

**Safety Relief Valve
Parts Reference Manual**

Revision Sheet

Revisions made to this reference manual are listed in detail and chronological order.

Date	Rev. No.	Description
01/03/08	1	Section 5(b), Page 5 – Corrected Inconel X-750 disc holder part number - was 4840305
07/09/09	2	Section 5(b), Page 6 – Corrected Inconel X-750 disc holder part numbers: 19126M (3/4 and 1) was 4840705 now 4833905 19226M was 4840805 now 4834005 19359M was 4840505 now 4871205 19567M was 4840605 now 4871305

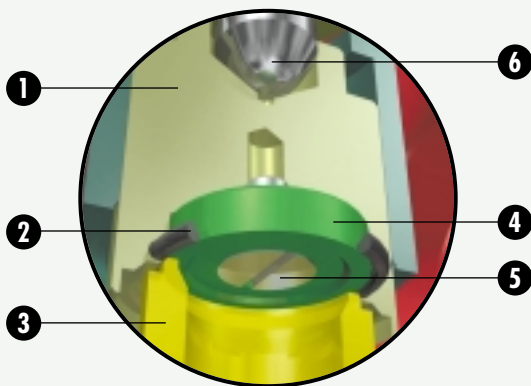
19000 Soft Seats (DA)

Tightness

CONSOLIDATED O-Ring seat valves are bubble tight at **97%** of set pressures over 100 psig.

Percent of set pressure (popping pressure) at which valve will be bubble tight on air.	
Set Pressure (psig)	Percent of Set Pressure
5 to 30	90%
31 to 50	92%
51 to 100	94%
101 to Max rating of valve	97%

CONSOLIDATED O-Ring seat seals provide positive seat tightness at service pressures closer to the set pressure than is possible with metal-to-metal seats assuring continuous, trouble-free service, and complete valve closure after numerous "pops".



Soft Seat Material Temperature Limits (°F)	
Material	Temperature Limits (°F)
Nitrile	-45 to +350°
Ethylene/Propylene	-70 to +500°
Fluoro-Carbon	-15 to +400°
Fluoro-Silicone	-100 to +350°
Neoprene	-45 to +300°
Silicone	-65 to +437°
Teflon	-300 to +505°

NOTE: Contact factory for other O-Ring materials and the respective temperature limitations.

Applications

The O-Ring design can be used for improved product performance in the same manner as that stated for the 1900 Flanged Series.

Features

- Leak tight seats
- Tight seats at high operating pressures
- Simple replacement of soft seat
- Large selection of soft seat materials
- Soft seats are in standard O-Ring sizes
- Proven seat design

Benefits

- Potential loss of system pressure and process media reduced
- Maximizes process efficiency and product output
- Reduces maintenance costs
- Suitable for varied process applications
- Replacement seats readily available
- Dependable performance

	Part	Material
1	Disc Holder 19000L	316SS
	Disc Holder 19000M & H	Inconel X750
2	O-Ring Seat Seal	Select
3	Base	316SS
4	O-Ring Retainer 19000L & M	316SS
	O-Ring Retainer 19000H	Inconel X750
5	Retainer Lockscrew	316SS
6	Spindle 19000L	316SS
	Spindle 19000M & H	Inconel X750

Sour Gas (SG) or NACE applications

The 19000(DA) valve materials are standard except for the spring which will be Inconel X750.

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST**19000-1 SERIES SRV (O Ring Seat)**

for -1 Metal Seat Design See Section 13

for -2 Metal Seat Design See Section 5(a)

Inventory Stocking Philosophy				
CLASS	PART NAME	Qty., Parts/Size, Type & Material Valves in Service		Need Coverage Probability
I	Oring Set Oring Retainer Retainer Lock Screw Gaskets	1/1		70%
II	Disc Holder Spindle Guide	1/5		85%
III	Spring Assembly Compression Screw	1/5		95%
IV	Compression Screw LockNut Cap Release Nut Release Locknut	1/5		99%

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST

19000 SERIES SRV O Ring

-1 DESIGN

FOR 2-Metal Seat DESIGN SEE SECTION 5 (a)

