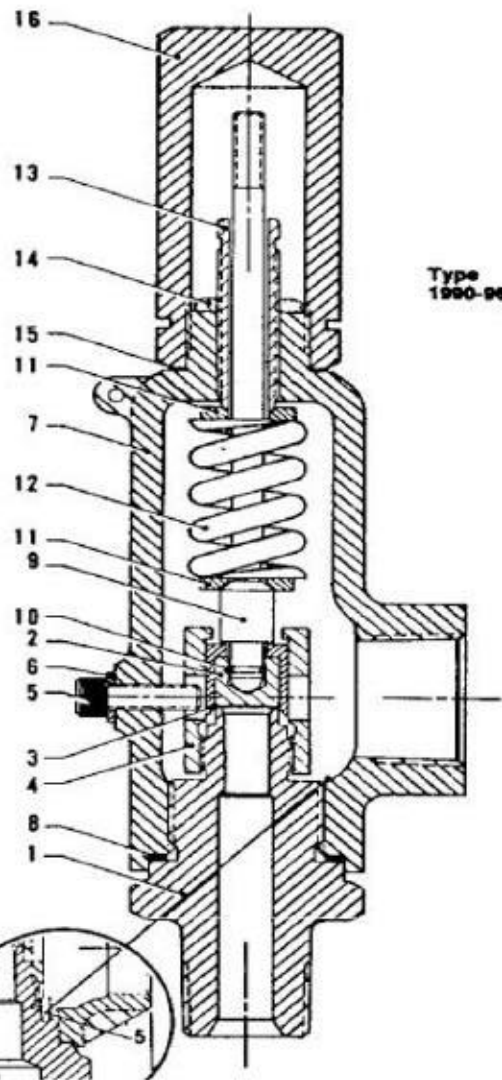


SAFETY RELIEF VALVES
 CONVENTIONAL DESIGN

1990 - 1998
 2990 - 2998
 3990 - 3998

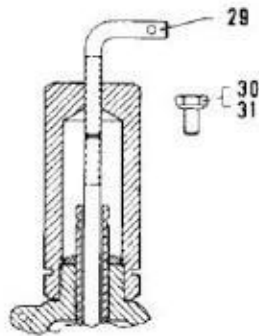


Ref. No.	Part
1.	Base
2.	Disc
3.	Disc Holder
4.	Guide
5.	Guide Pin
6.	Guide Pin Gasket
7.	Bonnet
8.	Bonnet Gasket
9.	Spindle
10.	Spindle Retainer
11.	Spring Washer
12.	Spring, 1990c-98c 1990t-98t
13.	Adjusting Screw
14.	Adj. Screw Lock nut
15.	Cap Gasket
16.	Screwed Cap

1997-98
 3997-98

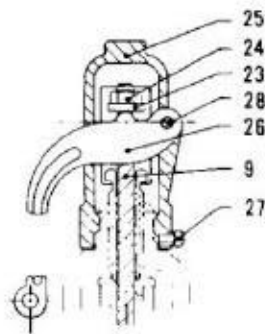
Discontinued Design - Limited Parts Availability

CAPS

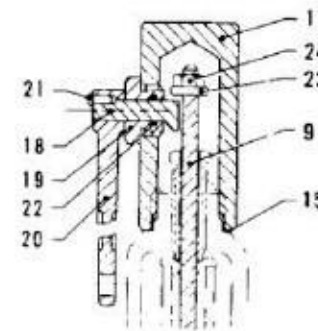


SCREWED CAP WITH GAG

Ref. No.	Part
9.	Spindle
15.	Cap Gasket
17.	Packed Cap
18.	Cam Shaft
19.	Bushing
20.	Lever
21.	Drive Pin
22.	o-Ring
23.	Release Nut
24.	Release Lock Nut
25.	Plain Cap
26.	Lifting Lever
27.	Cap Screw
28.	Lever Pin
29.	Gag Bolt
30.	Sealing Plug
31.	Sealing Plug Gasket



