

New taper-seat non-return valve SO CV 53Bxxxx

General

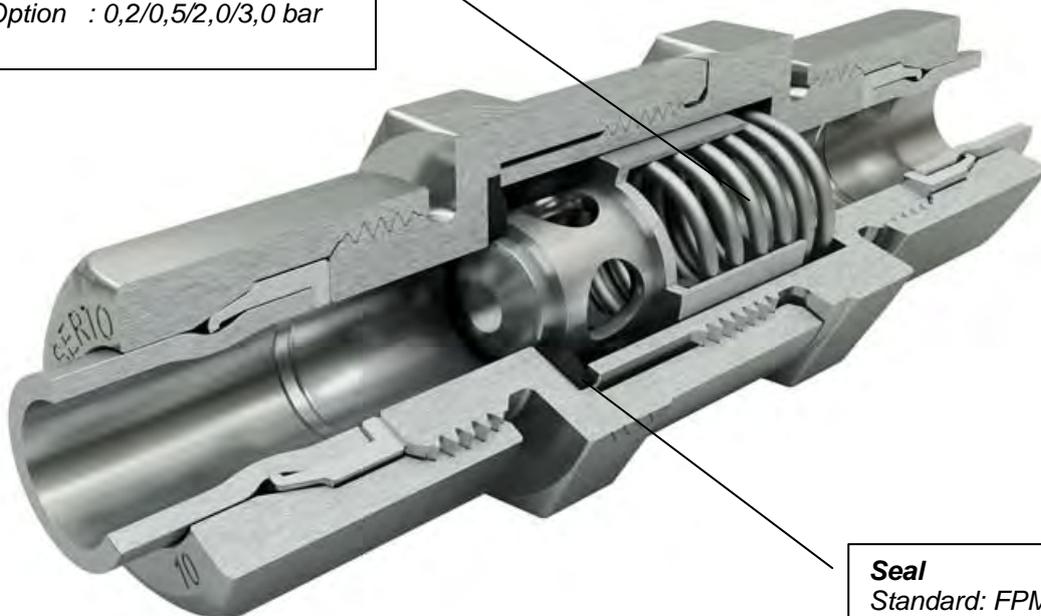
We have received information from our customers on various occasions that our non-return valve begins to produce a disturbing noise when in use. After intensive investigation and tests, we have identified the cause and succeeded in eliminating it. The solution, however, requires a new design. Our priority objective was not to change the installation dimensions if at all possible.

New design

Opening pressure

Standard: 1 bar

Option : 0,2/0,5/2,0/3,0 bar



Seal

Standard: FPM (Viton®)

Option : EPDM

FFPM (Kalrez®)

Improvements

Thanks to the new design we have also been able to improve the flow characteristics. The new coupling now also has fewer rough edges. Dead legs were reduced to a minimum, where possible.

Deviating operating pressures and sealing materials are made clearly visible with a special label to ensure correct reordering.

Modification

Stainless steel

Parameters

All the parameters (pressure, temperature) remain unchanged.

Important:

In general, the dimensions of the connection have not changed. Only the size 12 is no longer realised with the size 15 reduction compression ferrule, but now has its own base body. This calls for the corresponding modifications to the dimensions. This modification was brought about because we wanted to offer the size 12 in SOL as well and the higher pressures were not possible with the reduction compression ferrule.

Errors in dimension crept into the old and the new catalogue. The SW1 is larger everywhere except for size 10. The most important installation dimension, the "z", has not actually changed, i.e. on the product. We are certain that customers will have no problems switching from the old to the new version.

