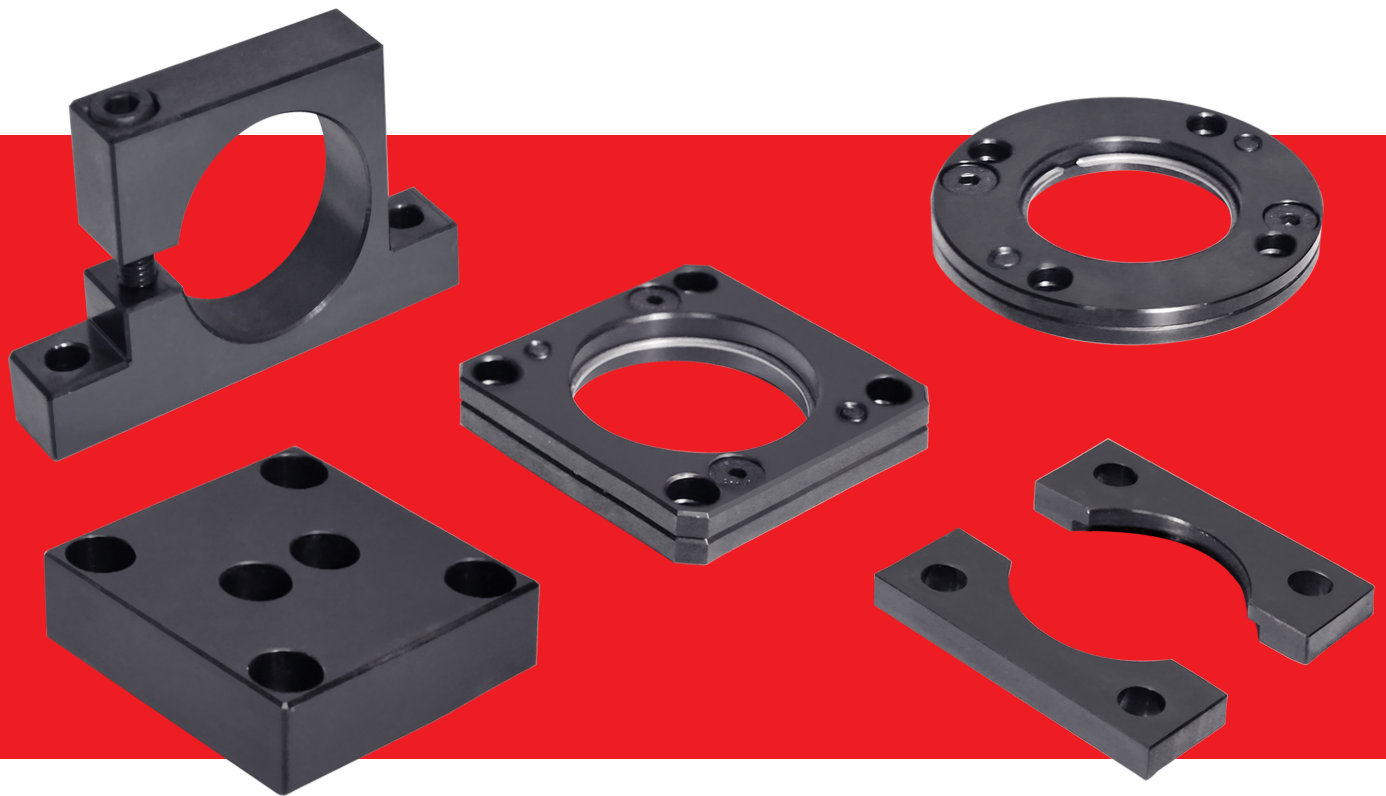


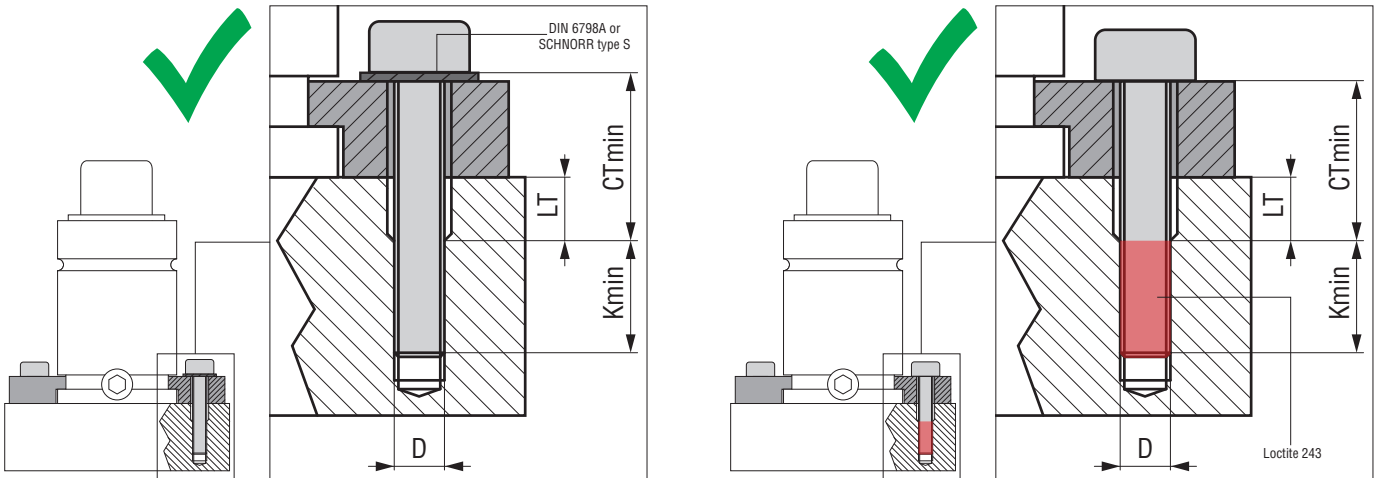
INSTALLATION GUIDELINE



INSTALLATION GUIDELINE



- IT** Un corretto fissaggio delle molle a gas previene danni ai prodotti e gravi pericoli agli operatori.
- EN** A correct fixing of the gas springs prevents damages to products and serious dangers to operators.
- DE** Die richtige Befestigung der Gasdruckfeder verhindert Schäden an den Produkten und ernsthafte Gefahren für das Personal.
- FR** La fixation correcte du ressort à gaz évite des dommages aux produits et des dangers graves pour les opérateurs.
- ES** Una correcta fijación del cilindro de gas previene daños a los productos y graves peligros para los operadores.
- PT** Uma correta fixação do cilindro pode prevenir danos ao produto e também ao operador.