PLAIN CAP



PACKED CAP

**Recommended Spare Parts - Safety Relief Valves
1990-2990-3990 Portables - Conventional Design**

CLASS	PART NAME	C-CONVENTIONAL	QTY PARTS/SAME VALVES IN SERV. (MINIMUM)	QTY PARTS/SAME VALVES IN SERV. (MAXIMUM)	PREDICTED AVAILABILITY
I.	Disc	C	1 / 3	1 / 1	70%
	Spindle Retainer Ring	C	1 / 5	1 / 3	
	Guide Pin	C	1 / 3	1 / 1	
	Gasket (Set)				
	(1) Cap Gasket	C	1 / 3	1 / 1	
	(2) Guide Pin Gasket	C	1 / 3	1 / 1	
	(3) Bonnet Gasket	C	1 / 3	1 / 1	
II.	Disc Holder	C	1 / 8	1 / 5	85%
	Spindle	C	1 / 8	1 / 5	
	Guide	C	1 / 8	1 / 5	
III.	Spring Assembly				95%
	(1) Spring	C	1 / 8	1 / 5	
	(2) Spring Washer (2)	C	1 / 8	1 / 5	
	Adjusting Screw	C	1 / 8	1 / 5	
IV.	Adjusting Screw Nut	C	1 / 8	1 / 5	99%
	Cap (Select One):				
	1. Screwed	C	1 / 8	1 / 5	
	2. Plain Lever Asssembly	C	1 / 8	1 / 5	
	(1) Cap Asssembly				
	(2) Release Nut				
	(3) Lock Nut				
3. Packed Lever Asssembly	C	1 / 8	1 / 5		
	(1) Cap Asssembly				
	(2) Release Nut				
	(3) Lock Nut				

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST

1900 SERIES SRV's

PART DESCRIPTION	1/2"-3/4"-1" 1990-1	3/4"-1995/HP-1	3/4"-1994 h/hp-1	1"-1996 H/HP-1	1" 1993-1	1-1/2" 1997-1	2" 1998-1
					1" 1996-1		
CLASS I							
1. DISC							
316 SS	4465101	4465103*	4640404*	4640505*	4466501	4463501	4465801
2. SPINDLE RETAINER RING							
Inconel X-750	2410812	2410812	2410812	2410812	2410812	2410802	2410802
3. GUIDE PIN							
316 SS	4639504	4639505	0403101	0403101	4137208	2071726	2071726
4. GASKETS	SEE SEPARATE COMPOSITE GASKET SHEET: SECTION 9 , PAGE 6						
CLASS II							
5. DISC HOLDER							
316 SS	4465201	4465201	4640201	4640301	4466401	4463601	4466001
6. SPINDLE							
316 SS	4465502	4467304**	4640605**	4640602***	4466802	4465601	4465601
7. GUIDE (GAS SERVICE)							
316 SS	4465302	4465302	4468702	4466602	4466602	4463702	4465902
7A. GUIDE (LIQUID SERVICE)	4631102	4631102	4645002	4644902	4631302	4631402	4631502
CLASS III							
8. SPRING	SELECT FROM SPRING CHART						
8A. SPRING WASHER							
Carbon Steel	0405101	4521401	0403201	4463901	4467001	4463901	4463901
9. ADJUSTING SCREW							
316 SS	1022402	1022402	1085107	4466202	1022420	4466202	4466202