For - 1 Metal Seat See Section 13

LOW PRESSURE DESIGN - SOFT SEAT (FOR PARTS NOT LISTED SEE METAL SEAT DESIGN)							
PART DESCRIPTION	1/2 x 1-19096L	3/4 x 1-19096L	1 x 1-19096L		1/2 x 1-19110L	3/4 x 1-19110L	1 x 1-19110L
CLASS I							
1. O RING RETAINER							
316 SS	4871401				4871401		
1A. RETAINER LOCK SCREW							
316 SS	2420513				2420513		
1B. O RING see pg 7 for mat'l code	310**013				310**013		
CLASS II							
2. DISC HOLDER							
316 SS	4870901				4870901		
4. SPINDLE							
316 SS	4840901				4840901		
5. GUIDE							
316 SS	4837201				4837201		
CLASS III							
8. BASE							
8A. BASE - MNPT							
316 SS - NON LIQUID SERVICE	4872101	4872201	4872301		6005501	5060101	6005801
Liquid Service	4896201	4896301	4896401				
8B. BASE - FNPT							
316 SS - NON LIQUID SERVICE	N/A	4832201	N/A		N/A	6005901	N/A
Liquid Service		4896101					
8C. BASE - SW							
316 SS - NON LIQUID SERVICE	4935401	4935501	4935601		6006001	6006101	6006201
Liquid Service	4937401	4937501	4937601				
8D. BASE - 150# R.F.							
316 SS*	5042301	5033001	5035403			6038701	6048904
8E. BASE - 300# R.F.							
316 SS*	5043001	5033101	5043101			6019101	6050001

* 316 SS BASE & EXTENSION W/CARBON STEEL FLANGE

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST

19000 SERIES SRV O Ring

-1 DESIGN

FOR 2-Metal Seat DESIGN SEE SECTION 5 (a)

For - 1 Metal Seat See Section 13

LOW PRESSURE DESIGN - SOFT SEAT (FOR PARTS NOT LISTED SEE METAL SEAT DESIGN)						
PART DESCRIPTION	3/4 x 1-19126L	1 x 1-19126L	1 x 1 1/2-19226L	1 1/2 x 2-19357L	2 x 2 1/2-19567L	
CLASS I						
1. O RING RETAINER						
316 SS	4871501	4871501	4871601	4871701	4871801	
1A. RETAINER LOCK SCREW						
316 SS	2420513	2420513	2420502	2420501	2420501	
1B. O RING see pg 7 for mat'l code	301**014	301**014	310**017	310**118	310**121	
CLASS II						
2. DISC HOLDER						
316 SS	4871001	4871001	4871101	4871201	4871301	
4. SPINDLE						
316 SS	4840901		4841101	4841301	4841301	
5. GUIDE						
316 SS	4837401		4838401	4837601	4837801	
CLASS III						
8. BASE						
8A. BASE - MNPT						
316 SS - NON LIQUID SERVICE	4872701	4873401	4873501	N/A	N/A	
Liquid Service	4896601	4896701	4896901	N/A		
8B. BASE - FNPT						
316 SS - NON LIQUID SERVICE	4832301	N/A	4873601	4873701	N/A	
Liquid Service	4896501	N/A	4896801	4897001		
8C. BASE - SW						
316 SS - NON LIQUID SERVICE	4935701	4935801	4936101	4998301	N/A	
Liquid Service	4937701	4937801	4937901	4938001		
8D. BASE - 150# R.F.						
316 SS*	5050201	5042501	5042701	5042801	5042901	
8E. BASE - 300# R.F.						
316 SS*	5043201	5043301	5043401	5043501	5043601	

* 316 SS BASE & EXTENSION W/CARBON STEEL FLANGE

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST

19000 SERIES SRV O Ring

-1 DESIGN

FOR 2-Metal Seat DESIGN SEE SECTION 5 (a)

For - 1 Metal Seat See Section 13

MEDIUM PRESSURE DESIGN - METAL SEAT							
PART DESCRIPTION	1/2 x 1-19096M	3/4 x 1-19096M	1 x 1-19096M		1/2 x 1-19110M	3/4 x 1-19110M	1 x 1-19110M
CLASS I							
1. O RING RETAINER							
316 SS		4871401				4871401	
1A. RETAINER LOCK SCREW							
316 SS		2420513				2420513	
1B. O RING see pg 7 for mat'l code		310**013				310**013	
CLASS II							
3. DISC HOLDER							
Inconel X-750		4833805				4833805	
4. SPINDLE							
Inconel X-750		4840405				4840405	
5. GUIDE							
316 SS		4839301				4839301	
CLASS III							
8. BASE							
8A. BASE - MNPT							
316 SS	4832401	4832501	4832601		6002701	5092601	6003101
8B. BASE - FNPT							
316 SS	N/A	4832001	N/A			6002901	
8C. BASE - SW							
316 SS	4998501	4998601	4998801		6002801	6003001	6003201
8D. BASE - 300# & 600# R.F.							
316 SS *	5043701	5037401	5041901		6049801	6030301	6049701
8. BASE - 900# & 1500# R.F.							
316 SS *	5044901	5045101	5045201				

All quantities are one except as noted in ().

