

kromschroder

D

**Gas-Magnetventil VS
Luft-Magnetventil VL**

5.1.3.4 Edition 07.04

DK S N P GR
TR CZ PL RUS H
→ www.kromschroeder.de**Betriebsanleitung****● Bitte lesen und aufbewahren****Zeichenerklärung**

- , 1, 2, 3... = Tätigkeit
→ = Hinweis

Alle in dieser Betriebsanleitung aufgeführten Tätigkeiten dürfen nur von autorisiertem Fachpersonal ausgeführt werden!

WARNUNG! Unsachgemäßer Einbau, Einstellung, Veränderung, Bedienung oder Wartung kann Verletzungen oder Sachschäden verursachen.
Anleitung vor dem Gebrauch lesen. Dieses Gerät muss nach den geltenden Vorschriften installiert werden.

**Konformitätsbescheinigung**

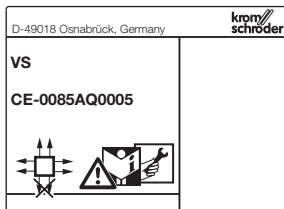
Wir erklären als Hersteller, dass das Produkt VS, gekennzeichnet mit der Produkt-ID-Nr. CE-0085AQ0005, die grundlegenden Anforderungen folgender Richtlinien erfüllt:

- 90/396/EWG in Verbindung mit EN 161,
- 98/37/EG,
- 73/23/EWG in Verbindung mit den einschlägigen Normen,
- 89/336/EWG in Verbindung mit EN 55014.

Das entsprechend bezeichnete Produkt stimmt überein mit dem bei der zugelassenen Stelle 0085 geprüften Baumuster.

Eine umfassende Qualitätssicherung ist gewährleistet durch ein zertifiziertes Qualitätsmanagementsystem nach DIN EN ISO 9001 gemäß Anhang II Absatz 3 der Richtlinie 90/396/EWG.

G. Kromschroder AG, Osnabrück

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GB

**Solenoid valve for gas VS
Solenoid valve for air VL****Operating instructions**

- Please read and keep in a safe place

Explanation of symbols

- , 1, 2, 3... = Action
→ = Instruction

All the work set out in these operating instructions may only be completed by authorised trained personnel!

WARNING! Incorrect installation, adjustment, modification, operation or maintenance may cause injury or material damage.
Read the instructions before use. This unit must be installed in accordance with the regulations in force.

Certificate of conformity

We, the manufacturer, hereby declare that the product VS, marked with product ID No. CE-0085AQ0005, complies with the essential requirements of the following Directives:

- 90/396/EEC in conjunction with EN 161,
- 98/37/EC,
- 73/23/EEC in conjunction with the relevant standards,
- 89/336/EEC in conjunction with EN 55014.

The relevant product corresponds to the type tested by the notified body 0085.

Comprehensive quality assurance is guaranteed by a certified Quality System pursuant to DIN EN ISO 9001 according to annex II, paragraph 3 of Directive 90/396/EEC.

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F

**Electrovanne pour gaz VS
Electrovanne pour air VL****Instructions de service**

- A lire attentivement et à conserver

Légendes

- , 1, 2, 3... = action
→ = remarque

Toutes les actions mentionnées dans les présentes instructions de service doivent être exécutées par des spécialistes formés et autorisés uniquement !

ATTENTION ! Un montage, un réglage, une modification, une utilisation ou un entretien inadaptes risquent d'engendrer des dommages matériels ou corporels.
Lire les instructions avant utilisation. Cet appareil doit être installé en respectant les règlements en vigueur.

Attestation de conformité

En tant que fabricant, nous déclarons que le produit VS, identifié par le numéro de produit CE-0085AQ0005, répond aux exigences essentielles des directives suivantes :

- 90/396/CEE en association avec la EN 161,
- 98/37/CE,
- 73/23/CEE en association avec les normes pertinentes,
- 89/336/CEE en association avec la EN 55014.

Le produit désigné en conséquence est conforme au type éprouvé à l'organisme notifié 0085.

Une assurance de la qualité complète est garantie par un système qualité certifié selon DIN EN ISO 9001, conformément à l'annexe II, paragraphe 3, de la directive 90/396/CEE.

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NL

**Gasmagneetklep VS
Luchtmaagneetklep VL****Bedieningsvoorschrift**

- Lezen en goed bewaren a.u.b.

Legenda

- , 1, 2, 3... = werkzaamheden
→ = aanwijzing

Alle in deze bedrijfshandleiding vermelde werkzaamheden mogen alleen door technici worden uitgevoerd!

WAARSCHUWING! Ondeskundige inbouw, instelling, wijziging, bediening of onderhoudswerkzaamheden kunnen persoonlijk letsel of materiële schade veroorzaken.
Aanwijzingen voor het gebruik lezen. Dit apparaat moet overeenkomstig de geldende regels worden geïnstalleerd.

Certificaat van overeenstemming

Wij verklaren als fabrikant dat het product VS, gemerkt met het product-identificatienummer CE-0085AQ0005, aan de fundamentele voorschriften van de volgende richtlijnen voldoet:

- 90/396/EEG in combinatie met EN 161,
- 98/37/EG,
- 73/23/EEG in combinatie met de toepasselijke normen,
- 89/336/EEG in combinatie met EN 55014.

Het overeenkomstig geïdentificeerde product komt overeen met het door de aangewezen instantie 0085 gecontroleerde type.

Een uitgebreide kwaliteitsborging wordt gegarandeerd door een gecertificeerd kwaliteitsborgingssysteem conform DIN EN ISO 9001 overeenkomstig bijlage II, lid 3 van de richtlijn 90/396/EEG.

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I

**Valvola elettromagnetica per gas VS
Valvola elettromagnetica per aria VL****Istruzioni d'uso**

- Si prega di leggere e conservare

Spiegazione dei simboli

- , 1, 2, 3... = Operazione
→ = Avvertenza

Tutte le operazioni indicate nelle presenti istruzioni d'uso devono essere eseguite soltanto dal personale esperto autorizzato.

ATTENZIONE! Se montaggio, regolazione, modifica, utilizzo o manutenzione non vengono eseguiti correttamente, possono verificarsi infortuni o danni.
Si prega di leggere le istruzioni prima di utilizzare il prodotto che dovrà venire installato in base alle normative vigenti.

Dichiarazione di conformità

Dichiaro in qualità di costruttore che il prodotto VS, contrassegnato con il numero di identificazione CE-0085AQ0005, risponde ai requisiti essenziali posti dalle seguenti direttive:

- 90/396/CEE in unione con EN 161,
- 98/37/CE,
- 73/23/CEE in unione con le norme pertinenti,
- 89/336/CEE in unione con EN 55014.

Il prodotto con tale contrassegno corrisponde al tipo esaminato dall'organismo notificato 0085.

La totale sicurezza della qualità è garantita da un sistema certificato di management della qualità ai sensi della DIN EN ISO 9001, in base all'appendice II, comma 3 della direttiva 90/396/CEE.

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E

**Válvula electromagnética para gas VS
Válvula electromagnética para aire VL****Instrucciones de utilización**

- Se ruega que las lean y conserven

Explicación de símbolos

- , 1, 2, 3... = Actividad
→ = Indicación

¡Todas las actividades indicadas en estas Instrucciones de utilización, sólo deben realizarse por una persona formada y autorizada!

¡ADVERTENCIA! La instalación, ajuste, modificación, manejo o mantenimiento incorrecto puede ocasionar daños personales o materiales.
Leer las instrucciones antes de usar. Este dispositivo debe ser instalado observando las normativas en vigor.

Certificado de conformidad

Nosotros, el fabricante, declaramos que el producto VS, marcado con el nº de identificación de producto CE-0085AQ0005, cumple con los requisitos básicos de las siguientes Directivas:

- 90/396/CEE en relación con EN 161,
- 98/37/CE,
- 73/23/CEE en relación con las normas pertinentes,
- 89/336/CEE en relación con EN 55014.

El producto denominado de la forma arriba mencionada es conforme con el modelo de construcción ensayado por el respectivo Organismo Notificado 0085.