CTmin	Kmin	LT
Lunghezza libera (min. 2 x D)	Minimo impegno viti (acciaio = min. 1.5 x D, ghisa = min. 2 x D)	Allargamento per garantire CTmin
Free length (min. 2 x D)	Minimum thread engagement (steel = min. 1.5 x D, cast iron = min. 2 x D)	Widening to ensure CTmin
Klemmlänge (min. 2 x D)	Mindest-Einschraublänge (Stah = min. 1.5 x D, Guss = min. 2 x D)	Bohrung zur Gewährleistung der CTmin
Longueur libre (min. 2 x D)	Longueur minimum à visser (acier = min. 1.5 x D, fonte = min. 2 x D)	Élargissement pour assurer CTmin
Longitud libre (min. 2 x D)	Recubrimiento mínimo rosca (acero = min. 1.5 x D, hierro fundido = min. 2 x D)	Ampliación para garantizar CTmin
Comprimento livre (min. 2 x D)	Comprimento mínimo roscado (aço 1,5 x D – Fundido 2,0 x D)	Alívio para garantir o CT min

- IT** Utilizzare sempre apposito frenafiletto e/o rondelle di sicurezza su tutte le viti di fissaggio. (Non rappresentate nei disegni delle pagine seguenti).
- EN** Always use the suitable threadlocker and/or safety washers on all fixing screws. (They are not represented in the drawings in the following pages).
- DE** Verwenden Sie immer geeignete Schraubensicherungen und/oder Sicherungsscheiben an allen Befestigungsschrauben. (Nicht in den Zeichnungen auf den folgenden Seiten dargestellt).
- FR** Utilisez toujours le frein filet approprié et/ou les rondelles de sécurité sur toutes les vis de fixation. (Ils ne sont pas représentés sur les dessins dans les pages).
- ES** Utilice siempre un fijador de roscas adecuado y/o arandelas de seguridad en todos los tornillos de fijación. (No son representados en los diseños de las páginas siguientes).
- PT** Sempre utilizar o trava roscas e/ou arruela de segurança em todos os parafusos de fixação (não estão representados nas próximas páginas).



Rondelle di sicurezza - Safety Washers
Sicherungsscheiben - Rondelles de sécurité
Arandelas de seguridad - Arruela de segurança

Only for ML, MP,
MQ series



Conical spring
washer provided
by Special Springs

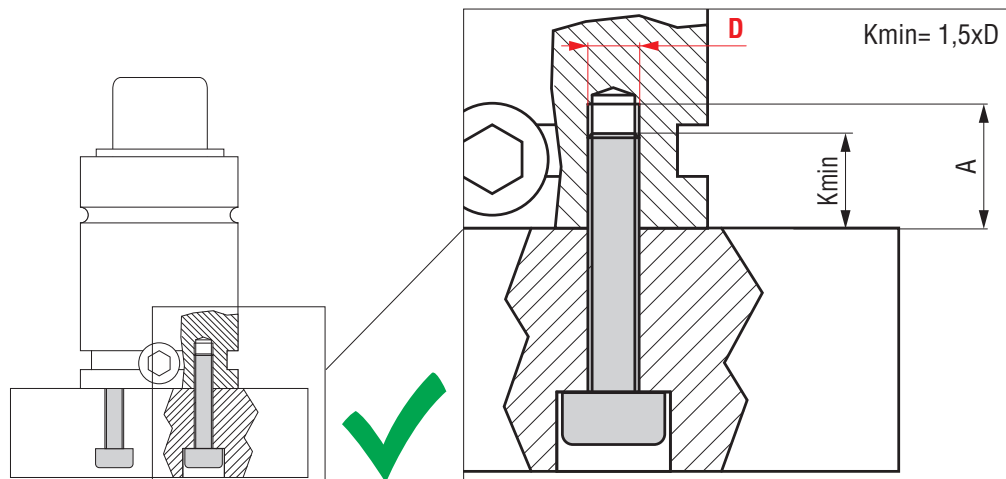


DIN 6798A
or
SCHNORR type S

- IT** L' uso di viti di classe superiore alla 8.8, come 9.8, 10.9 e 12.9, è sempre possibile. Si raccomanda di NON SUPERARE i valori della coppia di serraggio indicati per la classe 8.8 per qualsiasi classe di viti utilizzata (vedi pag. 5).
- EN** It is always possible to use screws belonging to Classes higher than 8.8, such as 9.8, 10.9 and 12.9. Do NOT EXCEED the values of the tightening torque valid for Class 8.8 for any of the screw's Classes you may use (see page 5).
- DE** Die Verwendung von Schrauben von höheren Klassen als 8.8, wie 9.8, 10.9 und 12.9 ist immer möglich. Es wird empfohlen, die für die Klasse 8.8 angegebenen Anziehdrehmomente für alle verwendeten Schraubenklassen nicht zu überschreiten.
- FR** L' est toujours possible d'utiliser des vis appartenant aux classes supérieures à 8.8, telles que 9.8, 10.9 et 12.9. NE PAS DÉPASSER les valeurs du couple de serrage indiquées pour la classe 8.8 pour n'importe quelle classe de résistance que vous allez utiliser (voir page 5).
- ES** Siempre es posible el uso de tornillos pertenecientes a clases superiores a 8.8, como 9.8, 10.9 y 12.9. Se recomienda NO EXCEDER los valores de torque indicados para la clase 8.8 para cualquier clase de tornillos utilizados (consulte la página 5).
- PT** Sempre é possível usar parafusos pertencentes a classes superiores a 8.8, como 9.8, 10.9 e 12.9. NÃO SUPERAR os valores do torque recomendado para os parafusos da classe 8.8, mesmo que esteja utilizando parafusos com classes diferentes, (ver página 5).

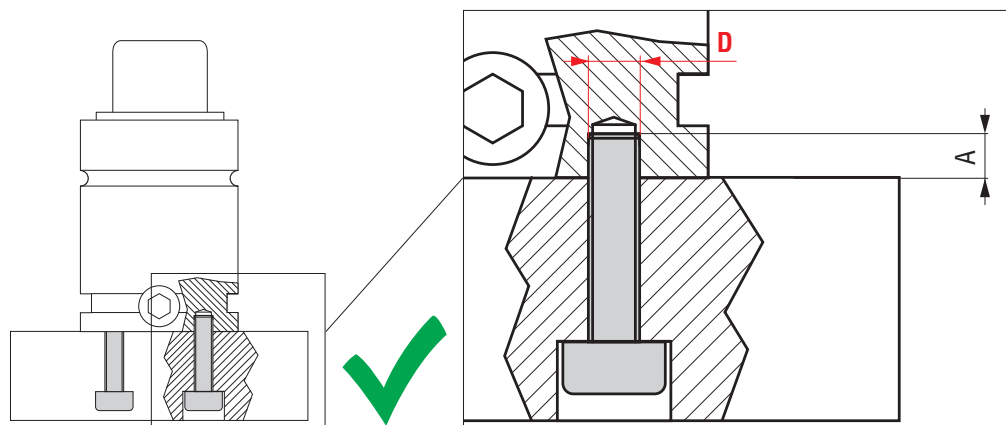
- IT** Molla a gas con fori di fissaggio in cui il valore di A è maggiore del valore D (esempio SC3000 con fori di fissaggio M8x13).
- EN** Gas spring with fixing holes for which value A is bigger than value D (e.g. SC3000 with fixing holes M8x13).
- DE** Gasdruckfeder mit Befestigungsbohrungen bei denen der Wert A größer als der Wert D ist (Beispiel SC3000 mit Befestigungsbohrungen M8x13).
- FR** Ressort à gaz avec trous de fixation dans lequel la valeur A est supérieure à la valeur D (par exemple, SC3000 avec trous de fixation M8x13).
- ES** Cilindro de gas con agujeros de fijación en el que el valor A es mayor que el valor D (ejemplo SC3000 con agujeros de fijación M8x13).
- PT** Cilindros com furos de fixação que a medida A é maior que a medida D (ex. SC3000 com furos de fixação M8x13).

