-4	JP-543-004	SPL Gskt, Copper 3/8
JP-543-5	JP-543-005	SPL Gskt, Copper 1/2
JP-543-6	JP-543-006	

# SPORLAN ALPHA-NUMERIC PARTS LIST

## New to Old Part Numbers

New Part Number	Old Part Number	Description
1030-000	1412-VG	Spring
1031-000	1412-FG	
106-000	106-A	Gasket, Element
106-001	114-A	Gasket, Bottom Cap
106-002	115-A	Gasket, Element
106-003	123-A	Gasket, Flange
106-005	319-A	Gasket, Seal Cap
108-000	108-20	Discharge Tube (A-1/8)
108-001	108-30	Discharge Tube (A-5/32)
108-002	108-50	Discharge Tube (A-3/16)
1176-000	1176	Adapter
1177-000	1177	
1178-000	1178	
1179-000	1179	
122-000	122-1	
123-000	123-F	Gasket, Flange
123-001	106-F	Gasket, Element
123-002	114-F	Gasket, Bottom/Bushing
123-004	741	Gasket, Flange
123-005	740	Gasket, Bottom Cap
124-000	124-A	Ring, Inlet Strainer
1284-000	1412-VG-1	Spring
1285-000	1412-VG-2	
1288-005	6153-2	Gasket, Endplate
128-000	128	Pushrod Packing Nut
128-001	128-A	Pushrod Pckg Nut (1)
129-000	129-A	Pushrod Pckg Gland (1)
139-000	139	Capscrew, Element (A)
1412-000	1412-DG	Spring
144-000	105-40-1	Conduit Hub for LMC
1456-000	1456	Screen, Inlet 1/2 SAE
148-000	105-44	Male Pipe Adapter
149-000	105-45	Spacer for LMC
1524-000	1524	Screen, Inlet 3/8 ODF
1532-000	1532-1	Spring
1538-000	1538	Screen, Inlet 3/8 SAE
1542-000	1542	Screen, Inlet 1/4 SAE
1543-000	1543	Screen, Inlet 3/8 SAE
1543-002	1543-2	Screen, Inlet 1/4 ODF
208-000	208-5	Discharge Tube (D-5/64)
208-001	208-1	Discharge Tube (D-1/32)
208-002	208-2	Discharge Tube (D-1/16)
208-003	208-10	Discharge Tube (D-7/64)
208-004	208-15	Discharge Tube (D-5/32)
212-000	212-A	Spring
220-000	220-A	Seal Cap
220-001	220-A-1	
225-000	225-M-1/4"	FPT Flange
225-001	225-M-3/8"	
225-002	225-M-1/2"	
226-000	226-K	Screen, Inlet Flange
356-000	112-A-1	Spring, Inner (M/V/A)

New Part Number	Old Part Number	Description
358-000	117-C	Bottom Cap Locknut (M/V)
360-000	125-F-1/2"	FPT Flange
360-001	125-F-3/4"	
361-000	125-F-7/8"	Flange, Solder
361-001	125-F-1-1/8"	
362-000	125-F-1"	FPT Flange
363-000	125-F-1-3/8"	Flange, Solder
364-000	125-F-1-5/8"	
367-001	125-F-7F	Bushing, 7/8" ODF
368-000	125-F-9F	Bushing, 1-1/8" ODF
368-001	125-F-11F	Bushing, 1-3/8" ODF
370-000	125-F-13F	Bushing, 1-5/8" ODF
372-000	125-L-7	Flange, Angle Solder
373-000	125-L-9	
374-000	125-M-1/2"	FPT Flange
374-001	125-M-3/4"	
375-000	125-M-1"	
376-000	125-N	Flange, Socket Weld
377-000	125-O	
420-000	420-B	Seal Cap
558-000	212-F	Spring
559-000	212-M	
560-000	212-S	
561-000	212-V	
573-000	225-F-1/4"	FPT Flange
573-001	225-F-3/8"	
574-000	225-F-23	Bushing, 3/8" ODF
574-001	225-F-24	Bushing, 1/2" ODF
574-002	225-F-25	Bushing, 5/8" ODF
574-003	225-F-26	Bushing, Solder
574-004	225-F-27	Bushing, 7/8" ODF
575-000	225-F-29	Bushing, 1-1/8" ODF
576-000	225-G	Flange, 3/8 - 7/8" ODF
577-000	225-H	Flange, 1-1/8" ODF
578-000	225-K	Retainer Ring, Screen
579-000	225-L	Flange, Socket Weld
580-000	225-M	
588-000	327-D	Screen, Inlet 3/8" SAE
589-000	327-E	Screen, Inlet 1/2" SAE
590-000	327-G	Screen, Inlet 5/8" SAE
621-008	621-8	Gasket
621-014	621-14	Gasket, Encl Tube
621-016	621-16	
621-018	621-18	
621-019	621-19	
621-022	621-22	
621-028	621-28	O-Ring For SORIT/ CDA
621-031	621-31	
692-000	412-S	Spring
694-000	412-MF	
695-000	412-SL	
696-000	412-FML	