El exhaustivo control de calidad está garantizado por un sistema de gestión de calidad, certificado conforme a la norma DIN EN ISO 9001 según el Anexo II, Párrafo 3 de la Directiva 90/396/CEE.

G. Kromschroder AG, Osnabrück

VS
Gas-Magnetventil zum Sichern, Regeln und Steuern von Luft oder Gas an Luft- oder Gasverbrauchseinrichtungen.

VL
Luft-Magnetventil zum Sichern, Regeln und Steuern von Luft an Luftverbrauchseinrichtungen.

Prüfen

VS
→ Gas-Magnetventil für Erdgas, Stadtgas, Flüssiggas oder Luft.

VL
→ Luft-Magnetventil für Kaltluft.

VS, VL
→ Netzspannung, elektrische Leistung, Umgebungstemperatur, Schutzart und Einbaulage – siehe Typenschild.

→ VS..N
Ausführung ohne Dämpfung.
Schnell öffnend: ca. 0,5 s.
Schnell schließend: < 1 s.

→ VS..L
Ausführung mit Dämpfung.
Langsam öffnend: ca. 10 s.
Schnell schließend: < 1 s.

→ VL..R
Ausführung mit Dämpfung.

Achtung!

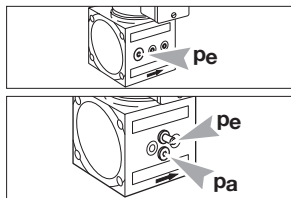
VL..R, die Dämpfung nicht verdrehen.

Langsam öffnend: ca. 3 s.
Langsam schließend: ca. 3 s.

→ VS 1
Der Eingangsdruck p_e kann am Mess-Stutzen abgegriffen werden.

→ VS 2, VS 3
Der Eingangsdruck p_e sowie der Ausgangsdruck p_a können an den Mess-Stutzen abgegriffen werden.

→ Luft-Volumenstrom bei Druckverlust $\Delta p = 1$ mbar.



VS
Solenoid valve for gas for safeguarding, regulating and controlling air or gas on various appliances.

VL
Solenoid valve for air for safeguarding, regulating and controlling air on air appliances.

Testing

VS
→ Solenoid valve for gas for natural gas, town gas, LPG or air.

VL
→ Solenoid valve for cold air.

VS, VL
→ Mains voltage, electrical power rating, ambient temperature, enclosure and fitting position – see type label.

→ VS..N
Version without damping.
Quick opening: approx. 0.5 s.
Quick closing: < 1 s.

→ VS..L
Version with damping.
Slow opening: approx. 10 s.
Quick closing: < 1 s.

→ VL..R
Version with damping.

Caution!

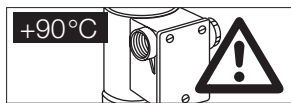
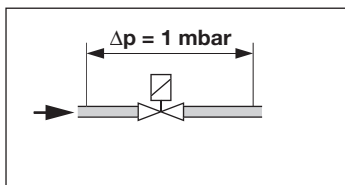
VL..R; do not twist damping unit.

Slow opening: approx. 3 s.
Slow closing: approx. 3 s.

→ VS 1
The inlet pressure p_e can be measured at the pressure test point.

→ VS 2, VS 3
The inlet pressure p_e and the outlet pressure p_a can be measured at the pressure test points.

→ Air flow rate with pressure loss $\Delta p = 1$ mbar.



→ The solenoid body heats up during operation – up to 90°C depending on ambient temperature and voltage.

VS
Electrovanne pour gaz assurant la sécurité, la régulation et la commande de l'air ou du gaz sur des équipements consommant de l'air ou du gaz.

VL
Electrovanne pour air assurant la sécurité, la régulation et la commande de l'air sur des équipements consommant de l'air.

Vérifier

VS
→ Electrovanne pour gaz naturel, gaz de ville, GPL ou air.

VL
→ Electrovanne pour air froid.

VS, VL
→ Tension du secteur, puissance électrique, température ambiante, indice de protection et position de montage – voir la plaque signalétique.

→ VS..N
Modèle sans amortisseur.
A ouverture rapide : env. 0,5 s
A fermeture rapide : < 1 s

→ VS..L
Modèle avec amortisseur.
A ouverture lente : env. 10 s
A fermeture rapide : < 1 s

→ VL..R
Modèle avec amortisseur.

Attention !

VL..R, ne pas tourner l'amortisseur.

A ouverture lente : env. 3 s
A fermeture lente : env. 3 s

→ VS 1
La pression d'entrée p_e peut être mesurée au niveau du raccord de mesure.

→ VS 2, VS 3
La pression d'entrée p_e ainsi que la pression de sortie p_a peuvent être mesurées au niveau du raccord de mesure.

→ Débit d'air en cas de perte de charge $\Delta p = 1$ mbar.

	\dot{V} [m³/h]
VS 115, VL 115	3,8
VS 125, VL 125	9,0
VS 232, VL 232	16,0
VS 240, VL 240	23,0
VS 350, VL 350	42,0

→ Pendant le fonctionnement, la bobine chauffe – elle peut atteindre 90°C selon la température ambiante et la tension.

VS
Gasmagneetklep voor het beveiligen, regelen en besturen van gas of lucht aan gas- of luchttoestellen.

VL
Luchtmanneetklep voor het beveiligen, regelen en besturen van lucht aan luchttoestellen.

Controleren

VS
→ Gasmagneetklep voor aardgas, stadsgas, LPG of lucht.

VL
→ Luchtmanneetklep voor koude lucht.

VS, VL
→ Netspanning, elektrisch vermogen, omgevingstemperatuur, beschermingsklasse en inbouwpositie – zie typeplaatje.

→ VS..N
Uitvoering voor aardgas zonder demping.
Snel openend: ca. 0,5 s.
Snel sluitend: < 1 s.

→ VS..L
Uitvoering voor aardgas met demping.
Langzaam openend: ca. 10 s.
Snel sluitend: < 1 s.

→ VL..R
Uitvoering voor lucht met demping.

Attentie!

VL..R, de demper niet verdraaien.

Langzaam openend: ca. 3 s.
Langzaam sluitend: ca. 3 s.

→ VS 1
De inlaatdruk p_e kan met behulp van de meetnippel worden gemeten.

→ VS 2, VS 3
De inlaatdruk p_e alsmede de uitlaatdruk p_a kunnen met behulp van de meetnippel worden gemeten.

→ Luchtvolumestroom bij drukverlies $\Delta p = 1$ mbar.

VS
Valvola elettromagnetica per gas per regolare, controllare e garantire la sicurezza di aria e gas degli apparecchi per utenze aria e gas.

VL
Valvola elettromagnetica per aria per regolare, controllare e garantire la sicurezza dell'aria degli apparecchi per utenze aria.

Controllo

VS
→ Valvola elettromagnetica per gas, metano, gas di città, gas liquido o aria.

VL
→ Valvola elettromagnetica per aria fredda.

VS, VL
→ Per tensione di rete, potenza elettrica, temperatura ambiente, tipo di protezione e posizione di montaggio si rimanda alla targhetta dati.

→ VS..N
Esecuzione senza smorzatore.
Ad apertura rapida: circa 0,5 s.
A chiusura rapida: < 1 s.

→ VS..L
Esecuzione con smorzatore.
Ad apertura lenta: circa 10 s.
A chiusura rapida: < 1 s.

→ VL..R
Esecuzione con smorzatore.

Attenzione!

VL..R, non invertire lo smorzatore.

Ad apertura lenta: circa 3 s.
A chiusura lenta: circa 3 s.

→ VS 1
La pressione di entrata p_e può essere misurata sulla presa di misura.

→ VS 2, VS 3
La pressione di entrata p_e nonché la pressione di uscita p_a possono essere misurate sulle prese di misura.

→ Regolare la portata dell'aria per una perdita di carico $\Delta p = 1$ mbar.

VS
Válvula electromagnética para gas, para la seguridad, regulación y control del aire o de gas en dispositivos de consumo de aire o de gas.

VL
Válvula electromagnética para aire, para la seguridad, regulación y control del aire en dispositivos de consumo de aire.

Comprobar

VS
→ Válvula electromagnética para gas natural, gas ciudad, GLP o aire.

VL
→ Válvula electromagnética para aire frío.