Installation Example: $A > D$



- IT** Molla a gas in cui il valore A è minore del valore D (esempio RV1000 con fori di fissaggio M8x6). Attenzione: in questi casi utilizzare viti con lunghezza tale da impegnare l'intera profondità utile di fissaggio.
- EN** Gas spring with fixing holes for which value A is smaller than value D (e.g. RV1000 with fixing holes M8x6). In such cases, be careful to use screws with a length long enough to employ the whole usable fixing depth.
- DE** Gasdruckfeder bei der der Wert A kleiner als der Wert D ist (Beispiel RV1000 mit Befestigungsbohrungen M8x6). Achtung: Verwenden Sie in diesen Fällen Schrauben mit einer Länge, die über die gesamte Einschraublänge reicht.
- FR** Ressort à gaz avec trous de fixation dans lequel la valeur A est inférieure à la valeur D (par exemple, RV1000 avec trous de fixation M8x6). Dans ce cas, veuillez à utiliser des vis suffisamment longues pour utiliser toute la profondeur de fixation utilisable.
- ES** Cilindro de gas en el que el valor A es menor que el valor D (ejemplo RV1000 con agujeros de fijación M8x6). Atención: en estos casos utilice tornillos con tal longitud para enganchar toda la profundidad útil de fijación.
- PT** Cilindros que a medida A é menor que a medida D (ex. RV1000 com furos de fixação M8x6). Neste caso, atentar para que o comprimento do parafuso seja suficiente para garantir o comprimento mínimo de roscado na placa.

Installation Example: $A \leq D$



INSTALLATION GUIDELINE

IT Le viti di fissaggio non devono mai essere sollecitate direttamente dal carico agente sulla molla a gas.

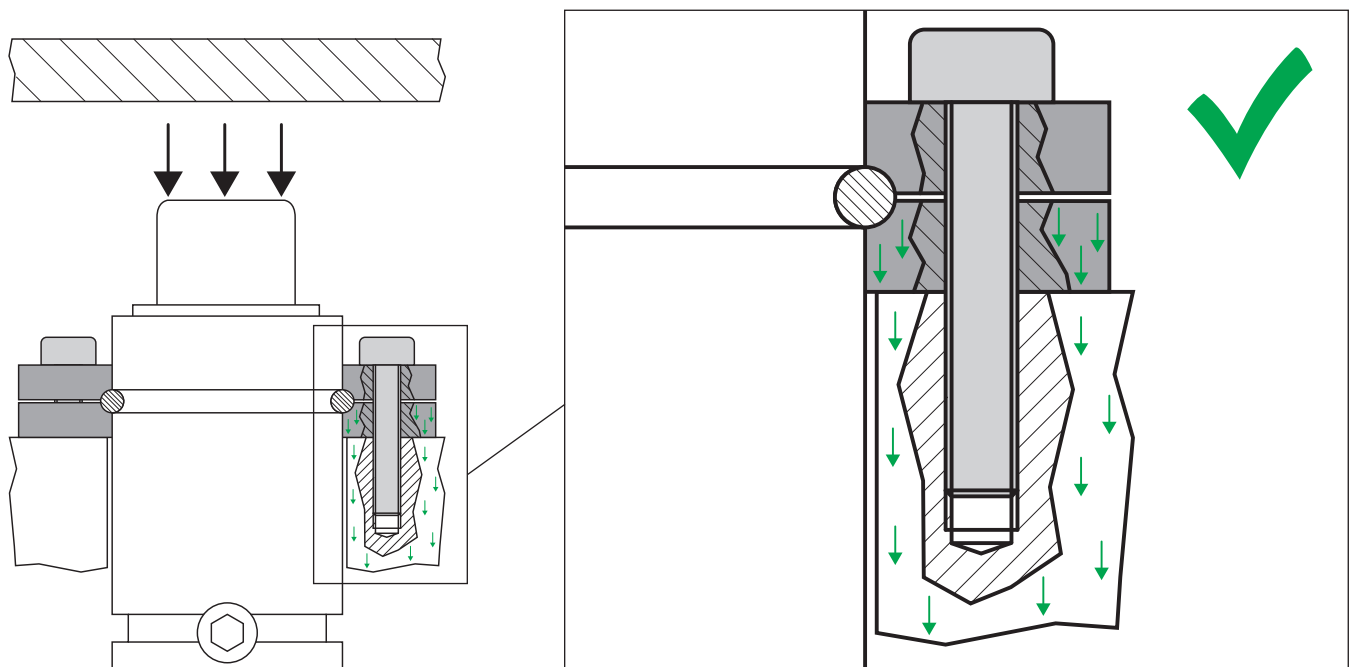
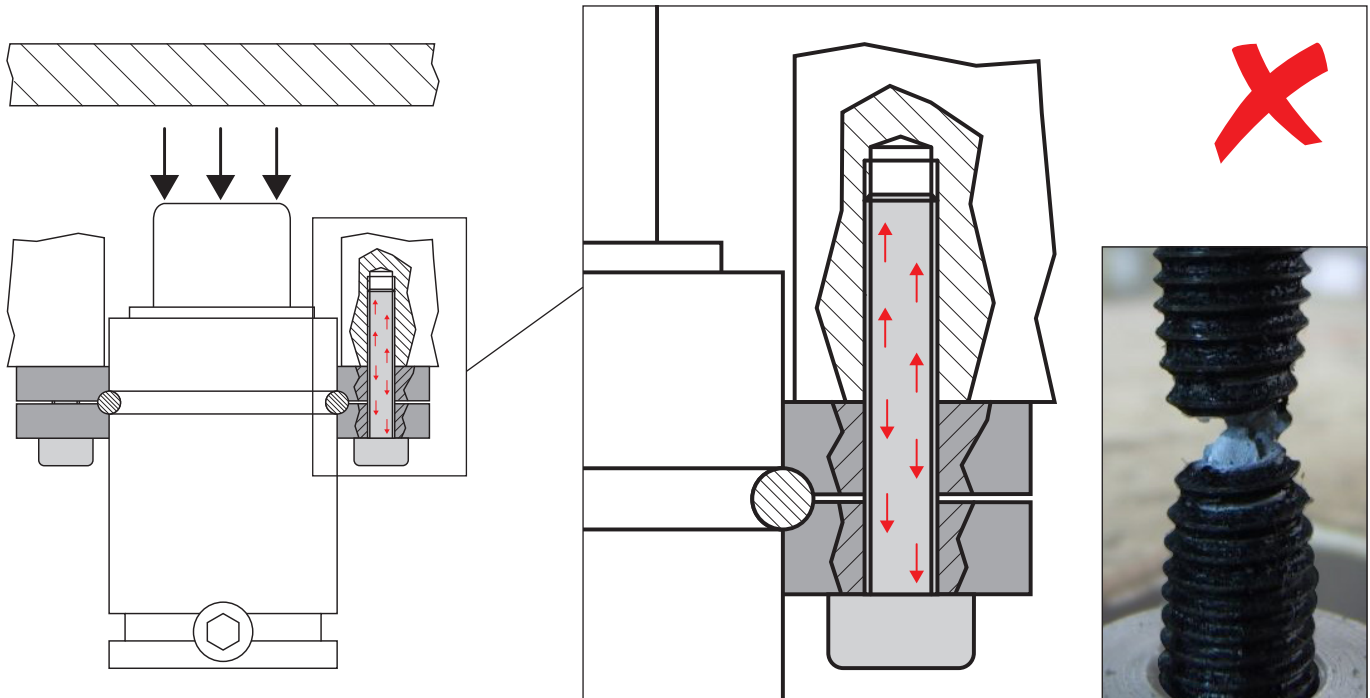
EN Fixing screws shall never be directly strained by the load acting on the gas spring.

DE Die Befestigungsschrauben dürfen niemals direkt durch die auf die Gasdruckfeder wirkende Last belastet werden.



FR Les vis de fixation ne doivent jamais être directement sollicitées par la charge agissant sur le ressort à gaz.

