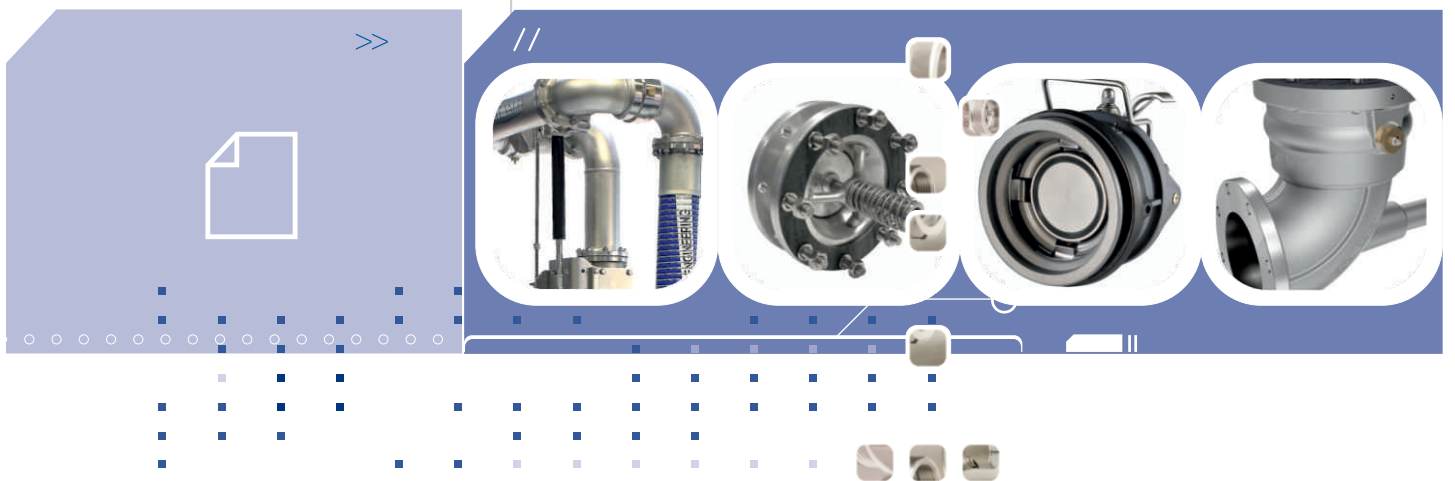




CATALOGUE REVISION\_16.03.17



# Petroleum Handling Equipment Catalogue //

**SAFELOAD TERMINAL EQUIPMENT //**

**BOTTOM LOADING API COUPLERS &  
ANCILLARIES //**

» SAFELOAD Semi-Automatic API Coupler	1/2
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CE94/2500XX



Aluminium Handle

### Features & Benefits


-  Bumper ring protects against glancing blows.
-  3 Year Warranty on all metal parts.\*
-  Tapered lead-in of coupler ensures failsafe alignment with tank adaptor.
-  Instant “snap on” fixture to tank adaptor.
-  Four wrap-around extended triggers lock the coupler securely in place.
-  SAFELOAD will not open unless connected correctly nor uncouple until fully closed.
-  Compression spring energised main seal.
-  All seals may be replaced in-situ using the correct tools and procedure.
-  Wear critical components tested to simulate over 5 years continual service.
-  Trigger design allows full alignment and connection even if loading arms are crossed over.
-  Release handle has fewer parts so it is very easy to strip down.
-  The shaft and nut assembly is easy to maintain.
-  The double seal arrangement stops dirt from entering the seal pocket.

### MAJOR OIL COMPANY APPROVED

\*under standard environmental conditions.  
See [www.fortvale.com/FVETCOFSALE.pdf](http://www.fortvale.com/FVETCOFSALE.pdf) (paragraph 9)

### Service Guidelines

Fort Vale recommends a monthly visual inspection on couplers over 6 months old. It should be noted that the life of the coupler is not only determined by the frequency of use but also by the product carried.

 Operating Instructions for Safeload semi-automatic coupler - **OPIN21**

**Safeload Semi-Automatic API Coupler** - Designed for bottom loading with a unique wrap-around trigger design that follows the profile of the loading adaptor, covering more than 60% of its circumference.

4" TTMA inlet flange. Outlet connection complies with API RP 1004. Materials of construction - hard anodised aluminium, nitrided steel and stainless steel. Fitted with Viton B seals and stainless steel operating handle as standard. Operating instructions included.

Seal options - See Range

Options - Version with integral drain pot. High pressure version. Manually operated version. Available with ball-end aluminium handle.

### Specification

**Part Number :** CE94/2500XX - Stainless steel handle  
CE94/2400XX - Aluminium handle

XX indicates variable seal material, see Range

Weight	12.15 Kg
Design Pressure (MAWP)	6 Bar (87 PSI)
Test Pressure	10 Bar (145.0 PSI)
Max. Surge Pressure	15 Bar (217.5 PSI)

Compliant with ATEX Group II, Cat 2; EN 13083 & API RP1004 (2003).

### Range

Part No.	Seal Material/Colour	Temp. Range
CE94/2X00	Viton B - Black	-13°C to +50°C +9°F to +122°F
CE94/2X00GF	Viton GFLT-S – Grey	-23°C to +50°C -9°F to +122°F
CE94/2X00MF	Ultra-low temp. Fluorocarbon - Brown	-40°C to +50°C -40°F to +122°F
CE94/2X00PF	Perfluoroelastomer – Green	-15°C to +50°C +5°F to +122°F

X in Part No. above indicates variable handle. See Specification above.