VS, VL
→ Para la tensión de red, conexión eléctrica, temperatura ambiente, clase de protección y posición de montaje – véase placa de características.

→ VS..N
Ejecución sin amortiguación.
Apertura rápida: aprox. 0,5 s.
Cierre rápido: < 1 s.

→ VS..L
Ejecución con amortiguación.
Apertura lenta: aprox. 10 s.
Cierre rápido: < 1 s.

→ VL..R
Ejecución con amortiguación.

¡Atención!

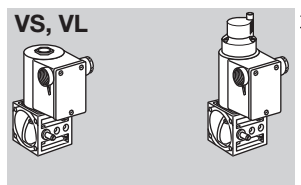
VL..R, no forzar el amortiguador.

Apertura lenta: aprox. 3 s.
Cierre lento: aprox. 3 s.

→ VS 1
La presión de entrada p_e se puede medir en la toma de presión.

→ VS 2, VS 3
La presión de entrada p_e , así como la presión de salida p_a se pueden medir en las tomas de presión.

→ Caudal de aire con pérdida de carga $\Delta p = 1$ mbar.



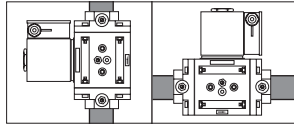
→ Der Magnetkörper wird beim Betrieb warm – je nach Umgebungstemperatur und Spannung bis zu 90 °C.

→ Durante il funzionamento la bobina può scaldarsi fino a 90 °C a seconda della temperatura ambiente e della tensione.

→ El actuador electromagnético se calienta durante el funcionamiento, según sea la temperatura ambiente y la tensión, casi hasta los 90°C.

Einbauen

- Einbaulage senkrecht oder waagrecht, nicht über Kopf.
- Das Gehäuse darf kein Mauerwerk berühren. Mindestabstand 20 mm.
- Dichtmaterial und Späne dürfen nicht in das Ventilgehäuse gelangen.
- Vor jede Anlage einen Filter oder Schmutzfänger einbauen.
- Passenden Schraubenschlüssel verwenden.



Installation

- Fitting position vertical or horizontal, not upside down.
- The housing may not be in contact with masonry. Minimum clearance 20 mm.
- Sealing material and swarf must not be allowed to enter the housing.
- Fit a filter or dirt trap upstream of each system.
- Use an appropriate spanner.

Montage

- Position de montage verticale ou horizontale, pas à l'envers.
- Le boîtier ne doit toucher aucun mur. Distance minimale de 20 mm.
- Le matériau d'étanchéité et les copeaux ne doivent pas pénétrer dans le corps de la vanne.
- En amont de chaque installation, monter un filtre ou un purgeur.
- Utiliser les clés appropriées.

Inbouwen

- Inbouwpositie verticaal of horizontaal, niet onderste boven.
- Het huis mag geen muur aanraken. Minimale afstand 20 mm.
- Afdichtingsmateriaal en spanen mogen niet in het klephuis terechtkomen.
- Voor elke installatie een filter of zeef inbouwen.
- Bijpassende sleutel gebruiken.

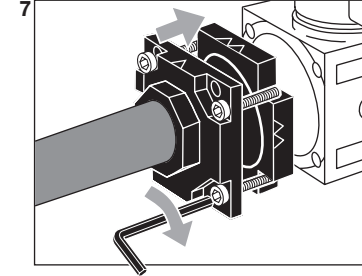
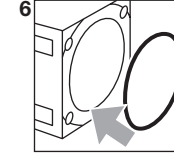
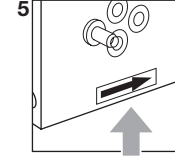
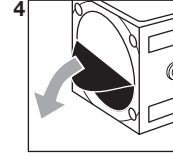
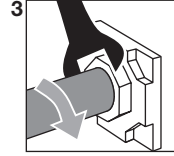
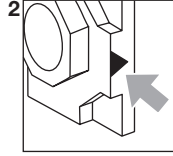
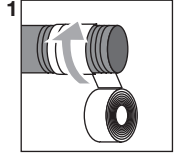
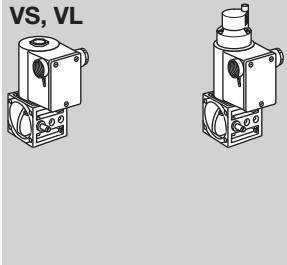
Montaggio

- Posizione di montaggio verticale o orizzontale, non capovolta.
- La valvola non deve toccare la muratura. Distanza minima 20 mm.
- Il materiale sigillante ed i trucioli non devono entrare nella valvola.
- A monte di ogni impianto installare un filtro.
- Utilizzare la chiave adatta.

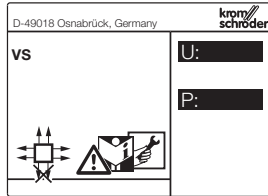
Montaje

- Posición de montaje vertical u horizontal, no con el actuador en posición invertida.
- El cuerpo no debe tener ningún contacto con las paredes. Distancia mínima 20 mm.
- Evitar la entrada de material sellante y de viruta en el cuerpo de la válvula.
- Montar aguas arriba de cada instalación un filtro o un recogedor de suciedad.
- Emplear las herramientas apropiadas.

VS, VL



Verdrachten



- 1 Anlage spannungsfrei schalten.
- 2 Gaszufuhr absperren.

Wiring

- 1 Disconnect the system from the electrical power supply.
- 2 Shut off the gas supply.

Câblage

- 1 Mettre l'installation hors tension.
- 2 Fermer l'arrivée de gaz.

Bedraden

- 1 Installatie spanningsvrij maken.
- 2 Gastoevoer afsluiten.

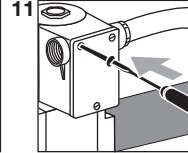
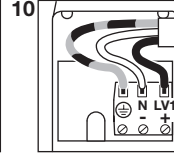
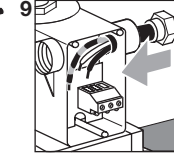
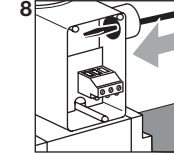
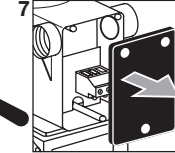
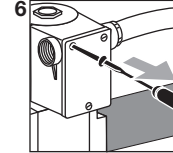
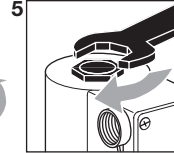
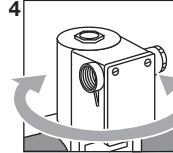
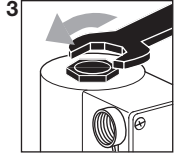
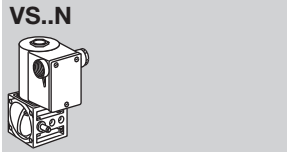
Cablaggio

- 1 Togliere la tensione dall'impianto.
- 2 Interrompere l'alimentazione del gas.

Cableado

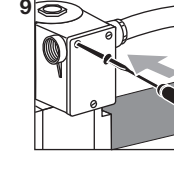
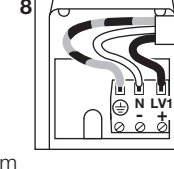
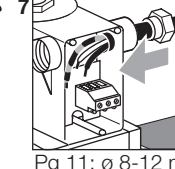
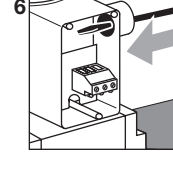
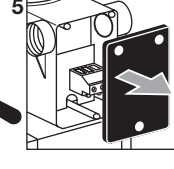
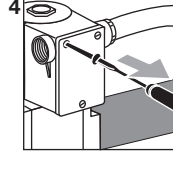
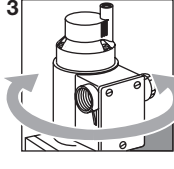
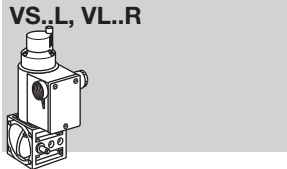
- 1 Desconectar la instalación dejándola sin tensión.
- 2 Cortar el suministro de gas.