Overview of modifications:

| Mat.Nr. | M | | SW | | SW1 | | Z | | L | | e | |
|--------------|--------|--------|------|-----|------|-----|------|------|------|------|------|-----|
| V 13 | V 13 | | V 13 | | V 13 | | V 13 | | V 13 | | V 13 | |
| Cat. | Cat. | new | Cat. | new | Cat. | new | Cat. | new | Cat. | new | Cat. | new |
| 068.3010.060 | 10x1 | 10x1 | 12 | 12 | 17 | 17 | 38.5 | 38.5 | 58 | 54.5 | 3.8 | 3.8 |
| 068.3010.080 | 12x1 | 12x1 | 14 | 14 | 19 | 19 | 44 | 44 | 64 | 60.5 | 5.8 | 5.8 |
| 068.3010.100 | 14x1 | 14x1 | 17 | 17 | 22 | 22 | 51 | 51 | 77 | 73.5 | 7 | 7.5 |
| 068.3010.120 | 20x1.5 | 16x1 | 24 | 19 | 30 | 22 | 57.5 | 51 | 90 | 75.5 | 11 | 7.5 |
| 068.3010.150 | 20x1.5 | 20x1.5 | 24 | 24 | 30 | 30 | 57.5 | 58.5 | 90 | 86.5 | 11 | 11 |

new base body

| Mat.-Nr. | | M | | | | SW | | | | SW ₁ | | | | Z | | | | L | | | | e | | | |
|--------------|--------------|--------|--------|--------|--------|------|--------|------|--------|-----------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| V 12 | V 13 | V 12 | | V 13 | | V 12 | | V 13 | | V 12 | | V 13 | | V 12 | | V 13 | | V 12 | | V 13 | | V 12 | | V 13 | |
| Cat. | Cat. | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual | Cat. | Actual |
| 068.3000.060 | 068.3010.060 | 10x1 | 10x1 | 10x1 | 10x1 | 12 | 12 | 12 | 12 | 14 | 14 | 17 | 17 | 38.5 | 38.9 | 38.5 | 38.5 | 53.5 | - | 58 | 54.5 | 3.8 | 3.8 | 3.8 | 3.8 |
| 068.3000.080 | 068.3010.080 | 12x1 | 12x1 | 12x1 | 12x1 | 14 | 14 | 14 | 14 | 17 | 17 | 19 | 19 | 44 | 43.4 | 44 | 44 | 60 | - | 64 | 60.5 | 5.8 | 5.8 | 5.8 | 5.8 |
| 068.3000.100 | 068.3010.100 | 14x1 | 14x1 | 14x1 | 14x1 | 17 | 17 | 17 | 17 | 22 | 22 | 22 | 22 | 55 | 50.9 | 51 | 51 | 70.5 | - | 77 | 73.5 | 7.5 | 7.5 | 7 | 7.5 |
| 068.3000.120 | 068.3010.120 | 20x1.5 | 20x1.5 | 20x1.5 | 16x1 | 24 | 24 | 24 | 19 | 27 | 27 | 30 | 22 | 55 | 57.6 | 57.5 | 51 | 82 | - | 90 | 75.5 | 11 | 11 | 11 | 7.5 |
| 068.3000.150 | 068.3010.150 | 20x1.5 | 20x1.5 | 20x1.5 | 20x1.5 | 24 | 24 | 24 | 24 | 27 | 27 | 30 | 30 | 55 | 57.9 | 57.5 | 58.5 | 82 | - | 90 | 86.5 | 11 | 11 | 11 | 11 |

- Now with own base body
Actual = Dimensions with new base body
Cat. V13= dimension reduced from size 15
- SW1
Is generally larger
- L
Cat V13 = in unassembled state
Actual = in assembled state (Standard SERTO)
- Z
Have not actually (physically) changed, errors in catalogue

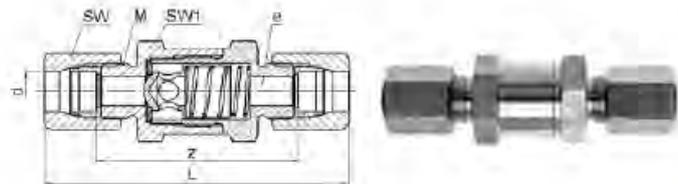
Approvals

The valve was tested in depth by the reputable laboratories of Gastec (NL) in 2008, according to the high standards of ISO 15500 Part 2&19 and was approved under the number E4-110R-000144. It is therefore possible to use the sizes marked with "#" in natural gas operated vehicles. The approval number is also printed on each package containing an approved valve.