### Associated Parts

Associated Parts	Part Number
Extended inlet spool piece – *See Note	94/22XX
Loading adaptor wear gauge	94/2150
Parking nose – Bottom Loading Coupler	94/25PC
Coupler seal replacement tool	400/9420
4" TTMA Check valve	94/3690XX/X

\*NOTE : “XX” indicates variable length  
Minimum length : 120mm

Item	Description	Part No.
1	M12 domed nut	5112-050
2	M12 washer	5123-003
3	Splined handle	94/2575
4	Spindle	94/2511
5	Release handle pivot pin (2)	94/2577
6	M6 capscrew (2)	5111-061
7	Release handle assembly	94/3080
8	4" TTMA gasket	94/1044
9	Inlet flange stud (8)	94/1040
10	M10 flat section spring washer (8)	5113-002
11	M10 full nut (8)	5112-002
12	Outer housing and ring assembly	94/2504
13	M4 hexhead setscrew (4)	5111-064
14	Spring retainer washer (4)	94/2529
15	Guide bush (4)	94/2048
16	Spring (4)	10146
17	Spring retainer (4)	94/1016
18	Spindle bush	94/2522
19	Inner housing	94/2501
20	Seal carrier O ring <b>*See Note</b>	94/1034XX <input type="checkbox"/>
21	Seal carrier	94/2507
22	Wiper O ring <b>*See Note</b>	5005-584XX <input type="checkbox"/>
23	Main seal <b>*See Note</b>	94/1006XX <input type="checkbox"/>
24	Lever arm	94/1009A
25	Poppet	94/2518

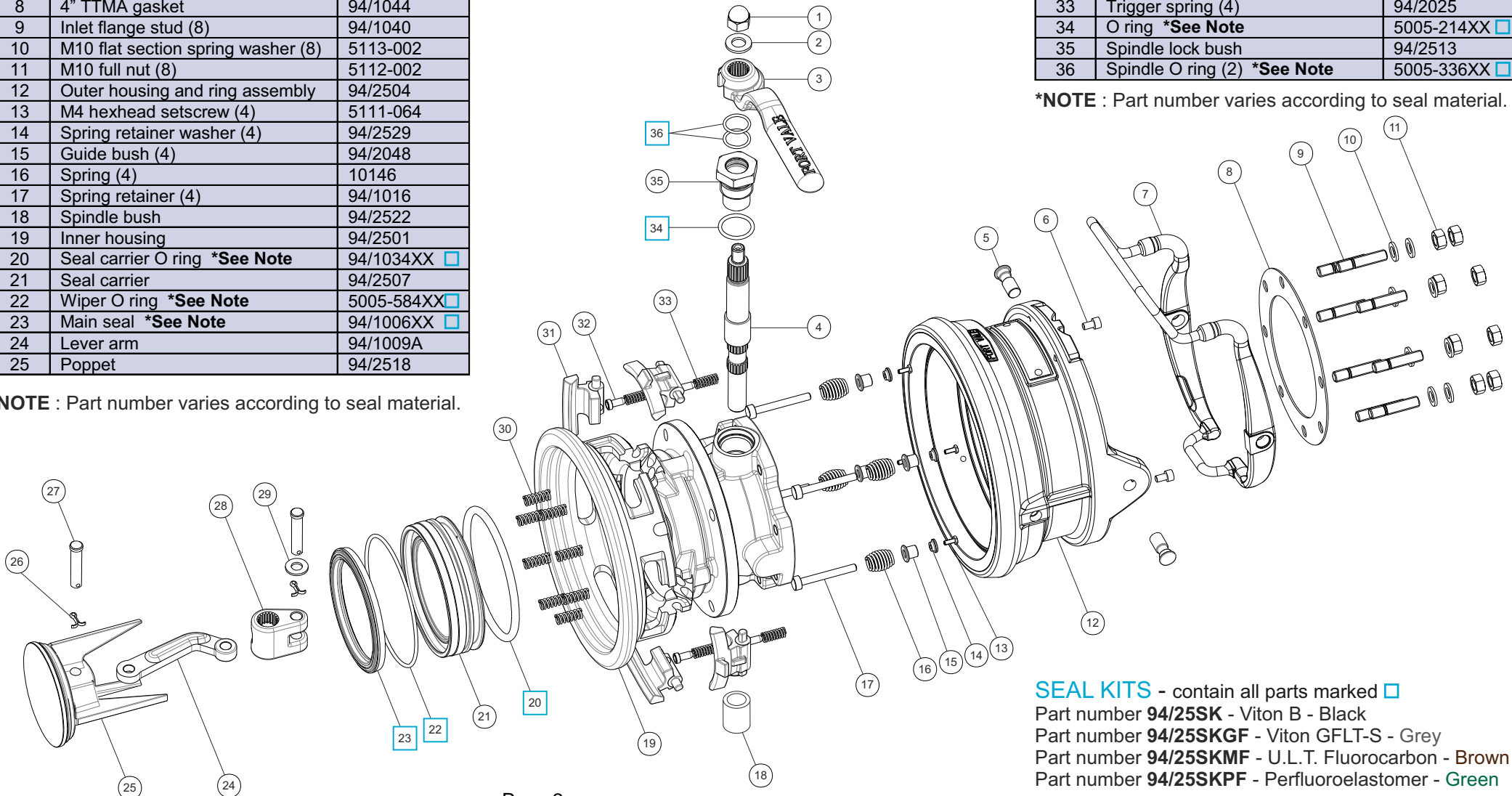
**\*NOTE :** Part number varies according to seal material.