VS..N



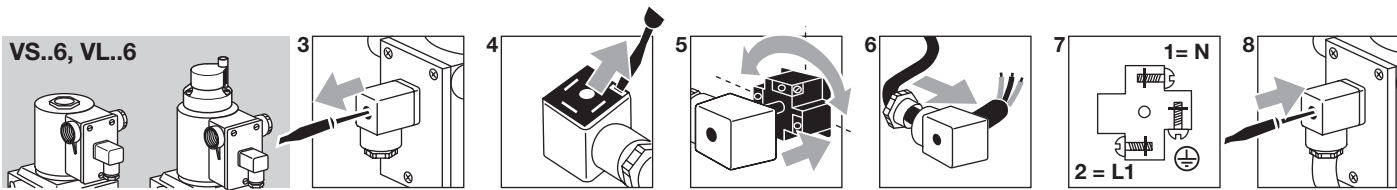
Pg 11: ø 8-12 mm
Pg 13,5: ø 10-14 mm

VS..L, VL..R



Pg 11: ø 8-12 mm
Pg 13,5: ø 10-14 mm

VS..6, VL..6



110-230V~: 1= N, 2= L1
24 V=: 1= +, 2= -

Dichtheit prüfen

- 1 Magnetventil schließen.
- 2 Ausgang mit Steckscheibe schließen.

Tightness test

- 1 Close the solenoid valve.
- 2 Close the outlet with blanking plate.

Vérifier l'étanchéité

- 1 Fermer l'électrovanne.
- 2 Fermer la sortie avec une plaque d'obturation.

Controle op lekkage

- 1 Magneetklep sluiten.
- 2 Uitgang met steekschijf sluiten.

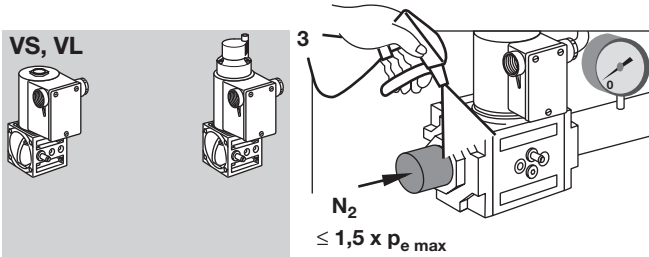
Controllo della tenuta

- 1 Chiudere la valvola elettromagnetica.
- 2 Chiudere l'uscita con un tappo a innesto.

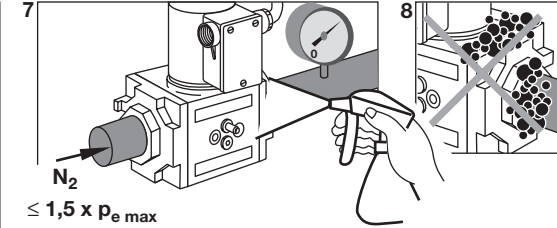
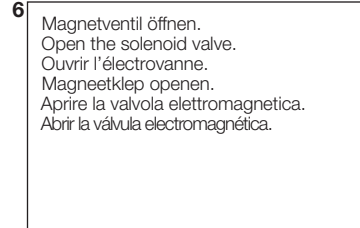
Comprobar la estanqueidad

- 1 Cerrar la válvula electromagnética.
- 2 Cerrar la salida.

VS, VL



N_2
 $\leq 1,5 \times p_e \text{ max}$



N_2
 $\leq 1,5 \times p_e \text{ max}$

- 9 Steckscheibe entfernen.

- 9 Remove blanking plate.

- 9 Retirer la plaque d'obturation.

- 9 Steekschijf verwijderen.

- 9 Togliere il tappo a innesto.

- 9 Abrir la salida.

Meldescharter verdrahten

- 1 Anlage spannungsfrei schalten.
- 2 Gaszufuhr absperren.

Wiring the position indicator

- 1 Disconnect the system from the electrical power supply.
- 2 Shut off the gas supply.

Câblage de l'indicateur de position

- 1 Mettre l'installation hors tension.
- 2 Fermer l'arrivée de gaz.

Eindschakelaar bedraden

- 1 Installatie spanningsvrij maken.
- 2 Gastoevoer afsluiten.

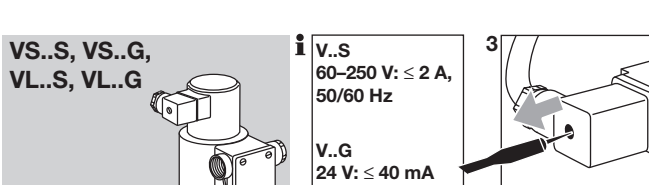
Cablaggio fine corsa

- 1 Togliere la tensione dall'impianto.
- 2 Interrompere l'alimentazione del gas.

Cablear el indicador de posición

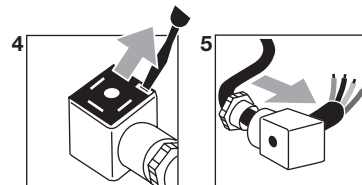
- 1 Desconectar la instalación dejándola sin tensión.
- 2 Cortar el suministro de gas.

VS..S, VS..G,
VL..S, VL..G

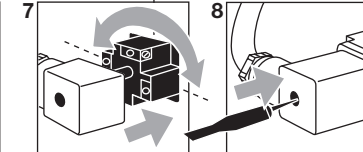
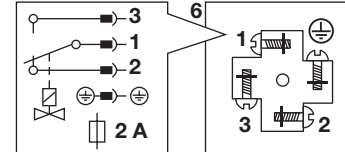


i V..S
60-250 V: ≤ 2 A,
50/60 Hz

V..G
24 V: ≤ 40 mA



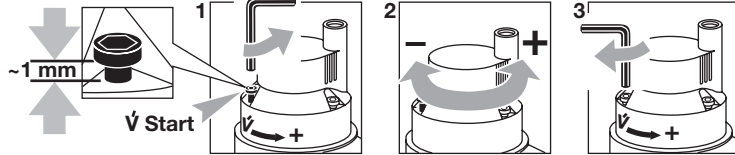
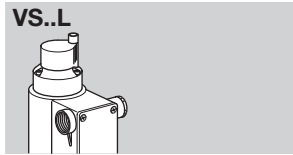
Pg 11: ø 8-12 mm



Startgasmenge einstellen

Achtung!
VL..R, die Dämpfung nicht verdrehen.

VS..L
→ Startgasmenge mit max. 3 Umdrehungen einstellbar.



Setting the start gas rate

Caution!
VL..R; do not twist damping unit.

VS..L
→ The start gas rate can be set with a maximum of 3 turns.

Régler le débit initial

Attention !
VL..R, ne pas tourner l'amortisseur.

VS..L
→ Le débit initial peut être réglé en tournant d'au plus 3 tours.

Hoeveelheid startgas instellen

Attentie!
VL..R, de demper niet verdraaien.

VS..L
→ Hoeveelheid startgas is met max. 3 omwentelingen instelbaar.

Regolazione della quantità di gas iniziale

Attenzione!
VL..R, non invertire lo smorzatore.

VS..L
→ Quantità di gas iniziale regolabile con max. 3 giri.

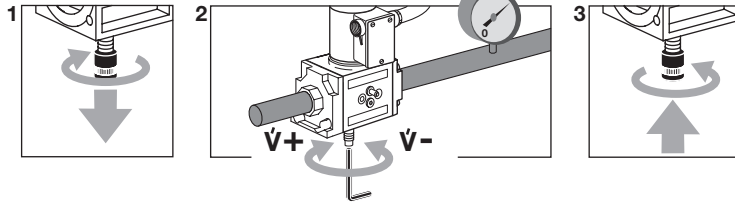
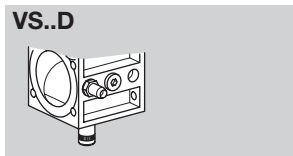
Ajustar la cantidad de gas inicial

¡Atención!
VL..R, no forzar el amortiguador.