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST

19000 SERIES SRV O Ring

-1 DESIGN

FOR 2-Metal Seat DESIGN SEE SECTION 5 (a)

For - 1 Metal Seat See Section 13

MEDIUM PRESSURE DESIGN

PART DESCRIPTION	3/4 x 1-19126M	1 x 1-19126M	1 x 1 1/2-19226M	1 1/2 x 2-19357M	2 x 2 1/2-19567M
CLASS I					
1. O RING RETAINER					
316 SS	4871501		4871601	4871701	4871801
1A. RETAINER LOCK SCREW					
316 SS	2420513		2420502	2420501	
1B. O RING see pg 7 for mat'l code	310**014		310**017	310**118	310**121
CLASS II					
3. DISC HOLDER					
Inconel X-750	4833905		4834005	4871205	4871305
4. SPINDLE					
Inconel X-750	4840405		4841005	4842105	
5. GUIDE					
316 SS	4961101		5004101	5003901	5003801
CLASS III					
8. BASE					
8A. BASE - MNPT					
316 SS	4832801	4833001	4833101	N/A	N/A
8B. BASE - FNPT					
316 SS	4832901	N/A	4833201	4833301	4833401
8C. BASE - SW					
316 SS	4998901	4999001	4999101	4999201	4999301
8D. BASE - 300# R.F.					
316 SS *	5043801	5043901	5044001	5044501	5044601
8E. BASE - 600# R.F.					
316 SS*	5043801	5043901	5044001	6103801	5044601
8F. BASE - 900# R.F.					
316 SS *	5045301	5045401	5045501	5045601	5045701
8G. BASE - 1500# R.F.					
316 SS *	5045301	5045401	5045501	5045601	5045701

All quantities are one except as noted in ().

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST

19000 SERIES SRV O Ring

-1 DESIGN

FOR 2-Metal Seat DESIGN SEE SECTION 5 (a)

For - 1 Metal Seat See Section 13

HIGH PRESSURE DESIGN							
PART DESCRIPTION	3/4 x 1-19096H	3/4 x 1-19110H	3/4 x 1-19126H	1 x 1 1/2-19226H			
CLASS I							
1. O RING RETAINER							
316 SS	4871405	4871405	4871505	4871605			
1A. RETAINER LOCK SCREW							
316 SS	2422533	2422533	2422533	2420502			
1B. O RING see pg 7 for mat'l code							
CLASS II							
3. DISC HOLDER							
Inconel X-750	4960501	4960501	4960001	4962601			
4. SPINDLE							
Inconel X-750	4839801	4839801	4841201	4891701			
5. GUIDE							
316 SS	4838701	4838701	4961401	4961501			
CLASS III							
6. SPRING	SELECT FROM SPRING CHART						
6A. SPRING WASHER							
CARBON STEEL	4890401 (2)	4890401 (2)	4890501 (2)	4890501 (2)			
7. ADJUSTING SCREW							
316 SS	4842001	4842001	0269703	0269703			
8. BASE							
8A. BASE - FNPT							
316 SS W/STELLITE SEAT	4833501	5097801	4833601	4833701			
8B. BASE - SW							
316 SS W/STELLITE SEAT	4999401	5098401	4999501	4999601			
8C. BASE - 1500# R.F.							
316 SS W/STELLITE SEAT *	5045801		5045901	5046001			
8D. BASE - 2500# R.F.							
316 SS W/STELLITE SEAT *	5046201		5046301	5046401			

All quantities are one except as noted in ().

SRV/SPRL - 1/02
Effective June, 2002

O-RING COMPOSITE SHEET

Supersedes SRV/SPRL-1/01
Dated April, 2001
Section 5(b), PG 8

19000-1

O-Ring Seat Seal Design
*(Parts Unique to this Design)

ORIFICE SIZE	NITRILE/BUNA N			SILICONE			FLUORO-CARBON		TEFLON	KALREZ-4079
	**50	70	90	50	70	80	70	90		75 (See Below)
096	31007013	31018013	31008013	31011013	31012013		31004013	31005013	31006013	31014013
126	31007014	31018014	31008014	31011014	31012014		31004014	31005014	31006014	31014014
226	31007017	31018017	31008017	31011017	31012017		31004017	31005017	31006017	31014017
357	31007118	31018118	31008118	31011118	31012118		31004118	31005118	31006118	31014118
567	31007121	31018121	31008121	31011121	31012121		31004121	31005121	31006121	31014121

ORIFICE SIZE	ETHYLENE PROPOLYNE			NEOPRENE		
	**50	70	90	50	70	
096	31001013	31019013	31002013	31009013	31010013	
126	31001014	31019014	31002014	31009014	31010014	
226	31001017	31019017	31002017	31009017	31010017	
357	31001118	31019118	31002118	31009118	31010118	
567	31001121	31019121	31002121	31009121	31010121	

*All classes of parts common to O-Ring Seat Seal Design and Metal Seat Design can be found in Section 1.

**These Numbers indicate durometer (Hardness) of material.

Kalrez 4079 not recommended for Steam use material code 23 Kalrez 1050 LF

COMPLETE GUIDE CAN BE FOUND IN ORING SELECTION CHART EG-60 - REFER TO SPRING SELECTION CD-ROM OR CONTACT FACTORY