## Part Number : CE94/2500XX

**Note:** Component parts may vary according to coupler specification.

Item	Description	Part No.
26	Split pin (2)	5118-050
27	Pivot pin (2)	94/1054
28	Splined crank block	94/2528
29	M10 washer	5113-025
30	Energizing spring (8)	94/2024
31	Extended locking trigger (4)	94/2555CE
32	Trigger spring guide (4)	94/2026
33	Trigger spring (4)	94/2025
34	O ring <b>*See Note</b>	5005-214XX <input type="checkbox"/>
35	Spindle lock bush	94/2513
36	Spindle O ring (2) <b>*See Note</b>	5005-336XX <input type="checkbox"/>

**\*NOTE :** Part number varies according to seal material.



**SEAL KITS** - contain all parts marked   
 Part number **94/25SK** - Viton B - Black  
 Part number **94/25SKGF** - Viton GFLT-S - Grey  
 Part number **94/25SKMF** - U.L.T. Fluorocarbon - Brown  
 Part number **94/25SKPF** - Perfluoroelastomer - Green














CE94/3000XX



Aluminium Handle


### Features & Benefits

-  Interlock latch prevents accidental actuation if the coupler is subject to lateral impact.
-  3 Year Warranty on all metal parts.\*
-  Handle to body interlock ensures that SAFeload will not open unless connected correctly nor uncouple until fully closed.
-  Strengthened steel collar ensures a robust latch engagement with the outer collar, reducing wear and increasing safety.
-  Tapered lead-in of coupler ensures failsafe alignment with tank adaptor.
-  Instant “snap on” fixture to tank adaptor.
-  Four wrap-around extended triggers lock the coupler securely in place.
-  Internal main actuating springs are not vulnerable to damage or corrosion.
-  Compression spring-energised main seal offers longevity of service.
-  Wear critical components tested to simulate over 5 years continual service.
-  Trigger design allows full alignment and connection even if loading arms are crossed over.

\*Under standard environmental conditions.  
See [www.fortvale.com/FVETCOFSALE.pdf](http://www.fortvale.com/FVETCOFSALE.pdf) (paragraph 9)

### Service Guidelines

Fort Vale recommends a monthly visual inspection on couplers over 6 months old. It should be noted that the life of the coupler is not only determined by the frequency of use but also by the product carried.

 Operating Instructions for Safeload semi-automatic coupler - **OPIN44**

**Safeload Semi-Automatic High-Pressure API Coupler** - Designed for bottom loading with a unique wrap-around trigger design that follows the profile of the loading adaptor, covering more than 50% of its circumference. Incorporating an interlock safety latch.

4" TTMA inlet flange. Outlet connection complies with API RP 1004. Materials of construction - hard anodised aluminium, nitrided steel and stainless steel. Fitted with Viton B seals and stainless steel operating handle as standard. Operating instructions included.

Seal options - See Range

Options - Version with integral drain pot. Standard 6 Bar semi-automatic version. Manually operated version. Available with ball-end aluminium handle.

### Specification

**Part Number :** CE94/3000XX - Stainless steel handle  
CE94/3100XX - Aluminium handle

XX indicates variable seal material, see Range

Weight	12.86 Kg
Design Pressure 1(MAWP)	
Coupler Open Connected	10 Bar (145.0 PSI)
Design Pressure 2(MAWP)	
Coupler Closed Disconnected	16 Bar (232.0 PSI)
Test Pressure 1	
Coupler Open Connected	15 Bar (217.5 PSI)
Test Pressure 2	
Coupler Closed Disconnected	24 Bar (348.0 PSI)

Compliant with ATEX Group II, Cat 2; EN 13083 & API RP1004 (2003).

### Range

Part No.	Seal Material/Colour	Temp. Range
CE94/3X00	Viton B - Black	-13°C to +50°C +9°F to +122°F
CE94/3X00GF	Viton GFLT-S – Grey	-23°C to +50°C -9°F to +122°F
CE94/3X00MF	Ultra-low temp. Fluorocarbon - Brown	-40°C to +50°C -40°F to +122°F
CE94/3X00PF	Perfluoroelastomer – Green	-15°C to +50°C +5°F to +122°F

X in Part No. above indicates variable handle. See Specification above.

### Associated Parts

Associated Parts	Part Number
Extended inlet spool piece – *See Note	94/22XX
Loading adaptor wear gauge	94/2150
Parking nose – Bottom Loading Coupler	94/25PC
Coupler seal replacement tool	400/9440
4" TTMA Check valve	94/3690XX/X