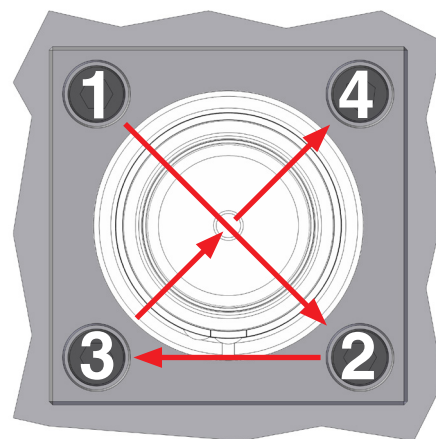
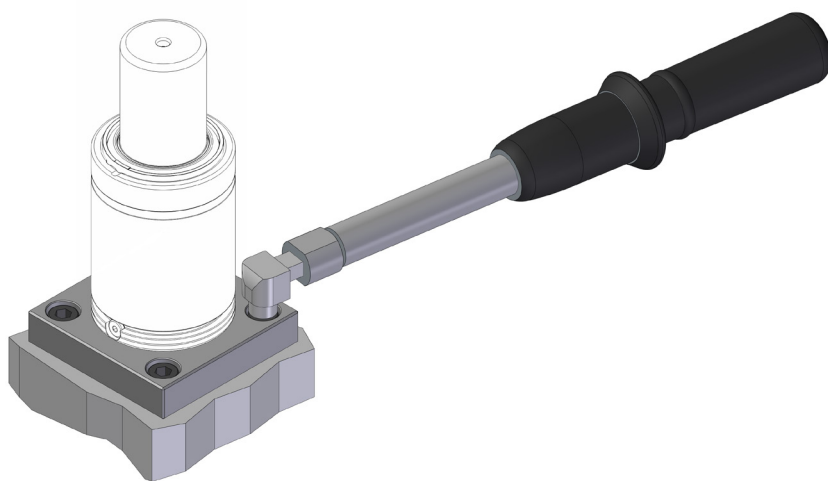
ES Los tornillos de fijación nunca deben ser estresados directamente por la carga que actúa sobre el cilindro de gas.

PT Os parafusos de fixação jamais devem receber diretamente a carga do cilindro.



- IT** Rispettare le coppie di serraggio prescritte e verificare sempre lo stato delle molle a gas e dei fissaggi ad ogni intervento sullo stampo.
- EN** Respect the specified tightening torques and verify always the condition of gas springs and fixings at each intervention on the die.
- DE** Beachten Sie die vorgeschriebenen Anziehdrehmomente und überprüfen Sie bei jedem Eingriff am Werkzeug den Zustand der Gasdruckfedern und Befestigungen.
- FR** Respectez les couples de serrage spécifiés et vérifiez les conditions des ressorts à gaz et des fixations à chaque intervention sur le moule.
- ES** Respete los pares de apriete indicados y verifique las condiciones de los resortes de gas y de las fijaciones en cada intervención en el troquel.
- PT** Respeitar o torque dos parafusos especificado e a cada parada para manutenção da ferramenta deve ser verificado as condições dos cilindros e das flanges.

	UNI EN ISO 21269:2007 class ≥ 8.8	M5	M6	M8	M10	M12	M 16
	Torque force	6 Nm	10 Nm	24 Nm	50 Nm	84 Nm	205 Nm



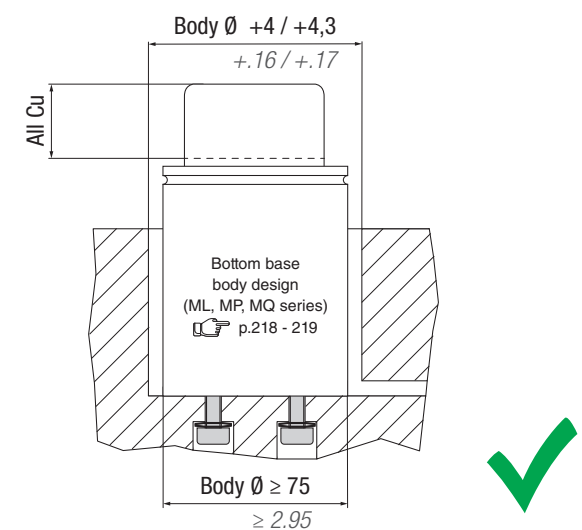
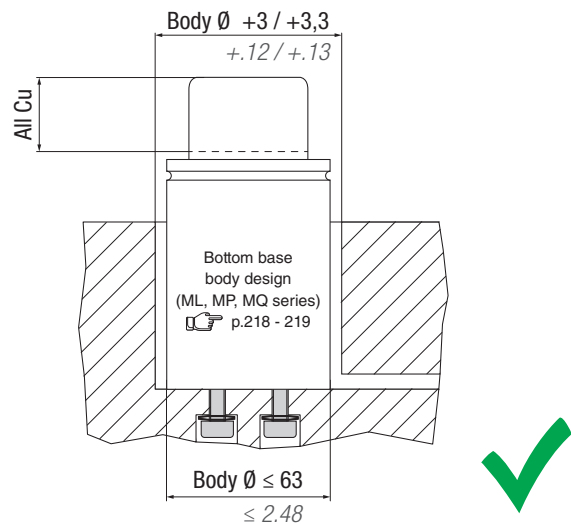
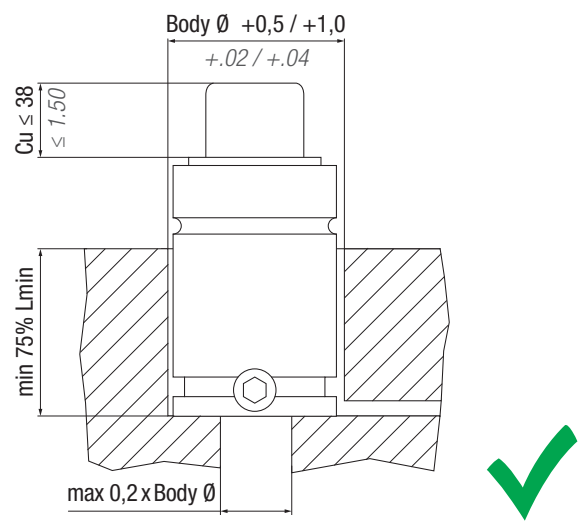
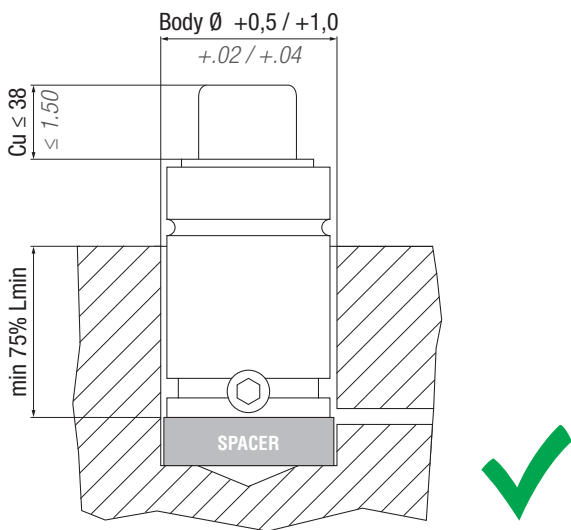
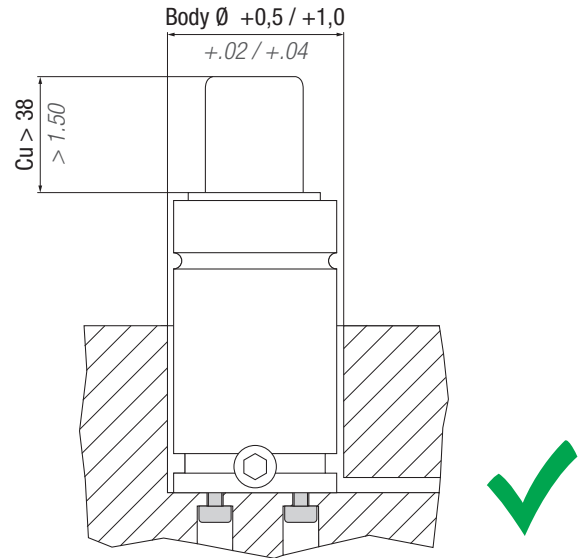
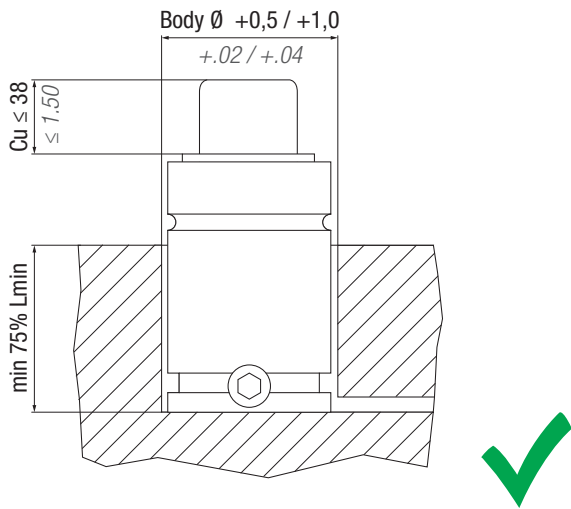
- IT** Serrare tutte le viti di fissaggio seguendo l'ordine a croce (1, 2, 3, 4) applicando la coppia di serraggio corretta. In questo modo la molla a gas sarà perfettamente posizionata.
- EN** Tighten all fixing screws by following the order shown in the image (1, 2, 3, 4) and by applying the correct tightening torque. In doing so, the gas springs will be perfectly positioned.
- DE** Alle Befestigungsschrauben über Kreuz in der Reihenfolge 1, 2, 3, 4 (s. Bild) mit dem richtigen Anziehdrehmoment anziehen. Auf diese Weise wird die Gasdruckfeder perfekt positioniert.
- FR** Serrez toutes les vis de fixation en respectant l'ordre indiqué sur l'image (1, 2, 3, 4) et en appliquant le couple de serrage approprié. Ce faisant, les ressorts à gaz seront parfaitement positionnés.
- ES** Apriete todos los tornillos de fijación siguiendo el orden que se muestra en la imagen (1, 2, 3, 4) y aplicando el par de apriete correcto. Al hacerlo, los resortes de gas estarán perfectamente posicionados.
- PT** Os parafusos devem ser apertados seguindo a ordem do desenho (1,2,3,4) e aplicado o torque correto. Dessa forma os cilindros estarão perfeitamente fixados.