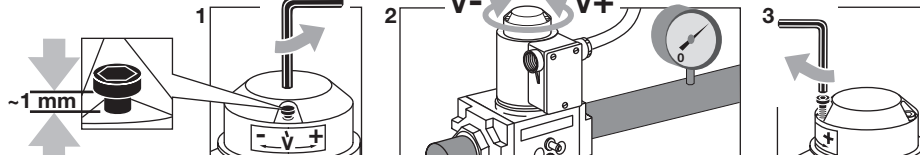
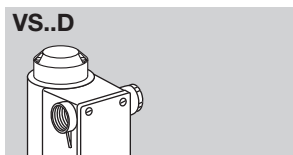
VS..L
→ Cantidad de gas inicial ajustable con 3 vueltas como máximo.

Max. Volumenstrom einstellen

→ Volumenstrom von unten einstellbar.



→ Volumenstrom von oben einstellbar.



Setting the max. flow rate

→ The flow rate can be set from below.

→ The flow rate can be set from above.

Régler le débit maximum

→ Le débit peut être réglé dans la partie inférieure.

→ Le débit peut être réglé dans la partie supérieure.

Max. volumestroom instellen

→ Volumestroom van beneden instelbaar.

→ Volumestroom van boven instelbaar.

Regolazione della portata massima

→ Regolazione della portata dal basso.

→ Regolazione della portata dall'alto.

Ajustar el caudal máximo

→ Caudal ajustable en la parte inferior.

→ Caudal ajustable en la parte superior.

Magnetkörper wechseln

VS

- 1 Anlage spannungsfrei schalten.
- 2 Gaszufuhr absperrn.

Changing the solenoid body

VS

- 1 Disconnect the system from the electrical power supply.
- 2 Shut off the gas supply.

Remplacer la bobine

VS

- 1 Mettre l'installation hors tension.
- 2 Fermer l'arrivée de gaz.

Magneetspoel wisselen

VS

- 1 Installatie spanningsvrij maken.
- 2 Gastoevoer afsluiten.

Sostituzione della bobina

VS

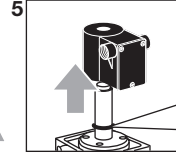
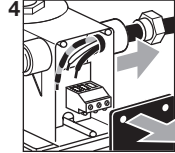
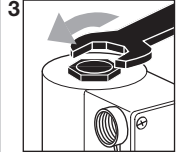
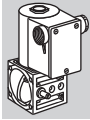
- 1 Togliere la tensione dall'impianto.
- 2 Interrompere l'alimentazione del gas.

Cambiar el actuador electromagnético

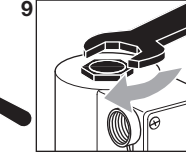
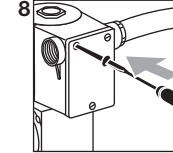
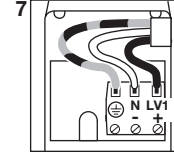
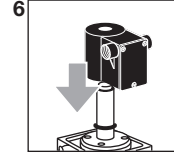
VS

- 1 Desconectar la instalación dejándola sin tensión.
- 2 Cortar el suministro de gas.

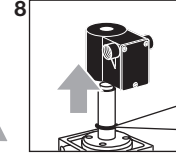
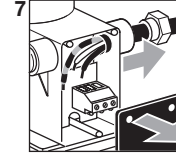
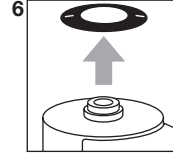
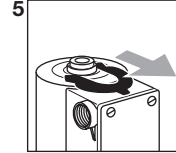
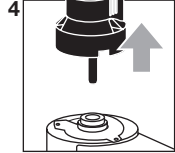
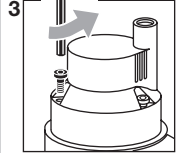
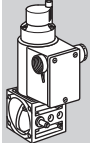
VS..N



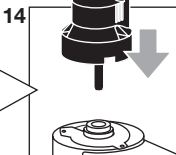
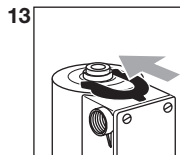
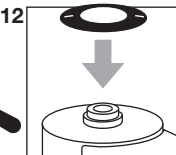
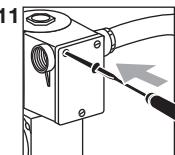
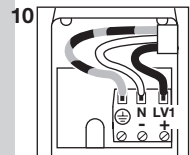
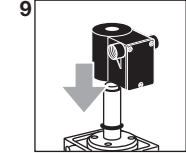
O-Ring ca. 10 mm hoch schieben.
Slide the O-ring approx. 10 mm up.
Pousser le joint torique de 10 mm environ vers le haut.
O-ring ca. 10 mm omhoog duwen.
Spingere l'O-ring verso l'alto per circa 10 mm.
Desplazar la junta tórica unos 10 mm hacia arriba.



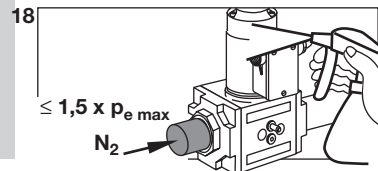
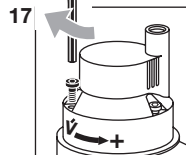
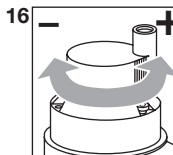
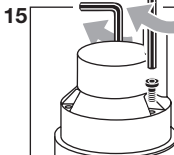
VS..L



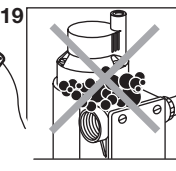
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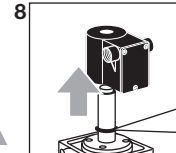
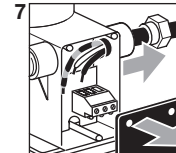
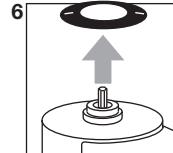
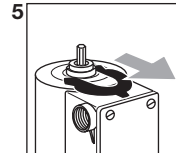
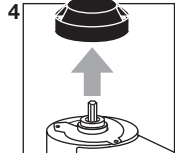
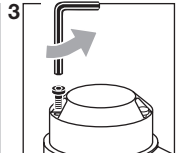
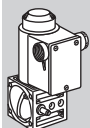
max. 3 x 360°



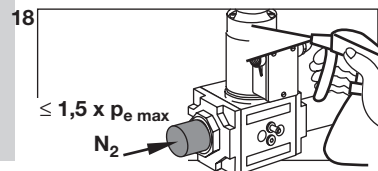
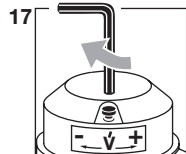
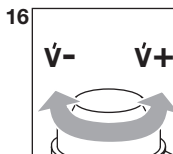
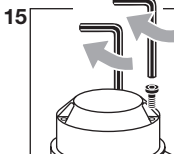
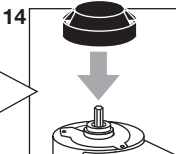
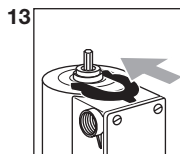
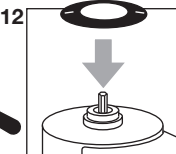
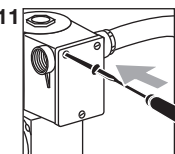
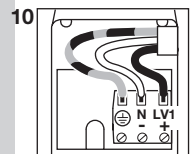
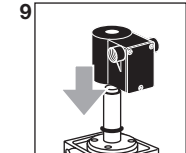
$\leq 1,5 \times p_e \text{ max}$
N₂



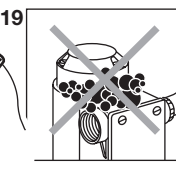
VS..D



O-Ring ca. 10 mm hoch schieben.
Slide the O-ring approx. 10 mm up.
Pousser le joint torique de 10 mm environ vers le haut.
O-ring ca. 10 mm omhoog duwen.
Spingere l'O-ring verso l'alto per circa 10 mm.
Desplazar la junta tórica unos 10 mm hacia arriba.



$\leq 1,5 \times p_e \text{ max}$
N₂



VL
1 Luftzufuhr absperren.

VL
1 Shut off the air supply.

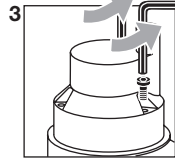
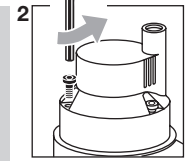
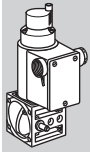
VL
1 Fermer l'arrivée d'air.