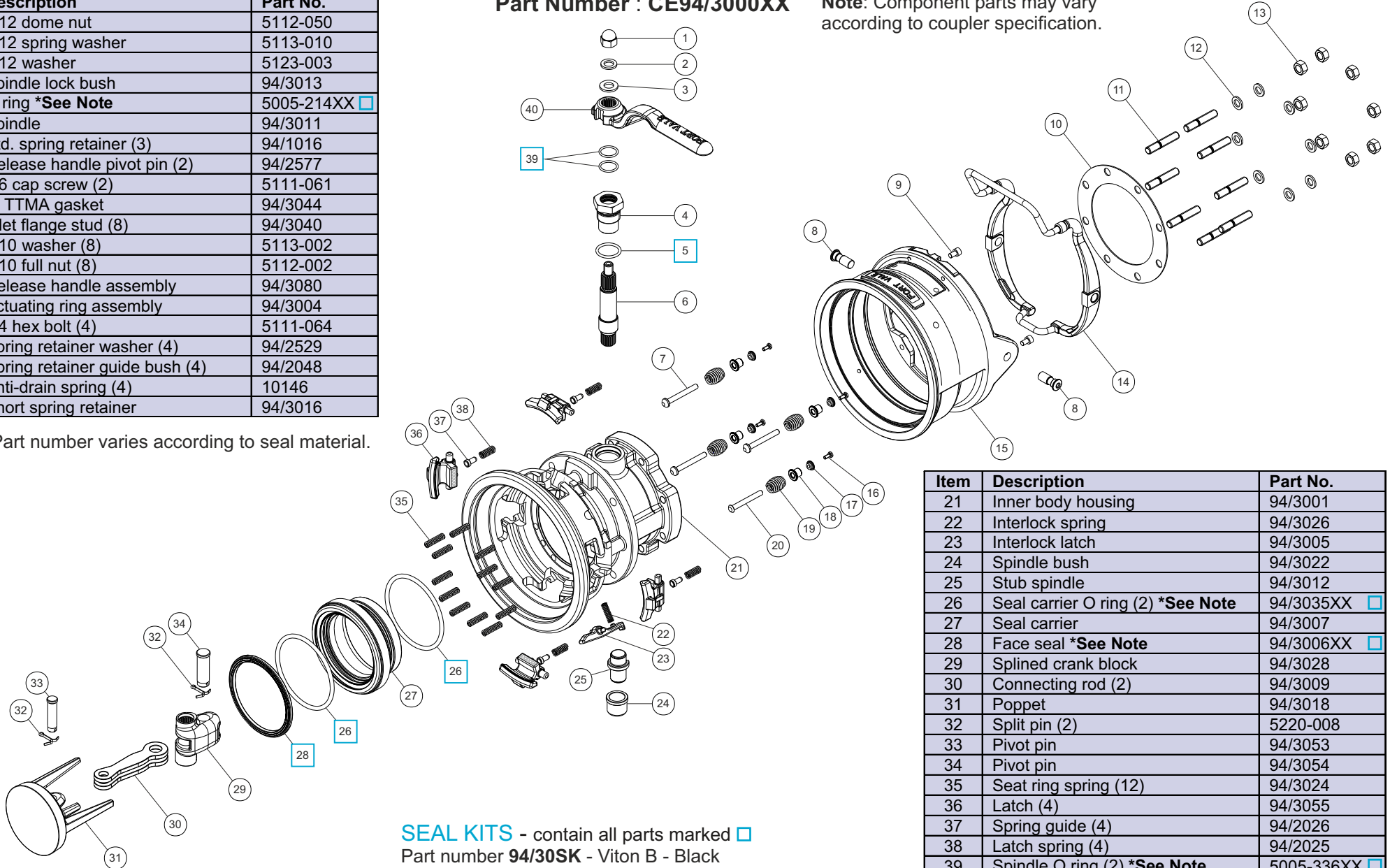
\*NOTE : “XX” indicates variable length  
Minimum length : 120mm

Item	Description	Part No.
1	M12 dome nut	5112-050
2	M12 spring washer	5113-010
3	M12 washer	5123-003
4	Spindle lock bush	94/3013
5	O ring <b>*See Note</b>	5005-214XX <input type="checkbox"/>
6	Spindle	94/3011
7	Std. spring retainer (3)	94/1016
8	Release handle pivot pin (2)	94/2577
9	M6 cap screw (2)	5111-061
10	4" TTMA gasket	94/3044
11	Inlet flange stud (8)	94/3040
12	M10 washer (8)	5113-002
13	M10 full nut (8)	5112-002
14	Release handle assembly	94/3080
15	Actuating ring assembly	94/3004
16	M4 hex bolt (4)	5111-064
17	Spring retainer washer (4)	94/2529
18	Spring retainer guide bush (4)	94/2048
19	Anti-drain spring (4)	10146
20	Short spring retainer	94/3016

**\*NOTE :** Part number varies according to seal material.

Part Number : CE94/3000XX

Note: Component parts may vary according to coupler specification.



Item	Description	Part No.
21	Inner body housing	94/3001
22	Interlock spring	94/3026
23	Interlock latch	94/3005
24	Spindle bush	94/3022
25	Stub spindle	94/3012
26	Seal carrier O ring <b>*See Note</b>	94/3035XX <input type="checkbox"/>
27	Seal carrier	94/3007
28	Face seal <b>*See Note</b>	94/3006XX <input type="checkbox"/>
29	Splined crank block	94/3028
30	Connecting rod (2)	94/3009
31	Poppet	94/3018
32	Split pin (2)	5220-008
33	Pivot pin	94/3053
34	Pivot pin	94/3054
35	Seat ring spring (12)	94/3024
36	Latch (4)	94/3055
37	Spring guide (4)	94/2026
38	Latch spring (4)	94/2025
39	Spindle O ring (2) <b>*See Note</b>	5005-336XX <input type="checkbox"/>
40	Splined handle	94/2575

**SEAL KITS** - contain all parts marked

Part number **94/30SK** - Viton B - Black

Part number **94/30SKGF** - Viton GFLT-S - Grey

Part number **94/30SKMF** - U.L.T. Fluorocarbon - Brown

Part number **94/30SKPF** - Perfluoroelastomer - Green

**\*NOTE :** Part number varies according to seal material.

CE94/2700XX



Aluminium Handle

Safeload Manual API Coupler - Designed for bottom loading with a unique wrap-around trigger design that follows the profile of the loading adaptor, covering more than 60% of its circumference.

4" TTMA inlet flange. Outlet connection complies with API RP 1004. Materials of construction - hard anodised aluminium, nitrided steel and stainless steel. Fitted with Viton B seals and stainless steel handle as standard. Operating instructions included.

Seal options - See Range

Options - Semi-automatic and high-pressure versions. Available with ball-end aluminium handle.