Product range

Kegelrückschlagventil
Soupape de retenue à siège conique
Taper seat non-return valve

SO CV 53B21



| Type - d | Mat.-Nr. | bar | M | SW | SW1 | L | z | e | kg/10 |
|-------------------------|----------------------|-----|--------|------------------|-----|------|------|------|-------|
| Für metrische Rohre | Pour tubes métriques | | | For metric tubes | | | | | |
| * SO CV 53B21-4-4 | 068.3010.040 | 200 | 10x1 | 12 | 17 | 58.0 | 38.5 | 3.8 | 0.600 |
| * SO CV 53B21-5-5 | 068.3010.050 | 200 | 10x1 | 12 | 17 | 58.0 | 38.5 | 3.8 | 0.600 |
| # SO CV 53B21-6-6 | 068.3010.060 | 200 | 10x1 | 12 | 17 | 58.0 | 38.5 | 3.8 | 0.590 |
| # SO CV 53B21-8-8 | 068.3010.080 | 200 | 12x1 | 14 | 19 | 64.0 | 44.0 | 5.8 | 0.800 |
| SO CV 53B21-10-10 | 068.3010.100 | 160 | 14x1 | 17 | 22 | 77.0 | 51.0 | 7.0 | 1.300 |
| * SO CV 53B21-12-12 | 068.3010.120 | 100 | 20x1.5 | 24 | 30 | 90.0 | 57.5 | 11.0 | 2.800 |
| * SO CV 53B21-14-14 | 068.3010.140 | 100 | 20x1.5 | 24 | 30 | 90.0 | 57.5 | 11.0 | 2.700 |
| SO CV 53B21-15-15 | 068.3010.150 | 100 | 20x1.5 | 24 | 30 | 90.0 | 57.5 | 11.0 | 2.800 |
| Für Zollrohre | Pour tubes pouces | | | For inch tubes | | | | | |
| SO CV 53B21-6,35-6,35 | 068.3010.063 | 200 | 10x1 | 12 | 17 | 58.0 | 38.5 | 3.8 | 0.590 |
| SO CV 53B21-9,52-9,52 | 068.3010.095 | 160 | 14x1 | 17 | 22 | 77.0 | 51.0 | 7.0 | 1.300 |
| * SO CV 53B21-12,7-12,7 | 068.3010.127 | 100 | 20x1.5 | 24 | 30 | 90.0 | 57.5 | 11.0 | 2.700 |

Temp. -20°C/+180°C

Die strömungsgünstige Formgebung des Ventilkegels mit dem Ringkanal, die schrägen Bohrungen und die Anordnung der Feder außerhalb der Durchflusszone bewirken einen geringen Druckverlust. Durch den besonderen Einbau im Gehäuse wirkt der zylindrische Teil des Ventilkegels wie ein Stossdämpfer, so dass Flattern vermieden und Druckschläge gedämpft werden.

Technische Hinweise:

Werkstoff 1.4571. O-Ring aus FPM.
Öffnungsdruck Normalausführung 1 bar auf Wunsch 0,2; 0,5; 2 und 3 bar.
Werkstoff der Feder: 1.4401.

Temp. -20°C/+180°C

La forme du cône, favorable à l'écoulement, le canal circulaire, les perçages obliques et la disposition du ressort en dehors de la veine d'écoulement limitent la perte de charge à un minimum. Grâce à sa disposition particulière dans le corps de soupape, la queue cylindrique du pointeau fait office d'amortisseur et atténue ainsi les vibrations et les coups de bélier.

Données techniques:

Matériau 1.4571. Joint torique en FPM.
Pression d'ouverture en version standard 1 bar, sur demande 0,2; 0,5; 2 et 3 bars.
Matériau de ressort: 1.4401.