VL
1 Luchttoevoer afsluiten.

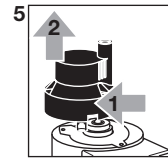
VL
1 Interrompere l'alimentazione dell'aria.

VL
1 Cortar el suministro de aire.

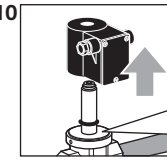
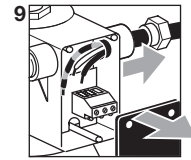
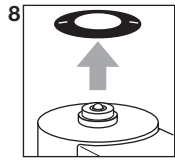
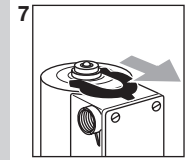
VL..R



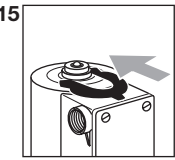
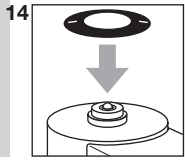
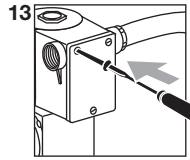
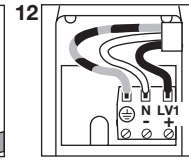
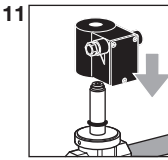
4 VL..R elektrisch einschalten. Die Dämpfung springt ca. 1 cm nach oben.
Switch on the electrical power supply to the VL..R. The damping unit moves abruptly up approx. 1 cm.
Mette la VL..R sous tension. L'amortisseur saute de 1 cm environ vers le haut.
VL..R elektrisch inschakelen. De demper springt ca. 1 cm naar boven.
Attivare l'alimentazione elettrica di VL..R. Lo smorzatore scatta verso l'alto per circa 1 cm.
Conectar eléctricamente la VL..R. El amortiguador se desliza hacia arriba.



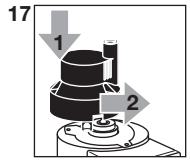
6 VL..R ausschalten. Switch off the VL..R.
Mette la VL..R hors tension.
VL..R uitschakelen.
Disattivare VL..R.
Desconectar la VL..R.



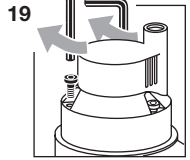
O-Ring ca. 10 mm hoch schieben.
Slide the O-ring approx. 10 cm up.
Pousser le joint torique de 10 mm environ vers le haut.
O-ring ca. 10 mm omhoog duwen.
Spingere l'O-ring verso l'alto per circa 10 mm.
Desplazar la junta tórica unos 10 mm hacia arriba.



16 VL..R einschalten. Switch on the VL..R.
Mette la VL..R sous tension.
VL..R inschakelen.
Attivare VL..R.
Conectar la VL..R.



18 VL..R ausschalten. Die Dämpfung wird nach unten gezogen.
Switch off the VL..R. The damping unit is pulled downwards.
Mette la VL..R hors tension. L'amortisseur est tiré vers le bas.
VL..R uitschakelen. De demper wordt naar beneden getrokken.
Disattivare VL..R. Lo smorzatore viene tirato verso il basso.
Desconectar la VL..R. El amortiguador se desliza hacia abajo.



Gleichrichterplatte wechseln

- 1 Anlage spannungsfrei schalten.
- 2 Gaszufuhr absperren.

Changing the rectifier board

- 1 Disconnect the system from the electrical power supply.
- 2 Shut off the gas supply.

Remplacer la platine à redresseur

- 1 Mettre l'installation hors tension.
- 2 Fermer l'arrivée de gaz.

Print van de gelijkrichter wisselen

- 1 Installatie spanningsvrij maken.
- 2 Gastoevoer afsluiten.

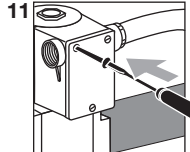
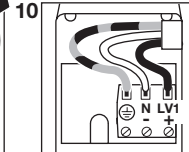
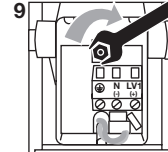
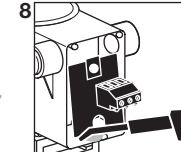
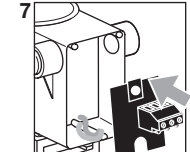
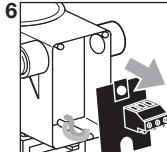
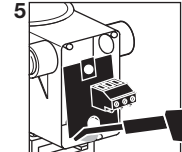
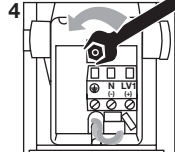
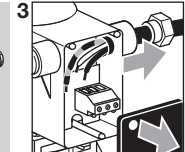
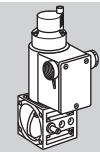
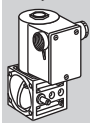
Sostituzione della scheda del raddrizzatore

- 1 Togliere la tensione dall'impianto.
- 2 Interrompere l'alimentazione del gas.

Cambiar el circuito rectificador

- 1 Desconectar la instalación dejándola sin tensión.
- 2 Cortar el suministro de gas.

VS, VL



Defekte Dämpfung austauschen

VS..L

- 1 Anlage spannungsfrei schalten.
- 2 Gaszufuhr absperrn.

Exchanging a defective damping unit

VS..L

- 1 Disconnect the system from the electrical power supply.
- 2 Shut off the gas supply.

Remplacer un amortisseur défectueux

VS..L

- 1 Mettre l'installation hors tension.
- 2 Fermer l'arrivée de gaz.

Defecte demper vervangen

VS..L

- 1 Installatie spanningsvrij maken.
- 2 Gastoevoer afsluiten.

Sostituzione dello smorzatore guasto

VS..L

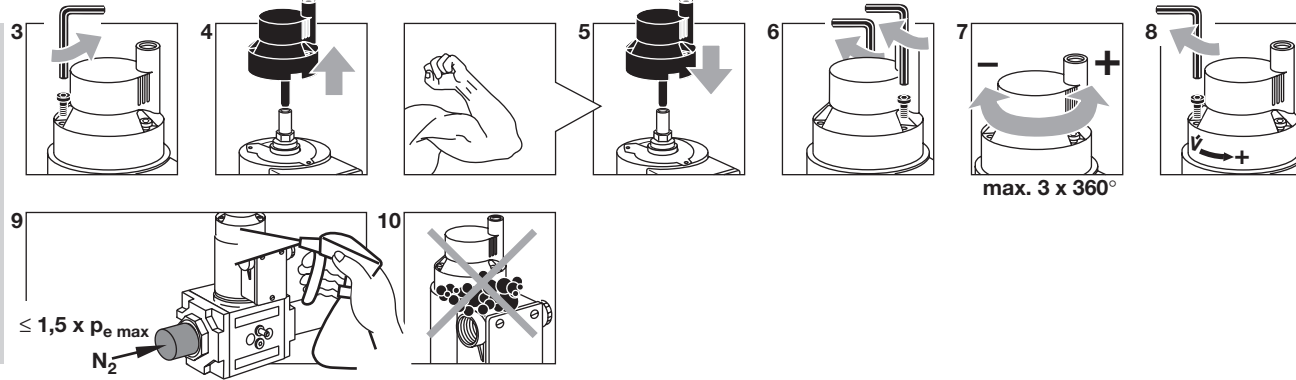
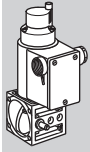
- 1 Togliere la tensione dall'impianto.
- 2 Interrompere l'alimentazione del gas.

Cambio de un amortiguador defectuoso

VS..L

- 1 Desconectar la instalación dejándola sin tensión.
- 2 Cortar el suministro de gas.

VS..L



VL..R

- 1 Luftzufuhr absperrn.

VL..R

- 1 Shut off the air supply.

VS..R

- 1 Fermer l'arrivée d'air.

VL..R

- 1 Luchttoevoer afsluiten.