**Features & Benefits**

- 3 Year Warranty on all metal parts.\*
- Tapered lead-in of coupler ensures failsafe alignment with tank adaptor.
- Four wrap-around extended triggers lock the coupler securely in place.
- SAFELOAD will not open unless correctly connected and may not be uncoupled until fully closed.
- Compression spring energised main seal.
- All seals may be replaced in-situ using the correct tools and procedure.
- New trigger design also stops the twist if arms are crossed over, keeping the coupler nose in line with the adaptor.
- The new shaft and nut assembly is easier to maintain.
- The new double seal arrangement stops dirt from entering the seal pocket.

**MAJOR OIL COMPANY APPROVED**

\*under standard environmental conditions.  
See [www.fortvale.com/FVETCOFSALE.pdf](http://www.fortvale.com/FVETCOFSALE.pdf) (paragraph 9)

**Service Guidelines**

Fort Vale recommend a monthly visual inspection on couplers over 6 months old. It should be noted that the life of the coupler is not only determined by the frequency of use but also by the product carried.

Safeload Manual Coupler Operating Instructions available - **OPIN31**

**Specification**

Part Number : **CE94/2700XX** - Stainless steel handle  
**CE94/2800XX** - Aluminium handle

XX indicates variable seal material, see Range

Weight	10.2 Kg
Design Pressure (MAWP)	6 Bar (87 PSI)
Test Pressure	10 Bar (145.0 PSI)
Design Temperature Range	See Table below
Max. Surge Pressure	15 Bar (217.5 PSI)

Compliant with ATEX Group II, Cat 2; EN 13083 & API RP1004 (2003).

**Range**

Part No.	Seal Material/Colour	Temp. Range
CE94/2X00	Viton B - Black	-13°C to +50°C +9°F to +122°F
CE94/2X00GF	Viton GFLT-S - Grey	-23°C to +50°C -9°F to +122°F
CE94/2X00MF	Low temp. Fluorocarbon - Brown	-40°C to +50°C -40°F to +122°F
CE94/2X00PF	Perfluoroelastomer - Green	-15°C to +50°C +5°F to +122°F

X in Part No. above indicates variable handle. See Specification above.

**Associated Parts**

Associated Parts	Part Number
Extended inlet spool piece - *See Note	94/22XX
Loading adaptor wear gauge	94/2150
Parking nose - Bottom Loading Coupler	94/25PC
Coupler seal replacement tool	400/9420
4" TTMA Check valve	94/3690XX/X

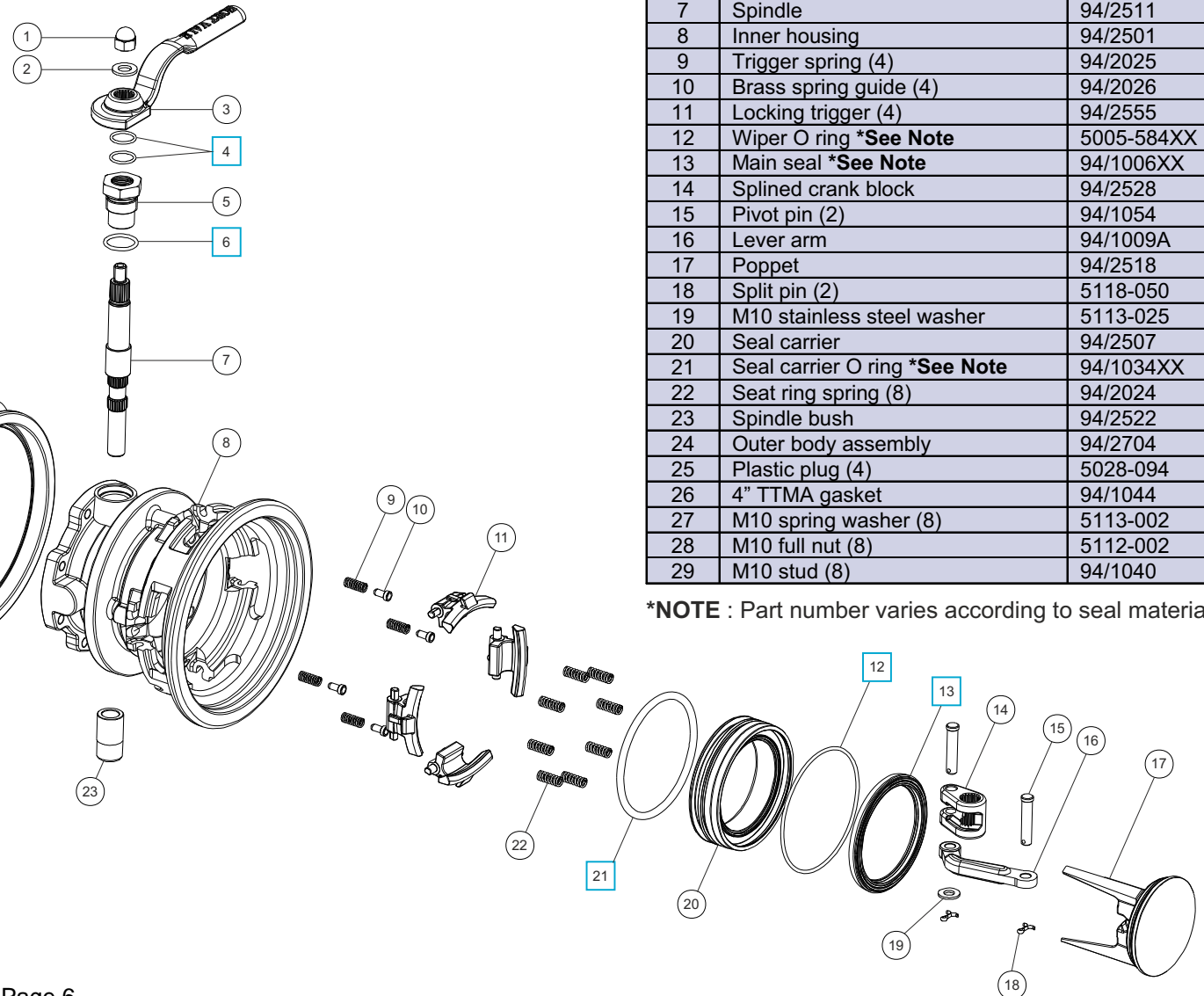
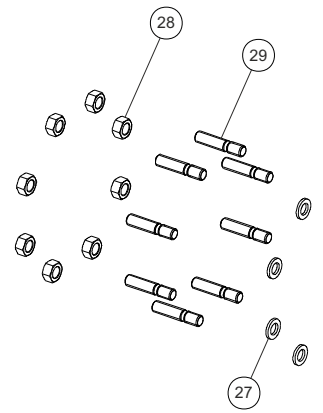
\*NOTE : "XX" indicates variable length  
Minimum length : 120mm