INSTALLATION GUIDELINE - DROP-IN



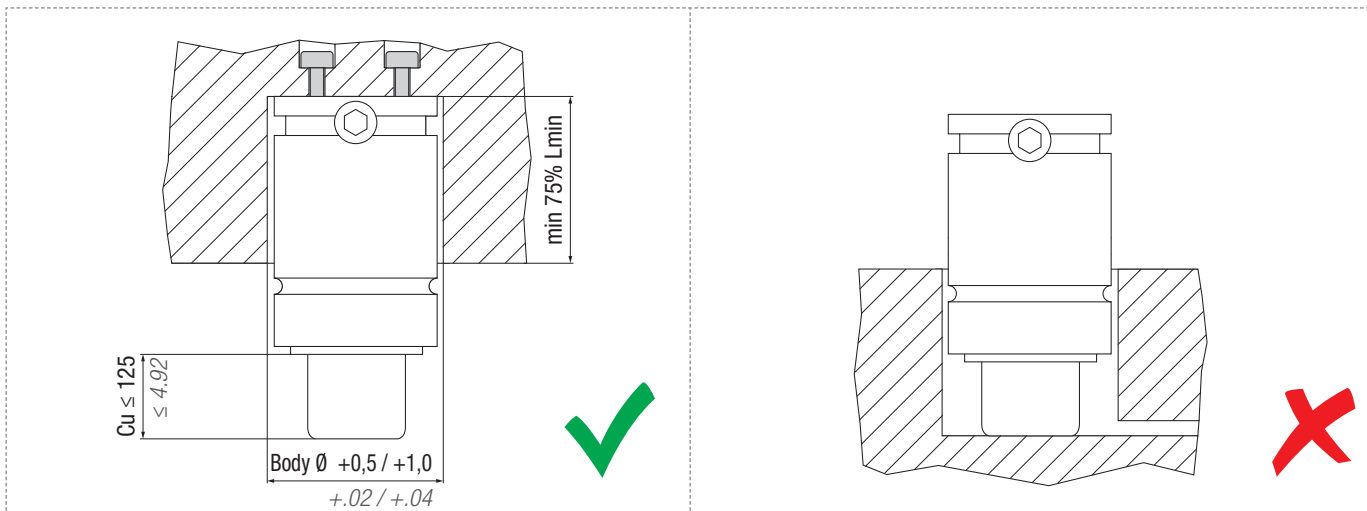
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