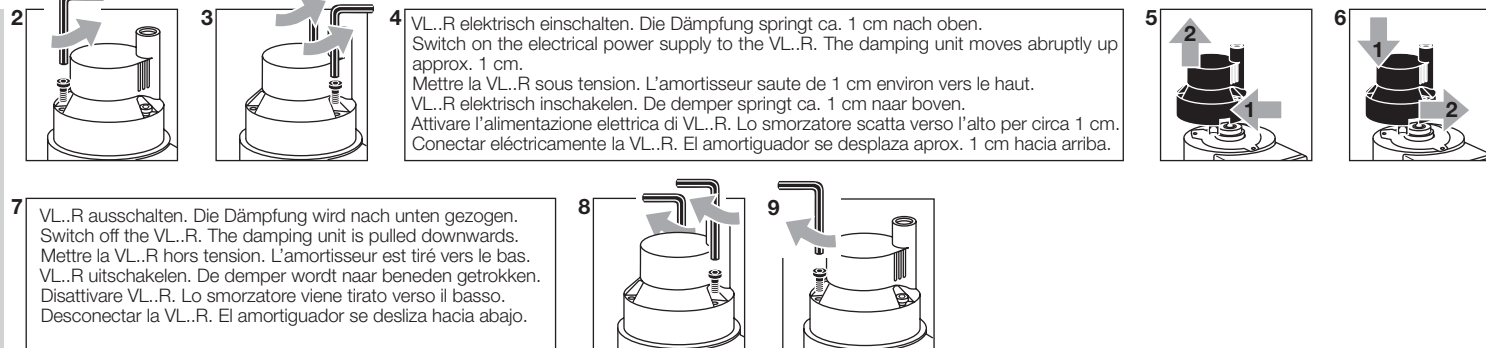
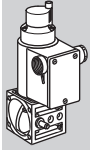
VL..R

- 1 Interrompere l'alimentazione dell'aria.

VL..R

- 1 Cortar el suministro del aire.

VL..R



Wartung

→ 1 x im Jahr,
bei Biogas 2 x im Jahr.

VS

- 1 Anlage spannungsfrei schalten.
- 2 Gaszufuhr absperren.

Maintenance

→ Once per year,
twice per year in the case of bio-
logically produced methane.

VS

- 1 Disconnect the system from the electrical power supply.
- 2 Shut off the gas supply.

Maintenance

→ 1 fois par an,
pour biogaz 2 fois par an.

VS

- 1 Mettre l'installation hors tension.
- 2 Fermer l'arrivée de gaz.

Onderhoud

→ 1 x per jaar,
bij biogas 2 x per jaar

VS

- 1 Installatie spanningsvrij maken.
- 2 Gastoevoer afsluiten.

Manutenzione

→ 1 volta all'anno,
per il biogas 2 volte all'anno.

VS

- 1 Togliere la tensione dall'impianto.
- 2 Interrompere l'alimentazione del gas.

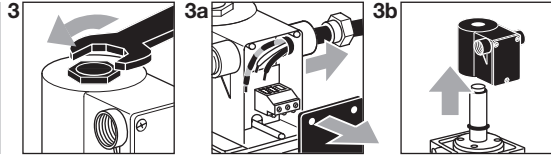
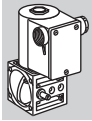
Mantenimiento

→ 1 vez al año,
con biogás 2 veces al año.

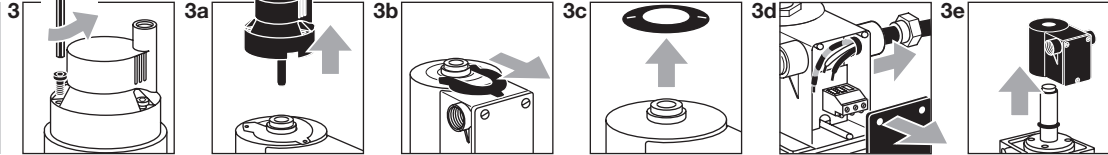
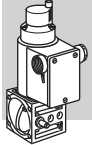
VS

- 1 Desconectar la instalación dejándola sin tensión.
- 2 Cortar el suministro de gas.

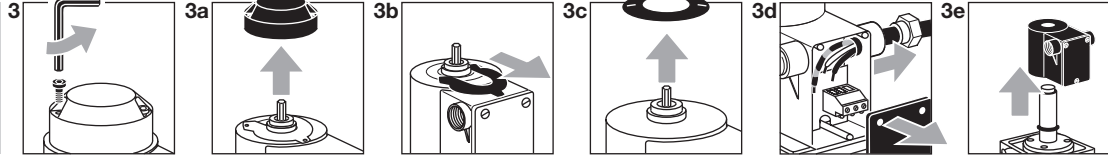
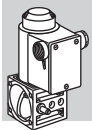
VS..N



VS..L



VS..D



VL

- 1 Luftzufuhr absperren.

VL

- 1 Shut off the air supply.

VL

- 1 Fermer l'arrivée d'air.

VL

- 1 Luchttoevoer afsluiten.

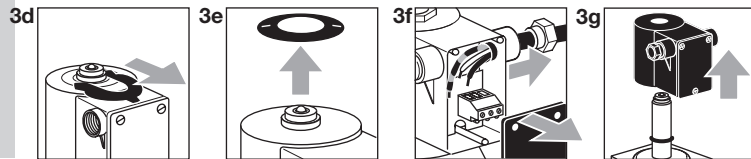
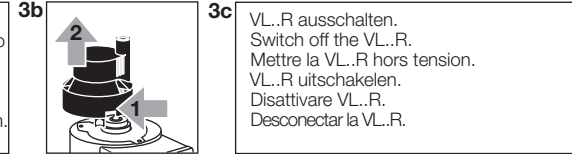
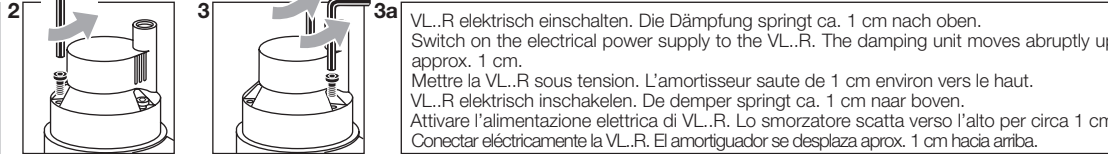
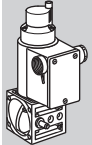
VL

- 1 Interrompere l'alimentazione dell'aria.

VL

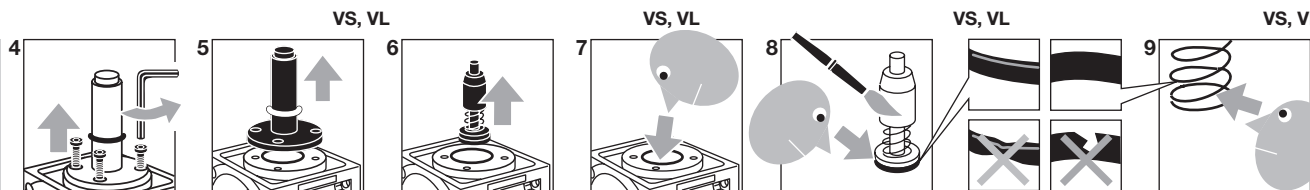
- 1 Cortar el suministro de aire.

VL..R



VS, VL

VS, VL



VS, VL

10 Zusammenbau in umgekehrter Reihenfolge.

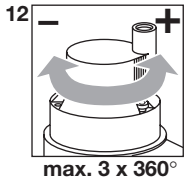
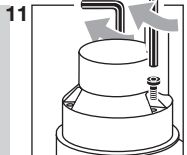
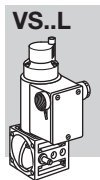
10 Follow the reverse procedure when reassembling.