**SPARES KITS**

**94/27SA3** - splined handle sub-assembly - comprises items 1, 2 & 3.

**94/25SA4** - poppet sub-assembly - comprises items 14, 15, 16, 17, 18 & 19.

**94/25SA5XX** - spindle and bush sub-assembly with O rings (**XX** denotes seal material - see [SEAL KITS](#) below for designation) - comprises items 4, 5, 6 & 7.



**Part Number : CE94/2700XX**

**Note:** Component parts may vary according to coupler specification.

Item	Description	Part No.
1	M12 domed nut	5112-050
2	M12 washer	5123-003
3	Splined handle	94/2775
4	Viton O ring (2) *See Note	5005-336XX <input type="checkbox"/>
5	Spindle lock bush	94/2513
6	Viton O ring *See Note	5005-214XX <input type="checkbox"/>
7	Spindle	94/2511
8	Inner housing	94/2501
9	Trigger spring (4)	94/2025
10	Brass spring guide (4)	94/2026
11	Locking trigger (4)	94/2555
12	Wiper O ring *See Note	5005-584XX <input type="checkbox"/>
13	Main seal *See Note	94/1006XX <input type="checkbox"/>
14	Splined crank block	94/2528
15	Pivot pin (2)	94/1054
16	Lever arm	94/1009A
17	Poppet	94/2518
18	Split pin (2)	5118-050
19	M10 stainless steel washer	5113-025
20	Seal carrier	94/2507
21	Seal carrier O ring *See Note	94/1034XX <input type="checkbox"/>
22	Seat ring spring (8)	94/2024
23	Spindle bush	94/2522
24	Outer body assembly	94/2704
25	Plastic plug (4)	5028-094
26	4" TTMA gasket	94/1044
27	M10 spring washer (8)	5113-002
28	M10 full nut (8)	5112-002
29	M10 stud (8)	94/1040

**\*NOTE :** Part number varies according to seal material.

**SEAL KITS** - contain all parts marked

**94/25SK** - Viton B - Black

**94/25SKGF** - Viton GFLT-S - Grey

**94/25SKMF** - U.L.T. Fluorocarbon - Brown

**94/25SKPF** - Perfluoroelastomer - Green



**Part Number - 94/3690XX/X**

The 4" TTMA Check Valve with fluid transfer hole suits the 4" Safeload range of bottom loading couplers.

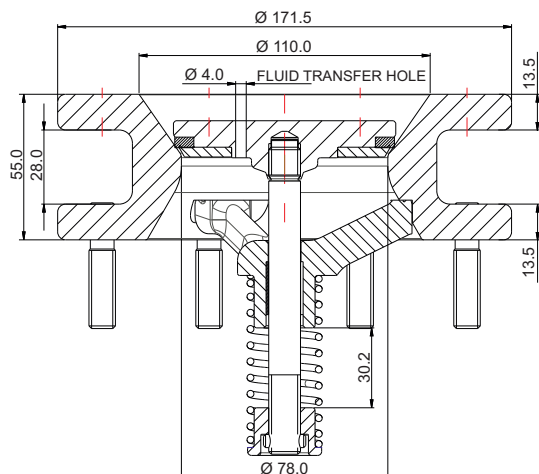
It is designed for use on a flexible hose as a secure secondary closure - i.e. the Safeload coupler may be removed from the loading arm for maintenance without needing to drain the hose fully, thereby reducing loss of fuel. The Safeload Check valve also prevents fraudulent gravity drainage and theft of the fuel in the loading arm.

Inlet flange (hose connection) drilled 8 x 11mm holes equi-spaced on a 149.2mm PCD (4" TTMA). Manufactured in aluminium and stainless steel, fitted with Viton B seal as standard.

**Options** - Alternative seal materials available. Spring pressure options dependant upon static head pressure in the hose.

**Fitting Details**

Weight : 2.43 Kg

**Range**

X value in above part number indicates variables :

94/3690XX/X - Seal option

Part No.	Seal Specification	Temp. Range
94/3690VB/X	Viton B	-13°C to +50°C +9°F to +122°F
94/3690GF/X	Viton GFLT-S	-23°C to +50°C -9°F to +122°F
94/3690MF/X	Ultra-low temp. Fluorocarbon	-40°C to +50°C -40°F to +122°F

94/3690XX/X - Spring pressure option

Part No.	Poppet spring pressure rating
94/3690XX/1	Spring setting 0.13 Bar
94/3690XX/2	Spring setting 0.2 Bar
94/3690XX/3	Spring setting 0.3 Bar
94/3690XX/4	Spring setting 0.4 Bar

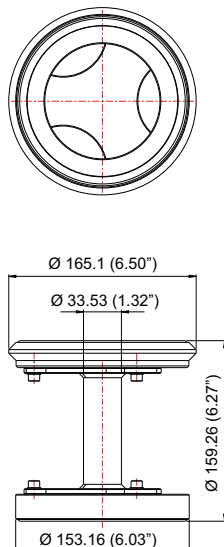


4" API Coupler Seal Replacement Tool - this tool may be used to assist the replacement of the spindle seals and seal carrier seals on a 4" API Coupler either in-situ on the loading gantry or dismantled from the loading gantry.

