KC ProSupply
The one-stop shop for gas equipment

OPERATION MANUAL

SAFESWAP

Pressure relief valve removal aid

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Introduction

The safe swap is a tool designed to prevent the accidental removal of a minibulk relief valve from the check adaptor should the check fail to close. All the various combinations of relief valves and check devices commonly used in the UK differ dimensionally so there is a specific tool for each combination of parallel threaded valves.

Safeswaps are not designed to be used on taper threaded relief valves!

Principles

The method used by valve manufacturers to indicate check valve closure is a drilled hole in the inlet thread of the relief valve which also allows gas to escape whilst the relief valve is being unscrewed. When the hole appears above the top of the adaptor the check should have closed. At this point soft seated checks should stop all gas escaping and metal-seated checks will show a marked reduction in the level of discharge.

If the hole appears above the check adaptor and the check has not closed the relief valve should not be removed.

When removing valves from underground tanks the vent hole cannot be seen and the use of a Safeswap takes the guesswork out of deciding if it to safe to completely remove the relief valve. On above ground tanks the hole can be viewed but it still makes good sense to use the tool as it only takes seconds to fit.

Some relief valves have similar inlet threads so it is possible that the relief valves and adaptors of different manufacturers have been interchanged. Apart from the new Euro design this should not be done, as without type testing there is no guarantee that the flow rate is sufficient to vent the tank.

The Safeswap may fit onto mixed combinations but should not be used under any circumstances.

Always check the full valve and check device identities carefully.

Current availability

Relief valve	Adaptor	Safeswap
Calor 25/10	525 (wide flats)	906700
Calor 25/10	525 (narrow flats)	906701
Calor 25/10 NPS	6525	906704
Calor 25/11	525 (wide flats)	906847
Calor 25/11	525 (narrow flats)	906848
Calor 25/12	535/1, 535/2 535/3 & 545/1 (wide flats)	906706
Calor 25/12	535 (narrow flats)	906710
RegO RS3132	CD32	906703
Ceodeux 71052	70652	906707
Omeca EU20	ST20	906850
Omeca EU25	ST32	906705
Cavagna VS367	CD36	906713

Each Safeswap is marked with its part number and the relief valve they are to be used on to make selection simple.

They also have a code on the underside to ensure a matched pair is used. The collars, which fit a range of Safeswaps, are marked with the relief valves they are used on.

Others will be added to the range as dictated by demand.

Valve identification

The valve identification tables on pages 8 - 10 assist in the identification of each combination of valve by manufacturer, markings, appearance and size.

These are based on information currently available but as these valves have been manufactured over the last twenty years with several design changes it is possible that some details are not included.

Where other manufacturers or markings are evident on valves not covered by the specification sheets do not attempt to use a Safeswap even if it appears to fit. Consult the valve manufacturer before proceeding.

Company procedures

In all cases you should follow your company procedures or the instructions laid out by each manufacturer as to how their relief valve should be exchanged on in service vessels. Use of the Safeswap can be incorporated into those instructions.

In the absence of such instructions the following general guidelines can be used.

Procedure for use of the Safeswap

Follow procedures with regards to tank identity and record keeping.

1. Identify type and pressure setting of relief valve.

2. Identify type of change adaptor and establish its compatibility with the relief valve.

   If incompatible the Safeswap may fit but no attempt should be made to use it.

3. Select replacement relief valve and bonded seal that suits the change adaptor. Ensure its pressure is compatible with the tank and the date complies with your company policy for fitting. If a suitable valve is not available do not proceed.

4. Select the correct safe swap from specification sheets. These are marked with valve and check types. It may be possible that some yet to be identified combinations exist which a Safeswap may fit but is not listed. It is the operator's responsibility to ensure that the relief valve markings are compatible with the specification sheet before attempting to use the Safeswap.

5. Using wrenches break the joint between the valve and check adaptor and leave hand tight. Only use the hexagon flats on the valve and adaptor body for wrenching.

   Fitting wrenches to any other part of the assembly is potentially dangerous and must not be attempted.