* Stellite

** Inconel X750

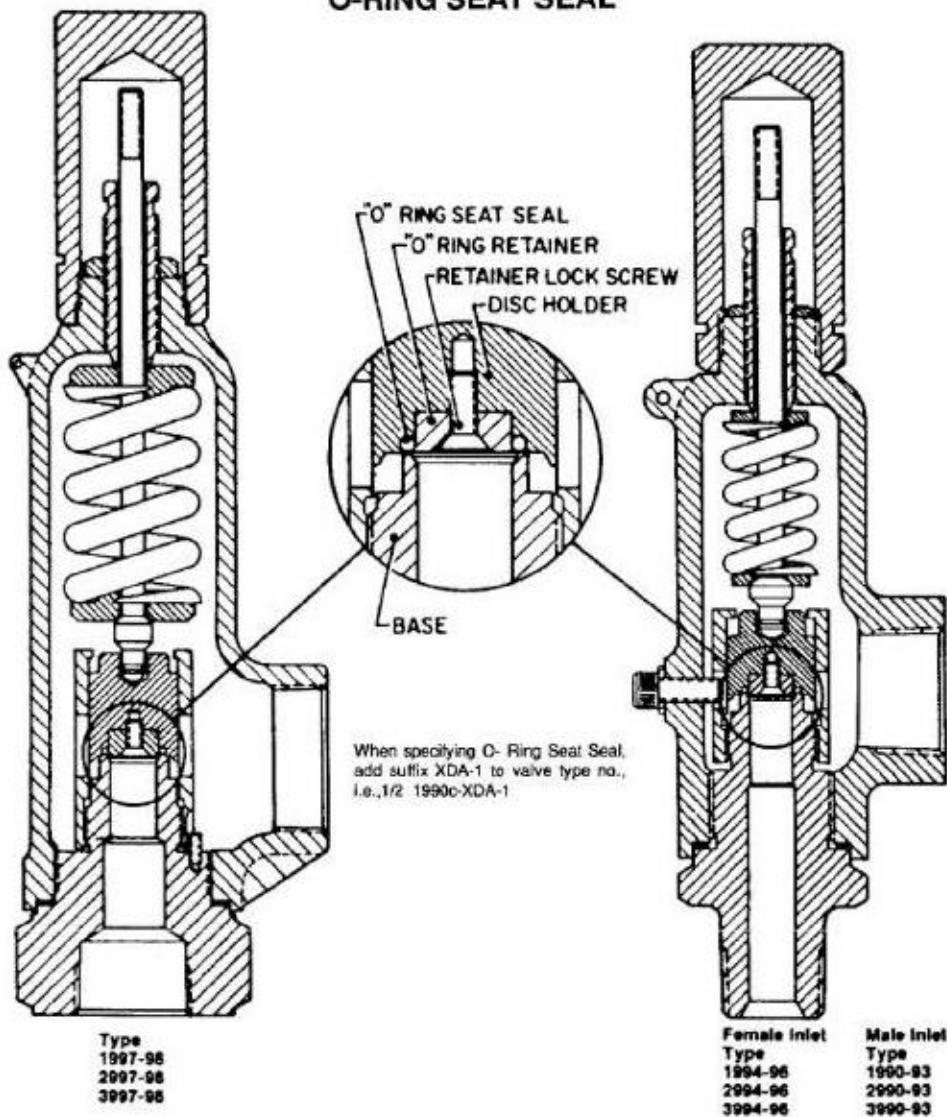
*** Inconel X750 P/N 4640605 For 1996H/HP

**** Use P/N 1085107 for 1996 h/HP

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST
3990 SERIES SRV's

PART DESCRIPTION	1/2"-3/4"-1" 3990-1	1/2" 3999-1	3/4" 3999-1	1" 3996 H-1	1" 3993-1	1-1/2" 3997-1	2" 3998-2
					1" 3996-1		
CLASS I							
1. DISC							
316 SS	4465101	4639101	4639101	4640501	4466501	4463501	4465801
2. SPINDLE RETAINER RING							
Inconel X-750	2410412	2410412	2410412	2410412	2410412	2410402	2410402
3. GUIDE PIN							
316 SS	4639504	4639504	4639504	0403103	4137213	2071726	2071726
4. GASKETS	SEE SEPARATE COMPOSITE GASKET SHEET: SECTION 9, PAGE 6						
CLASS II							
5. DISC HOLDER							
316 SS	4465201	4639301	4639301	4640301	4466401	4463601	4466001
6. SPINDLE							
316 SS	4465502	4639401	4639401	4640602	4466802	4465602	4465602
7. GUIDE (GAS SERVICE)							
316 SS	4465302	4639802	4639802	4466602	4466602	4463702	4465902
7A. GUIDE (LIQUID SERVICE)							
316 SS	4631102	4644802	4644802	4644902	4631302	4631402	4631502
CLASS III							
8. SPRING	SELECT FROM SPRING CHART						
8A. SPRING WASHERS (2)							
316 SS	0405102	4639202	4639202	4463902	4467002	4463902	4463902
9. ADJUSTING SCREW							
316 SS	1022402	1592602	1592602	4466202	1022420	4466202	4466202