New Part Number	Old Part Number	Description	
697-000	412-V	Spring	
698-000	412-HV		
712-000	712	Spring, Outer (V)	
720-000	720	Seal Cap	
728-000	728	Pushrod Pckg Nut (1)	
729-000	729	Pushrod Pckg Gland (1)	
735-000	735-A	Screen, Inlet Flange	
736-000	736	Pushrod Pckg Nut (1)	
737-000	737	Pushrod Pckg Gland (1)	
738-000	738	Spring	
742-000	742-1-1/8"	Flange, Solder	
742-001	742-1-3/8"		
742-002	742-1-5/8"		
742-003	742-2-1/8"		
772-000	427-F	Screen, Inlet 1/4 SAE	
825-004	825-4	40 Mesh Strainer	
825-005	825-5		
825-007	825-7		
825-009	825-9		
825-011	825-11		
838-000	838	CRO-6/ORI-6 Caps	
877-003	877-3	100 Mesh Strainer	
877-004	877-4		
877-005	877-5		
877-007	877-7		
877-009	877-9		
877-011	877-11		
958-000	717-C		Bottom Cap Locknut (W)
961-000	735-B		Retainer Ring, Screen
JP-1023-000	JP-1023	S/A Dust Cvr, 1/2 Up	
JP-1066-000	JP-1066	Color Tag (SAK-16)	
JP-1067-000	JP-1067	Color Tag (SAK-13)	
JP-1072-001	JP-1072-1	Saddle Adapter, 1-3/8	
JP-1072-002	JP-1072-2	Saddle Adapter, 1-5/8	
JP-1072-003	JP-1072-3	Saddle Adapter, 2-1/8	
JP-1099-000	JP-1099	S/A Dust Cvr, 1/4 & 3/8	
JP-232-000	JP-232	Adapter, Cap Tube	
JP-335-000	6154-2	Endplate "-G" Type	
JP-335-001	6154	Endplate (Plain)	
JP-513-005	6172-1	Scrn, Outlt 10 Mesh	
JP-514-005	6171-4	Scrn, Outlt 100 Mesh	
JP-543-001	JP-543-1	Gasket, Copper 3/8 SAE	
JP-543-002	JP-543-2	Gasket, Copper 1/2 SAE	
JP-543-003	JP-543-3	Gasket, Copper 5/8 SAE	
JP-543-004	JP-543-4	SPL Gskt, Copper 1/4	
JP-543-005	JP-543-5	SPL Gskt, Copper 3/8	
JP-543-006	JP-543-6	SPL Gskt, Copper 1/2	
JP-571-000	6155-2	Gasket, Outlet Seal	
JP-676-000	6163	Plate, Outlet Core Ret	
JP-679-000	6162	Plate, Core Retainer	
JP-711-000	4163-9	Bolt/Nut, 5/16x1.5 Steel	