   Relief valve joint breaking tools are available from KC ProSupply to break the joint without disturbing the tank to adapter joint.

6. Apply the two halves of the Safeswap. The two halves should fit together with a maximum 2mm gap and the correct sleeve can be slid over the top with a snug fit. If this is not possible recheck the identity of the valve and check assembly. If necessary use mirrors, chalk, emery cloth, a suitably rated torch or any other device to identify the markings.

7. When satisfied the tool is correctly fitted unscrew the relief valve by hand until it reaches the stop. Whilst unscrewing listen to the gas escaping. It should either stop completely (soft seated check adaptors) or markedly reduce (metal seated) just before the relief valve reaches the stop. The identification list starting on page 7 will indicate whether it is soft seated or not.

8. When satisfied that it has closed, lift the collar off, separate the two halves of the Safeswap and remove the relief valve.

9. Immediately fit the replacement relief valve with new bonded seal. Tighten relief valve with wrenches.

Complete records as per your company procedures.

Valve identification tables

25/10 with 525	
Relief valve	Calor 25/10
Thread	M38 M

Change adaptor	Calor 525
Threads	1 1/4" NPT M & M38 F
Seat	Soft

25/10 with short 525	
Relief valve	Calor 25/10
Thread	M38 M

Change adaptor	CGUK 525 (short bodied version)
Threads	1 1/4" NPT N & M38 F
Seat	Soft

25/10 NPS with 6525	
Relief valve	Calor 25/10
Thread	1" NPS M

Change adaptor	CGUK 6525
Threads	1 1/4" NPT M & 1" NPS F
Seat	Soft

25/12 with 535	
Relief valve	Calor 25/12
Thread	M45 M

Change adaptor	Calor 535
Threads	1 1/2" NPT M & M45 F
Seat	Soft

71052 with 70652	
Relief valve	Ceodeux 71052
Thread	1" NPS M

Change adaptor	Ceodeux 70652
Threads	1 ¼" NPT M & 1" NPS F
Seat	Soft

25/12 with 535/1, 535/2, 535/3 & 545/1	
Relief valve	Calor 25/12
Thread	M45 M

Change adaptors	Calor 535/1, 535/2, 535/3 & 545/1
Threads	1 1/2" NPT M & M45 F
Seat	Soft

EU25 with ST25	
Relief valve	Omeca EU25
Thread	1" NPS M

Change adaptor	Omeca ST25
Threads	1 1/4" NPT M & 1" NPS F
Seat	Metal

RS3132 with CD32	
Relief valve	Rego RS3132
Thread	1" NPS M

Change adaptor	Rego CD32
Threads	1 1/4" NPT M & 1" NPS F
Seat	Metal

VS367 with CD36	
Relief valve	VS367
Thread	1" NPS M

Change adaptor	Rego CD36
Threads	1 1/4" NPT M & M36 F
Seat	Metal

EP3131 with EP520	
Relief valve	Rego EP3131
Thread	M26 M

Change adaptor	Rego EP520
Threads	1 1/4" NPT M & M26 M
Seat	Metal
Seat	Soft

25/11 with 525	
Relief valve	Calor 25/11
Thread	M38 M

Change adaptor	Calor 525
Threads	1 1/4" NPT M & M38 F
Seat	Soft

25/11 with short 525	
Relief valve	Calor 25/11
Thread	M38 M

Change adaptor	Calor 525
Threads	1 1/4" NPT M & M38 F
Seat	Soft

EU20 with ST20	
Relief valve	EU20
Thread	3/4" NPS M

Change adaptor	ST20
Threads	1 1/4" NPT M & 3/4" NPS F
Seat	Metal

RS3131 with ST20	
Relief valve	Rego RS3132
Thread	3/4" NPS M

Change adaptor	Rego CD32
Threads	1 1/4" NPT M & 3/4" NPS F
Seat	Metal
Seat	Soft

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Before using the SafeSwap, we advise that you use the KC ProSupply relief valve cracking tool to loosen the valve safely.

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