10 Assemblage dans l'ordre inverse.

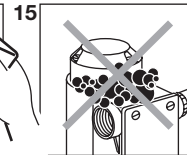
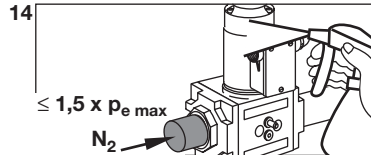
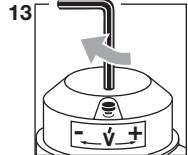
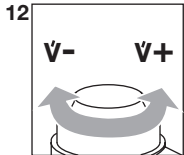
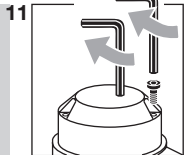
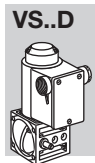
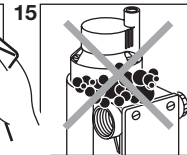
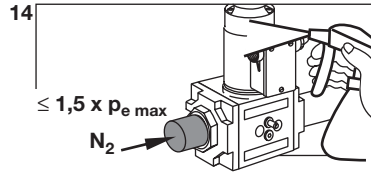
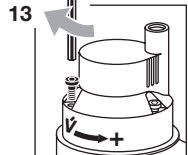
10 Montage in omgekeerde volgorde.

10 Assemblaggio in sequenza inversa.

10 Montaje en sucesión inversa.



max. 3 x 360°



Äußere Dichtheit prüfen

- 1 Magnetventil schließen.
- 2 Gaszufuhr absperren.

Checking for external leakage

- 1 Close the solenoid valve.
- 2 Shut off the gas supply.

Vérifier l'étanchéité externe

- 1 Fermer l'électrovanne.
- 2 Fermer l'arrivée de gaz.

Externe controle op lekkage

- 1 Magneetklep sluiten.
- 2 Gastoevoer afsluiten.

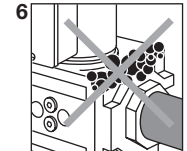
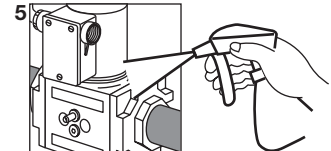
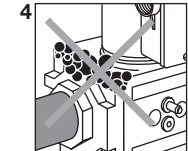
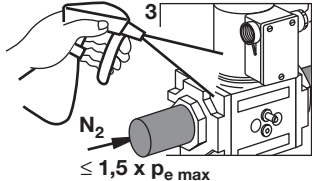
Controllo della tenuta esterna

- 1 Chiudere la valvola elettromagnetica.
- 2 Interrompere l'alimentazione del gas.

Comprobar la estanqueidad externa

- 1 Cerrar la válvula electromagnética.
- 2 Cortar el suministro de gas.

VS, VL



Innere Dichtheit prüfen

- 1 Magnetventil schließen.
- 2 Gaszufuhr absperren.

Checking for internal leakage

- 1 Close the solenoid valve.
- 2 Shut off the gas supply.

Vérifier l'étanchéité interne

- 1 Fermer l'électrovanne.
- 2 Fermer l'arrivée de gaz.

Interne controle op lekkage

- 1 Magneetklep sluiten.
- 2 Gastoevoer afsluiten.

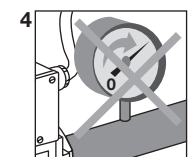
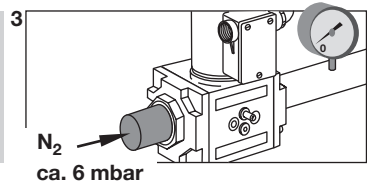
Controllo della tenuta interna

- 1 Chiudere la valvola elettromagnetica.
- 2 Interrompere l'alimentazione del gas.

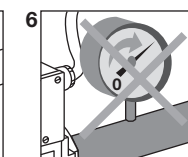
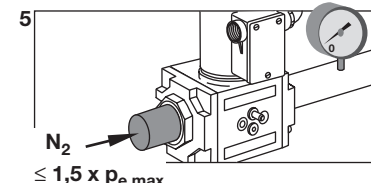
Comprobar la estanqueidad interna

- 1 Cerrar la válvula electromagnética.
- 2 Cortar el suministro de gas.

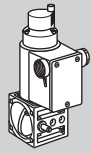
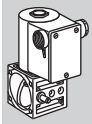
VS, VL



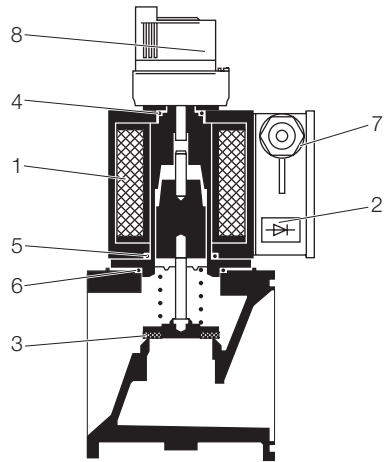
i Nach 60 s den Prüfdruck auf $\leq 1,5 \times p_{e \max}$ erhöhen.
 Increase the test pressure to $\leq 1,5 \times p_{e \max}$ after 60 s.
 Après 60 s, augmenter la pression d'essai à $\leq 1,5 \times p_{e \max}$.
 Na 60 s de testdruk op $\leq 1,5 \times p_{e \max}$ verhogen.
 Dopo 60 s aumentare la pressione di prova a $\leq 1,5 \times p_{e \max}$.
 Después de 60 s, aumentar la presión de prueba a $\leq 1,5 \times p_{e \max}$.



VS



i

**VS 115..N, VS 115..L**

1	220/240 V	74951912
1	120 V	74971069
1	24 V	74951925
2	220/120 V	74912142
2	24 V	74912143
3		35443961
4		03109290
5		03109292
6		59601390
7		04185150
8		74952012

VS 125..N, VS 125..L

1	220/240 V	74951913
1	120 V	74971070
1	24 V	74951926
2	220/120 V	74912142
2	24 V	74912143
3		35443962
4		03109290
5		03109292
6		59601390
7		04185150
8		74952014

VS 232..N, VS 232..L

1	220/240 V	74951914
1	120 V	74971071
1	24 V	74951927
2	220/120 V	74912142
2	24 V	74912143
3		35443963
4		03109290
5		03109292
6		03109463
7		04185150
8		74952015

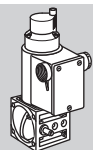
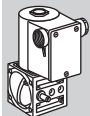
VS 240..N, VS 240..L

1	220/240 V	74960020
1	120 V	74971061
1	24 V	74960021
2	220/120 V	74913606
2	24 V	74913607
3		35440783
4		59601390
5		59600730
6		03109463
7		04185174
8		74952271

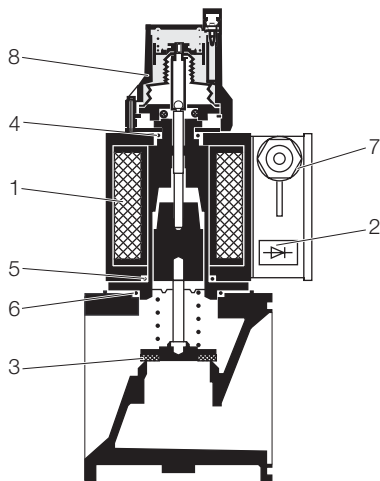
VS 350..N, VS 350..L

1	220/240 V	74952296
1	120 V	74971062
1	24 V	74952589
2	220/120 V	74913606
2	24 V	74913607
3		35440784
4		59601390
5		59600730
6		03109382
7		04185174
8		74952271

VL



i



VL 115..R

1	220/240 V	74951912
1	120 V	74971069
1	24 V	74951925
2	220/120 V	74912142
2	24 V	74912143
3		35443961
4		03109290
5		03109292
6		59601390
7		04185150
8		74952731

VL 350..R

1	220/240 V	74952296
1	120 V	74971062
1	24 V	74952589
2	220/120 V	74913606
2	24 V	74913607
3		35440784
4		59601390
5		59600730
6		59600550
7		04185174
8		74952546

VL 125..R

1	220/240 V	74951913
1	120 V	74971070
1	24 V	74951926
2	220/120 V	74912142
2	24 V	74912143
3		35443962
4		03109290
5		03109292
6		59601390
7		04185150
8		74952731

VL 232..R

1	220/240 V	74951914
1	120 V	74971071
1	24 V	74951927
2	220/120 V	74912142
2	24 V	74912143
3		35443963
4		03109290
5		03109292
6		03109463
7		04185150
8		74952731

VL 240..R

1	220/240 V	74960020
1	120 V	74971061
1	24 V	74960021
2	220/120 V	74913606
2	24 V	74913607
3		35440783
4		59601390
5		59600730
6		03109463
7		04185174
8		74952546

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