VERTICAL FIXING

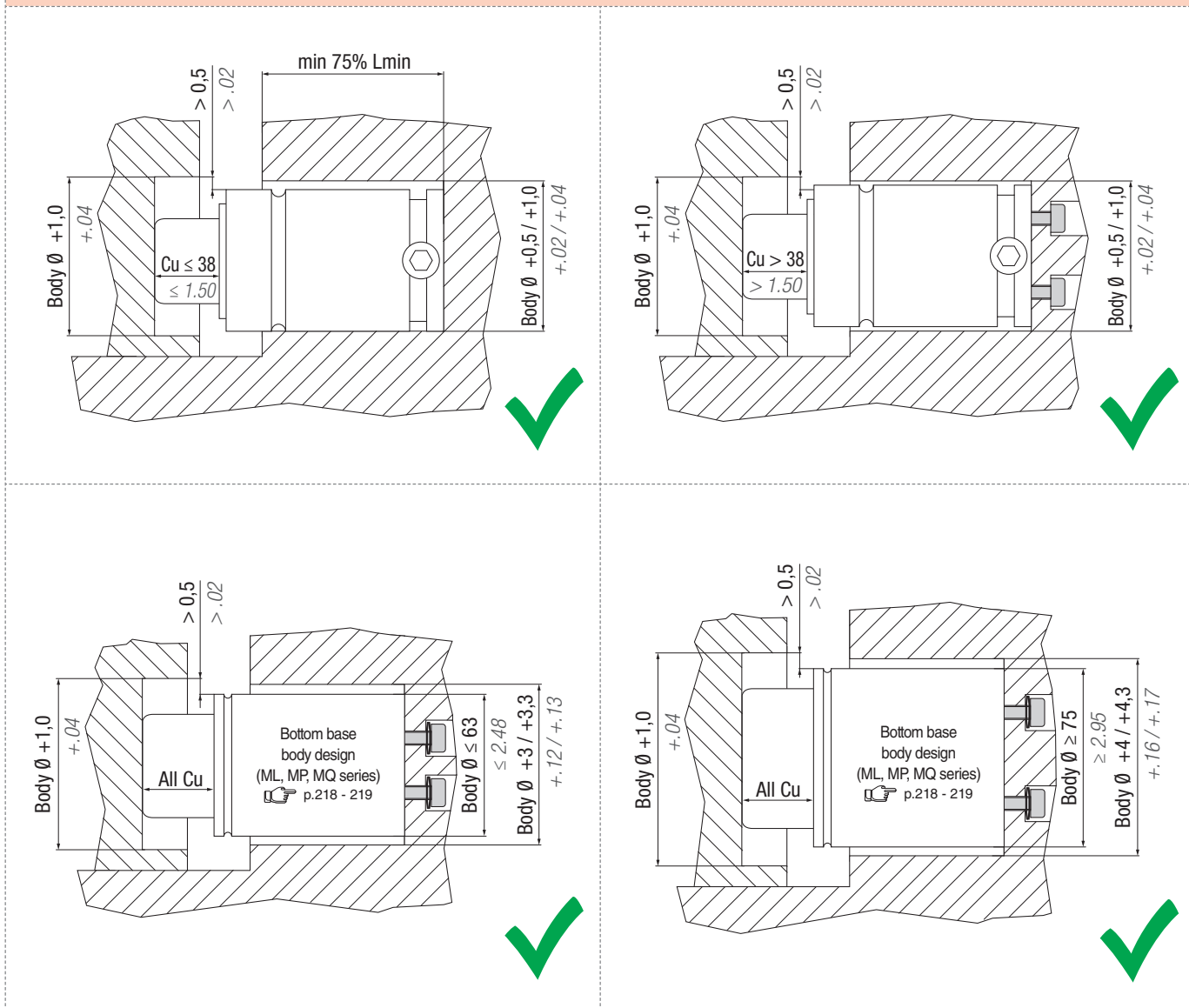


All dimensions in mm / inch

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação



HORIZONTAL FIXING



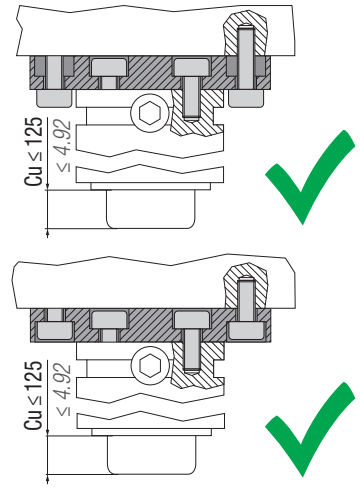
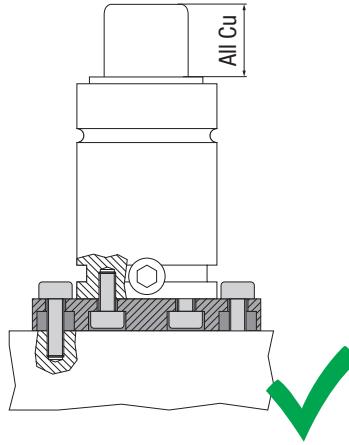
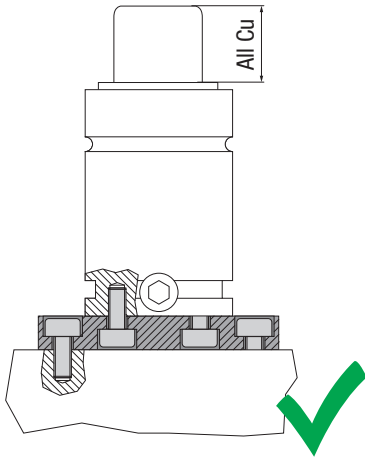
All dimensions in mm / inch

INSTALLATION GUIDELINE - BOTTOM MOUNT

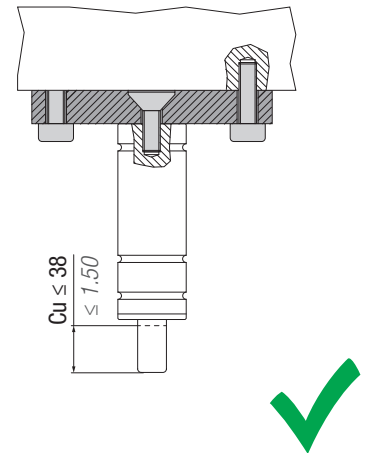
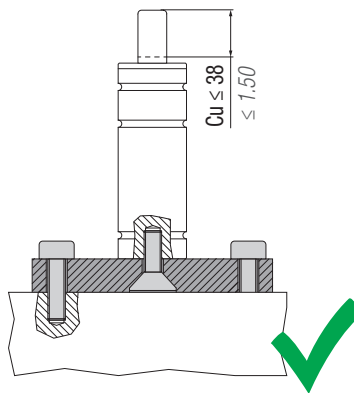
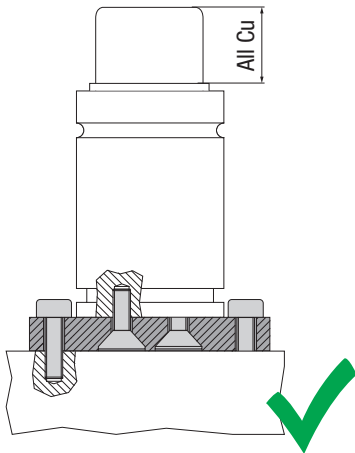
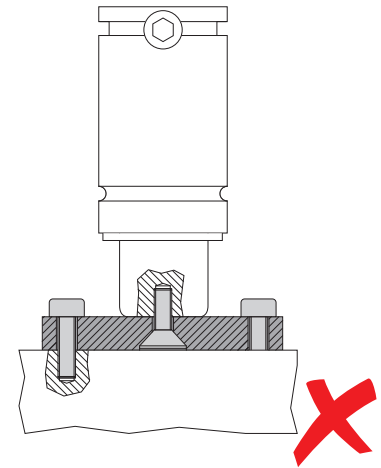
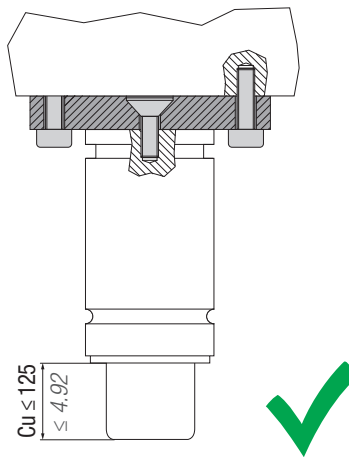
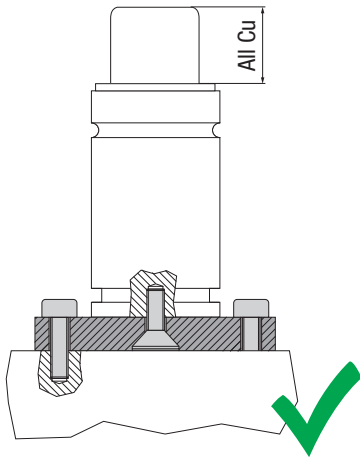


Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

FB - FBA - FBB - FBC - FBD - FBF



FBE

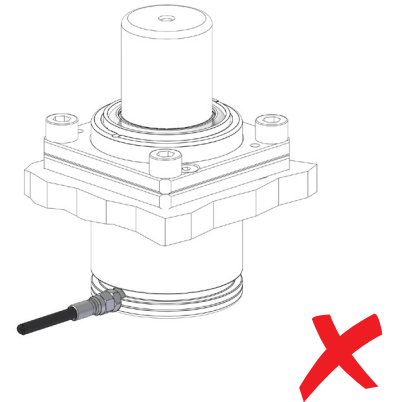
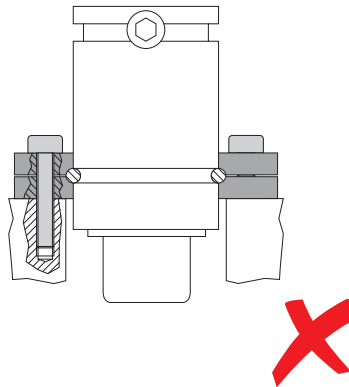
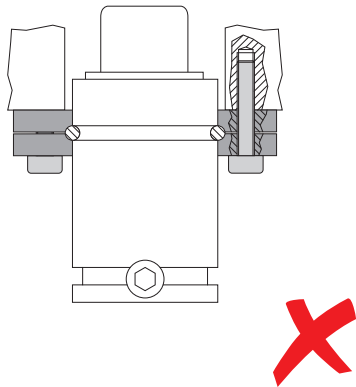
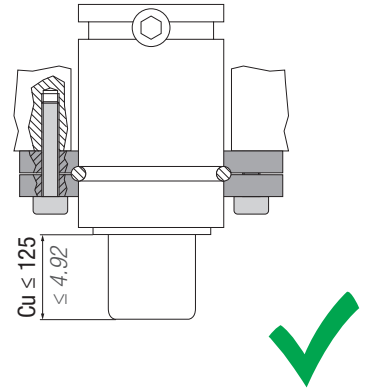
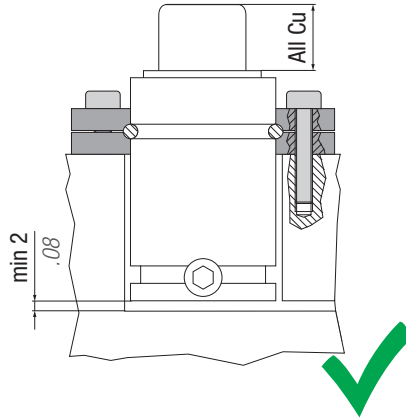
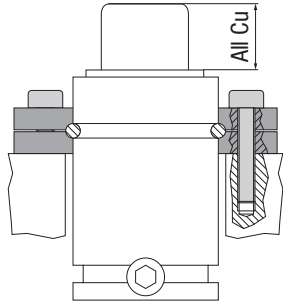


All dimensions in mm / inch

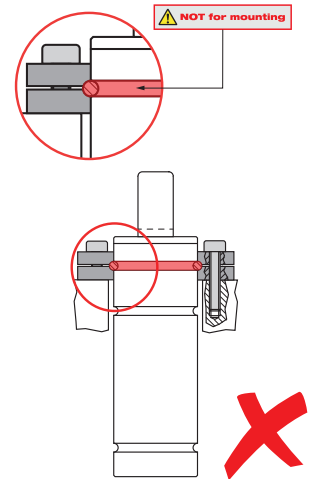
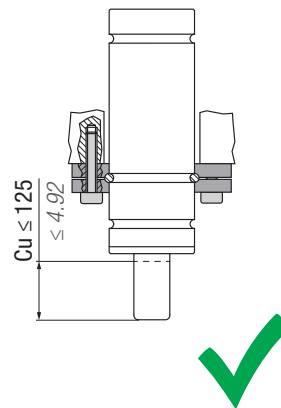
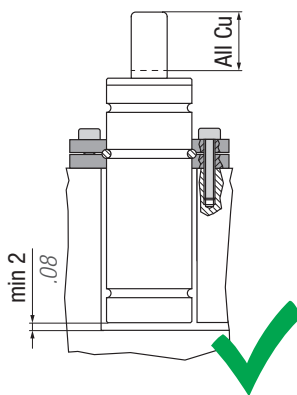
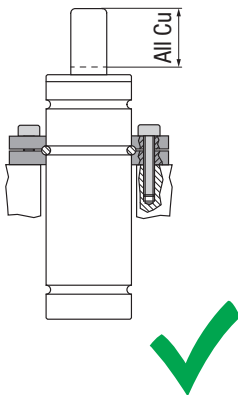
Special Springs

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FCB - FCD - FC - FCC - FCQ - FCQC - FCQB



FC (for body cylinder Ø 12 ÷ 25)



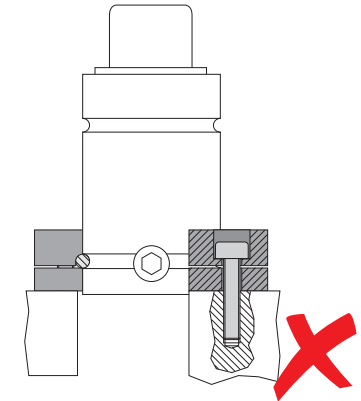
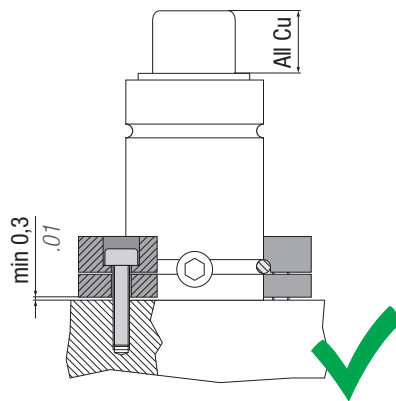
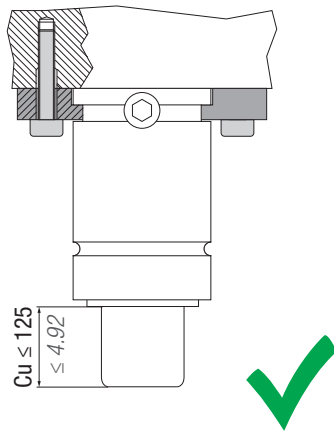
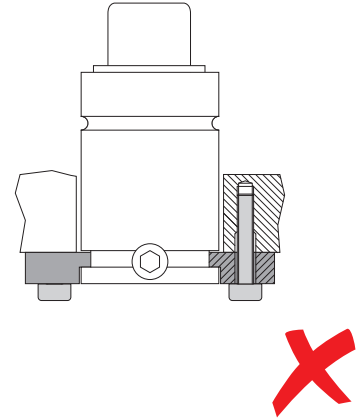
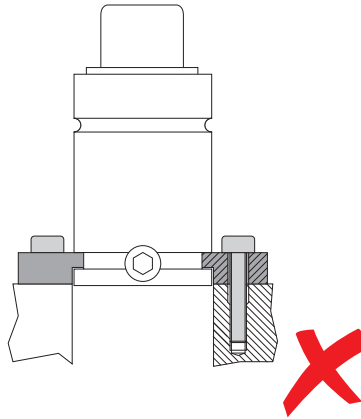
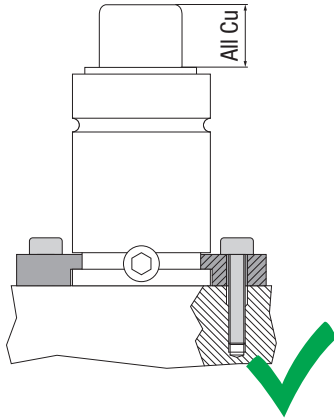
All dimensions in mm /inch