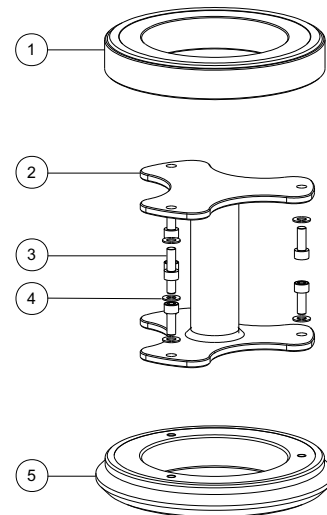
Weight 4.5 Kg

### Fitting Details

Part Number : 400/9420



### Parts Drawing



Item	Description	Part No.
1	Seal carrier replacement seal	94/2112
2	Handle assembly seal replacement tool	94/2116
3	M6 x 16mm cap screw (6)	5111-015
4	M6 plain washer (6)	5113-001
5	4" API coupler spindle seal replacement	94/2111

### Instructions

#### CAUTION!

The loading gantry must be drained and isolated when using this tool to replace seals with a coupler in-situ on a gantry. A safe working procedure must be followed when using this tool to prevent product discharge from the loading gantry.

To replace the spindle seals in a Fort Vale API coupler in the closed and interlocked position.

Insert the formed end into the inner housing of the coupler and press sharply against the triggers. This will snap the outer body forward and release the handle interlock. Turn the operating handle to open the coupler. The poppet will travel into the tool and stop in the part opened position. This will release the internal energy applied to the spindle in the closed position.

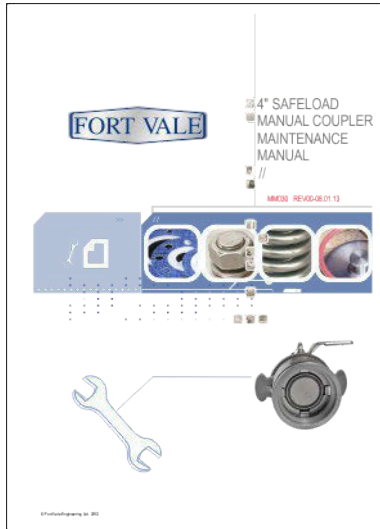
Follow the standard maintenance procedure to replace the spindle seal.

To replace the seal carrier seals in a Fort Vale API coupler in the closed and interlocked position.

Insert the plain end into the inner housing of the coupler and press sharply against the triggers. This will snap the outer body forward and release the handle interlock. Remove the tool and slowly open the coupler. The seal carrier housing can be accessed.

Follow the standard maintenance procedure to replace the spindle seal.

## Maintenance Manuals

**Maintenance Manuals** - give step-by-step instructions on how to dismantle, repair, re-build and test products in our range.

Each procedure is described in a simple and concise way and is supported by over 60 photographs in full colour.

Manuals may be supplied fully laminated for a long-lasting, wipe-clean finish.

The manual includes: API Installation & Operation; API Nose Wear Gauge use; Main Seal & O Ring replacement; Carrier O Ring replacement; Spindle seal replacement; Spares list & Coupler drawings.

Model/Part	Paper Copy	Laminated Copy
MK2 Safeload CE94/2000 semi-automatic coupler	MM009	LMM009
MK3 Safeload CE94/2500 semi-automatic coupler	MM021	LMM021
4" Safeload CE94/2700 manual coupler	MM030	LMM030

## Spares Kits for MK2 Safeload Coupler 94/2000



Spares are available as individual components or as spares kits, for your convenience.

<b>94/20SK</b>		
Seal kit for 4" API Safeload Coupler – comprising:-		
Part No.	Qty	Description
94/1006	1	Main seal
94/1034	1	Carrier O Ring
5005-381	2	Spindle O Ring
5005-624	1	Spindle Bush Ring

<b>94/SA3</b>		
Handle sub-assembly to suit 4" API Safeload Coupler – comprising:-		
Part No.	Qty	Description
94/1020	1	Handle
94/1046	1	Handle Clamp Plate
5111-043	2	M8 x 30 Capscrews

<b>94/SA5</b>		
Spindle and bush sub-assembly with O ring seals. To suit 4" API Safeload Coupler – comprising:-		
Part No.	Qty	Description
94/2011	1	Spindle
94/2010	1	Locating bush
5005-381	2	Viton O ring
5005-624	1	Viton O ring

<b>94/SA4</b>		
Poppet Assembly for 4" API Safeload Coupler – comprising:-		
Part No.	Qty	Description
94/1009	1	Lever arm
94/1018	1	4" API poppet
94/1028	1	Crank block
94/1029	2	Brass washer
94/1054	2	Pivot pin
5228-009	2	Split pin



## Maintenance Tool & Operating Instructions



4" API Coupler seal replacement tool, part number **400/9420**, allows the outer housing to come forward enabling access to seal carrier and seals.

Compatible with all Safeload Coupler models.



Also available is our separate data sheet on Operating Instructions for the Fort Vale Loading Adaptor Wear Gauge.