**1990-2990-3990 SAFETY RELIEF VALVES
O-RING SEAT SEAL**



**Recommended Spare Parts - Safety Relief Valves
1990-2990-3990 Portables - O-Ring Seat Seal Design**

SRV/SPRL - 1/02
Effective June, 2002
Supercedes SRV / SPRL - 1/01
Dated April, 2001
Section 12, Page 2

CLASS	PART NAME	OR-O-RING SEAT SEAL	QTY PARTS/SAME VALVES IN SERV. (MINIMUM)	QTY PARTS/SAME VALVES IN SERV. (MAXIMUM)	PREDICTED AVAILABILITY
I.	O-Ring Retainer	OR	1 / 3	1 / 1	70%
	O-Ring Retainer Lock Screw	OR	1 / 3	1 / 1	
	O-Ring (Select)	OR	1 / 3	1 / 1	
	Guide Pin	OR	1 / 3	1 / 1	
	Spindle Retainer	OR	1 / 5	1 / 3	
	Gasket (Set)				
	(1) Cap Gasket	OR	1 / 3	1 / 1	
	(2) Guide Pin Gasket	OR	1 / 3	1 / 1	
(3) Bonnet Gasket	OR	1 / 3	1 / 1		
II.	Disc Holder	OR	1 / 8	1 / 5	85%
	Spindle	OR	1 / 8	1 / 5	
	Guide	OR	1 / 8	1 / 5	
III.	Spring Assembly				95%
	(1) Spring	OR	1 / 8	1 / 5	
	(2) Spring Washer (2)	OR	1 / 8	1 / 5	
	Adjusting Screw	OR	1 / 8	1 / 5	
IV.	Adjusting Screw Nut	OR	1 / 8	1 / 5	99%
	Cap (Select One):				
	1. Screwed	OR	1 / 8	1 / 5	
	2. Plain Lever Assembly	OR	1 / 8	1 / 5	
	(1) Cap Assembly				
	(2) Release Nut				
	(3) Lock Nut				
	3. Packed Lever Asssembly	OR	1 / 8	1 / 5	
(1) Cap Assembly					
(2) Release Nut					
(3) Lock Nut					

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST
1990 SERIES SRV's
O-RING SEAT SEAL DESIGN
***(PARTS UNIQUE TO THIS DESIGN)**

PART DESCRIPTION	1/2"-3/4"-1" 1990-2	3/4" 1995/HP-1	3/4" 1994 H/HP-1	1" 1996H-1	1" 1993-1	1-1/2" 1997-1	2" 1998-1
				1" 1996H/HP-1	1" 1996-1		
CLASS I							
1. O-RING RETAINER							
316 SS	4844101	4494001	4653701	4653201	4494201	4474801	4494101
2. O-RING RETAINER LOCK SCREW							
18-8 SS	2420513	2420513	2420503	2420502	2420505	2420504	2420504
3. O-RING			SEE SEPARATE COMPOSITE O-RING SHEET				
CLASS II							
4. DISC HOLDER							
316 SS	4844201	4473801	4653101	4653301	4474301	4474601	4475001
5. SPINDLE							
316 SS	4473901	4586903	4653403	4653402**	4474402	4474702	4474702
CLASS III							
6. BASE (SCREWED)							
316 SS (1/2" 1990)	4844501						
(3/4" 1990)	4844301						

*All classes of parts common to O-Ring Seat Seal Design and Metal Seat can be found in Section 11.

** Use P/N 4653403 for 1996H/HP Valve

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST
2990 SERIES SRV's
O-RING SEAT SEAL DESIGN
***(PARTS UNIQUE TO THIS DESIGN)**

PART DESCRIPTION	1/2"-3/4"-1" 2990-1	3/4" 2991-1 3/4" 2995-1	3/4" 2994-1	1" 2992-1	1" 2993-1 1" 2996-1	1-1/2" 2997-1 2" 2997-1	2" 2998-1
CLASS I							
1. O-RING RETAINER							
316 SS	4494001	4494001	4494001	4493901	4494201	4474801	4494101
2. O-RING RETAINER LOCK SCREW							
18-8 SS	2420513	2420513	2420513	2420502	2420505	2071726	2071726
3. O-RING	SEE SEPARATE COMPOSITE O-RING SHEET						
CLASS II							
4. DISC HOLDER							
316 SS	4473801	4473801	4473801	4474101	4474301	4474601	4475001
5. SPINDLE							
316 SS	4586902	4586902	4473902	4474402	4474702	4474702	4474402
CLASS III							
6. BASE (SCREWED)							
316 SS (1/2" 2990)	4475701						
(3/4" 2990)	4473701						
(1" 2990)	4475601						