Temp. -20°C/+180°C

The true-to-flow design of the valve cone with the annular channel, slanting ports and the arrangement of the spring outside the flow zone make for a low pressure loss. By way of its special fit in the body, the cylindrical part of the valve plunger acts as damper, so that hammering is avoided and pressure shocks damped.

Technical notes:

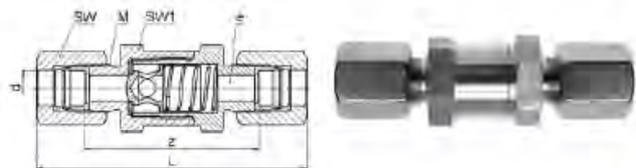
Material 1.4571. O-ring of FPM.
Opening pressure 1 bar for standard model 0.2; 0.5; 2 and 3 bar on special request.
Material of spring: 1.4401.

Modification

Stainless steel

Ventile Edelstahl L Vannes acier inoxydable L Valves stainless steel L

Kegelrückschlagventil
Soupape de retenue à siège conique
Taper seat non-return valve



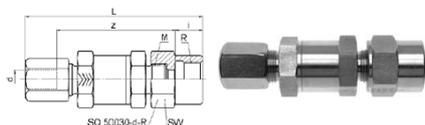
SOL CV 53B21

| Type-d | Mat.-Nr. | bar | M | SW | SW1 | L | z | e | kg/10 |
|--------------------------|----------------------|-----|------------------|----|-----|------|------|------|-------|
| Für metrische Rohre | Pour tubes métriques | | For metric tubes | | | | | | |
| # SOL CV 53B21-6-6 | 088.3010.060 | 400 | 10x1 | 14 | 17 | 62.0 | 38.5 | 3.8 | 0.690 |
| # SOL CV 53B21-8-8 | 088.3010.080 | 330 | 12x1 | 17 | 19 | 68.0 | 44.0 | 5.8 | 1.000 |
| # SOL CV 53B21-10-10 | 088.3010.100 | 330 | 14x1 | 19 | 22 | 79.5 | 51.0 | 7.0 | 1.500 |
| # SOL CV 53B21-15-15 | 088.3010.150 | 250 | 20x1.5 | 27 | 30 | 93.0 | 57.5 | 11.0 | 3.200 |
| Für Zollrohre | Pour tubes pouces | | For inch tubes | | | | | | |
| # SOL CV 53B21-6,35-6,35 | 088.3010.063 | 400 | 10x1 | 14 | 17 | 62.0 | 38.5 | 3.8 | 0.690 |
| # SOL CV 53B21-9,52-9,52 | 088.3010.095 | 330 | 14x1 | 19 | 22 | 79.5 | 51.0 | 7.0 | 1.500 |
| # SOL CV 53B21-12,7-12,7 | 088.3010.127 | 250 | 20x1.5 | 27 | 30 | 90.0 | 58.0 | 11.0 | 3.100 |

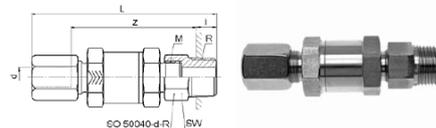
Other SO versions are on offer with female adaptor

and male adaptor.

SO CV 53B30



SO CV 53B40



Options

Sealing materials: EPDM and FFKM (Kalrez®) are also available on request.

Replacement

The new valve version, as already pictured in the catalogue, will be supplied as of 1st April 09. Exceptions are the options (other seals). In the sales text of the new version, there is mention to the old description in order to avoid any confusion on the part of our customers. The sales text is also printed on the shipping papers. For customers who wish to have the old version despite the unaltered geometries and improved characteristics they will be available for a limited time only, max. until end 2009. After this time, the old version will be treated as a special part similar to standard parts, e.g. not on stock and price according to order volume.

The new valves have been given a new material number due to the new construction.

Prices

The new non-return valve features several new improvements, which we are passing on to our customers at no extra cost.