Please quote reference **OPIN32**.



**Part number : 94/2150**


The Fort Vale 4" loading adaptor gauge is designed to check the wear of both the outside diameter and the contact face that the coupler latches onto. It slides easily onto the adaptor and locates in a central position on a unit that conforms to the dimensions and tolerances of EN 13083 and API RP1004.

The gauge became mandatory in the U.K. in 2006 under section B.12.2 of the recognized industry standard "Safe Loading Pass for Trailers and Tank Equipment."


Materials of construction - gauge bar aluminium, all other parts stainless steel.


 Supplied with Operating Instructions - OPIN32.

### Features & Benefits

 Designed to check the wear of the loading adaptor on the tanker in three ways:-

1. Will check if the loading adaptor is undersized on diameter.
2. Indicates if there is wear to the rear latching face.
3. Shows if the loading adaptor is oversize, due to de-lamination of the band on rear latching face.

 The gauge itself can be checked and validated on a new adaptor.

 Invaluable tool as part of a maintenance review programme.

**MAJOR OIL COMPANY APPROVED**







The Fort Vale 4" Safeload Loading Arm System consists of a combination of top-quality components, each with unique design features. Designed, manufactured and tested in-house, the Safeload System can be configured to produce a top or bottom loading arm solution.

Unique to the market, the balance mechanism is manufactured in stainless steel, ensuring excellent corrosion resistance and inherent strength and durability. Balance adjustment is controlled by gas springs and a limiter bolt provides failsafe damage protection.

All swivels have an integral earth system that ensures electrical continuity, eliminating the necessity for separate earth wiring.

A choice of swivel seal materials is available, ensuring compatibility with a wide range of products and service conditions.

The intermediate and coupler swivels are available in stainless steel or aluminium.

A variety of spools and drop hoses are available for maximum installation flexibility and we offer a range of Safeload API bottom loading couplers to suit your operating requirements.

## Specification

Base swivel flange connection	4" ASA 150
Pipework flange connections	4" TTMA
Design Pressure (MAWP)	16 Bar (232 PSIG)
Service Test Pressure	24 Bar (348 PSIG)
Design Temperature Range	-40°C to 70°C (-40°F to 158°F)

### Materials of Construction:

Base Swivel	Stainless steel
Balance Mechanism	Stainless steel
Intermediate swivel	Stainless steel or aluminium
Coupler swivel	Stainless steel or aluminium

Suitable for Hydrocarbon fuels and Biofuels.  
All components ATEX & PED compliant.

## Configurations

Bottom Loading	Top Loading
Drop Hose	Pantograph
A Frame	Long Reach
Low Profile	

## Component Parts

Part No.	Description
94/7015	Base swivel
94/7000XX	Complete balance mechanism
94/7125	Intermediate swivel – stainless steel
94/7025	Intermediate swivel – aluminium
94/7120X	Coupler swivel – stainless steel
94/7020X	Coupler swivel – aluminium

## Safeload Balance Mechanism Assembly



The balance mechanism is manufactured in stainless steel which ensures excellent corrosion resistance and inherent strength and durability.

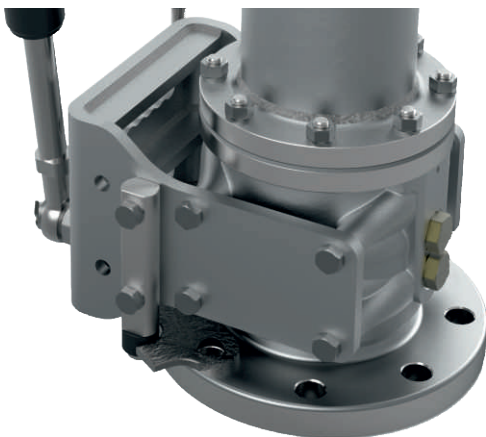
Balance adjustment is controlled by gas springs, which are considered a safer and more reliable option than compression springs. A limiter bolt is incorporated as a failsafe to protect the loading arm from damage in the unlikely event of gas spring de-pressurisation.

For ultimate installation flexibility, the balance mechanism can be configured to suit a top or bottom fuel supply as well as left or right orientation.

Please see below for details about Safeload swivel assemblies.

**Part Number :** 94/7000XXX

## Safeload Base Swivel Assembly



Base swivel shown fitted with optional “swivel stop” device.

The base swivel assembly incorporates a superior 3-seal and dual needle/dual ball race bearing combination for maximum axial and radial strength and performance.

The primary seal is available in Viton (FKM) B, Viton (FKM) GFLT, low temperature fluorocarbon or spring-energised PTFE, depending on service conditions. PTFE secondary and tertiary seals protect the swivel mechanism from dirt ingress, ensuring a long-lasting and hard-working installation.

An optional “swivel stop” device is available separately which prevents radial over-rotation and collision with adjacent loading arms.

An integral earth system ensures electrical continuity, eliminating the need for separate earth wiring.

**Part Number :** 94/7015XX

## Safeload Intermediary Swivel &amp; Coupler Swivel



As a superior safety feature, all swivels contain an integral earth system, unique to the Safeload design, that ensures electrical continuity and eliminates the need for separate earth wiring.

Intermediate and coupler swivels are available in stainless steel or aluminium with a choice of primary seal materials. A variety of spools and drop hoses are available.

All swivel/pipework flanges have industry standard drilling patterns to be compatible with existing terminal installations.

**Intermediate Swivel Part Number**

Stainless steel - 94/7125XX

Aluminium - 94/7025XX

**Coupler Swivel Part Number**

Stainless steel - 94/7120XX

Aluminium - 94/7020XX





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