*All classes of parts common to O-Ring Seat Seal Design and Metal Seat can be found in Section 11

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST
2990 SERIES SRV's
O-RING SEAT SEAL DESIGN
***(PARTS UNIQUE TO THIS DESIGN)**

PART DESCRIPTION	1/2"-3/4"-1" 2990-1	3/4" 2991-1 3/4" 2995-1	3/4" 2994-1	1" 2992-1	1" 2993-1 1" 2996-1	1-1/2" 2997-1 2" 2997-1	2" 2998-1
6. BASE (SCREWED)							
316 SS (3/4" 2991)		4503101					
(1" 2992)				4474001			
(1" 2993)					4474201		
(3/4" 2994)			4502801				
(3/4" 2995)		4502901					
(1" 2996)					4503001		
(1-1/2" 2997)						4475801	
(2" 2997)						4474501	
(2" 2998)							4474901

*All classes of parts common to O-Ring Seat Seal Design and Metal Seat can be found in Section 11

SAFETY RELIEF VALVE SPARE PARTS REFERENCE LIST
3990 SERIES SRV's
O-RING SEAT SEAL DESIGN
***(PARTS UNIQUE TO THIS DESIGN)**

PART DESCRIPTION	1/2"-3/4"-1" 3990-2	1/2" 3999-1	3/4" 3999-1	1" 3996H-1	1" 3993-1 1" 3996-1	1-1/2" 3997-1	2" 3998-1
CLASS I							
1. O-RING RETAINER							
316 SS	4844101			4653201	4494201	4474801	4494101
2. O-RING RETAINER LOCK SCREW							
18-8 SS	2420513			2420502	2420505	2420504	2420504
3. O-RING			SEE SEPARATE COMPOSITE O-RING SHEET				
CLASS II							
4. DISC HOLDER							
316 SS	4844201			4653301	4474301	4474601	4475001
5. SPINDLE							
316 SS	4473902			4653401	4474402	4474402	4474702
CLASS IV							
6. BASE (SCREWED)							
316 SS (1/2" 3990)	4844501						
(3/4" 3990)	4844301						
(1" 3990)	4844401						

*All classes of parts common to O-Ring Seat Seal Design and Metal Seat can be found in Section 11

O-RING COMPOSITE SHEET

1990-2990-3990- SERIES SRV's

O-Ring Seat Seal Design

*(Parts Unique to this Design)

Supersedes SRV / SPRL - 1/01

Dated April, 2001

Section 12, Page 9

ORIFICE SIZE	NITRILE/BUNA N			SILICONE			FLUORO-CARBON		TEFLON	KALREZ 4079
	**50	70	90	50	70		70	90		
1990-94-95 2990-94-95 3990 94-95	31007012	31018012	31008012	31011012	31012012		31022012	31005012	31006012	31014012
1992-2992-3992				31011014	31012014		31022014	31005014	31006014	31014014
1993-96 2993-96 3993-96			31008114	31011114		31016114	31022114	31005114	31006114	31014114
1997-2997-3997	31007116		31008116	31011116	31012116		31022116	31005116	31006116	31014116
1998-2998-3998				31011119			31022119	31005119		

ORIFICE SIZE	ETHYLENE - PROPOLYENE			NEOPRENE		
	**50	70	90	50	70	
1990-94-95 2990-94-95 3990 94-95	31001012	31019012	31002012	31009012	31010010	
1992-2992-3992				31009014	31010014	
1993-96 2993-96 3993-96			31002114	31009094		
1997-2997-3997	31001116		31002116	31009096	31010116	
1998-2998-3998				31009099		

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

*All classes of parts common to O-Ring Seat Seal Design and Metal Seat Design can be found on pages 1-19, Section 3.

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

Discontinued Design - Limited Parts Availability