INSTALLATION GUIDELINE - BRACKET MOUNT



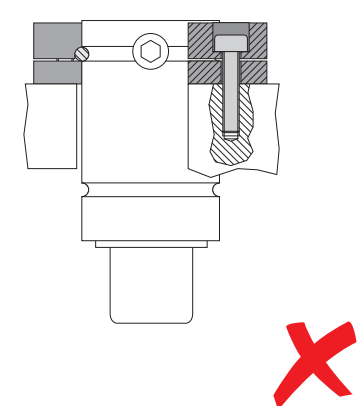
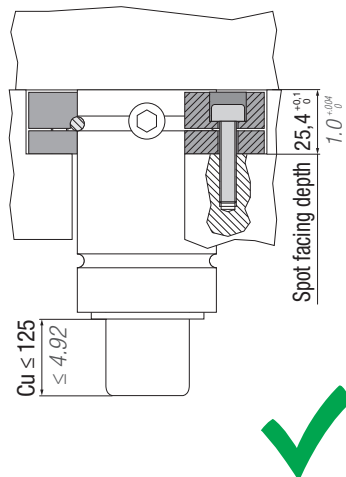
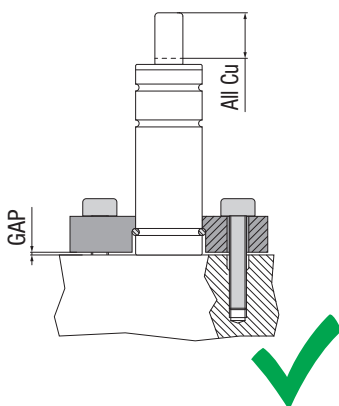
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

FS2 - FS2B - FS2A - FS2C



FS1

FS3

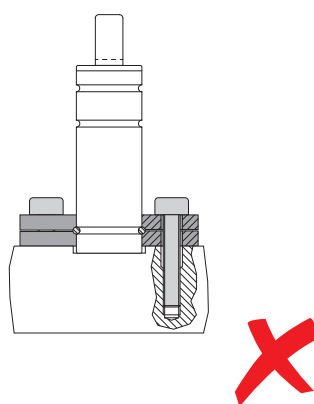
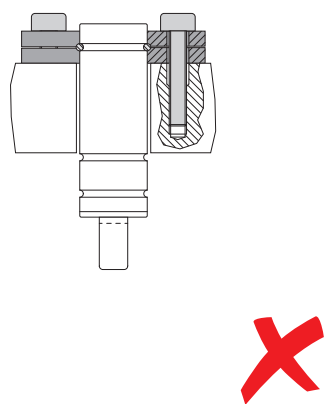
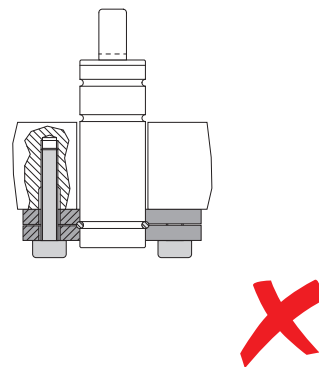
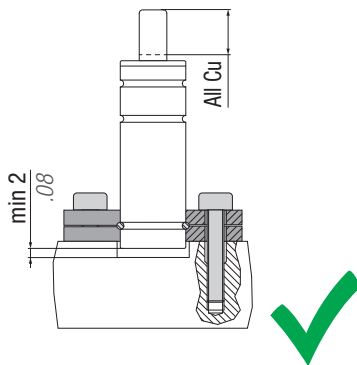
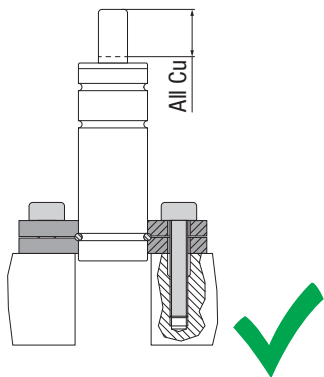


All dimensions in mm /inch

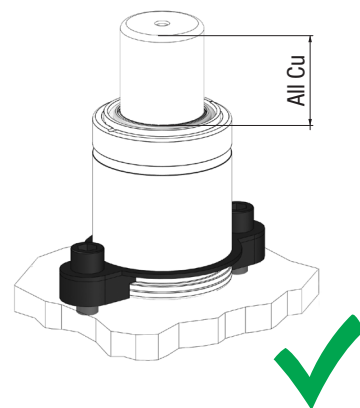
Special Springs

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

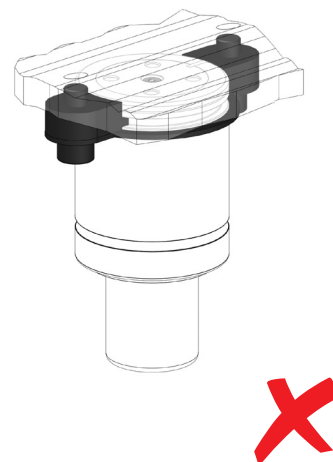
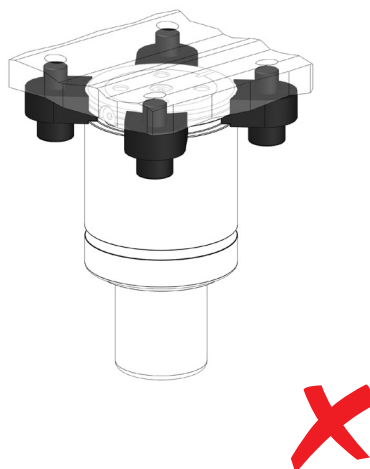
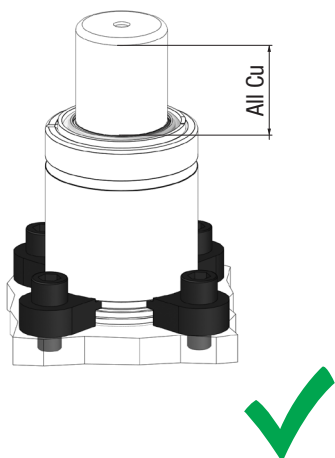
FC (for body cylinder Ø 12 ÷ 25)



FTP



FT



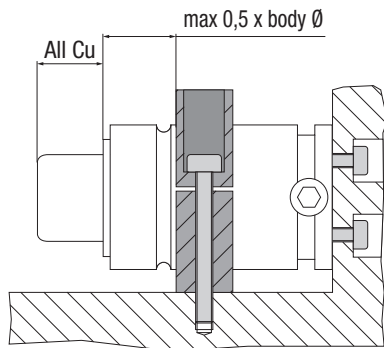
All dimensions in mm / inch

INSTALLATION GUIDELINE - BODY MOUNT

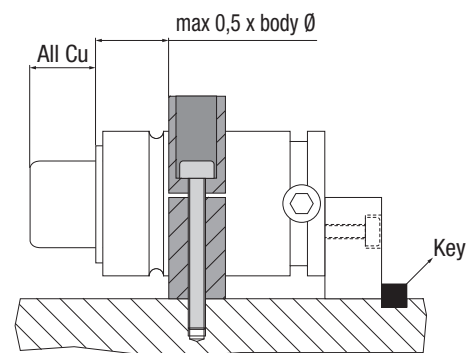
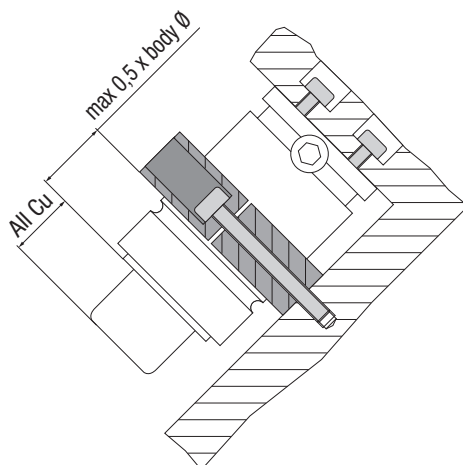
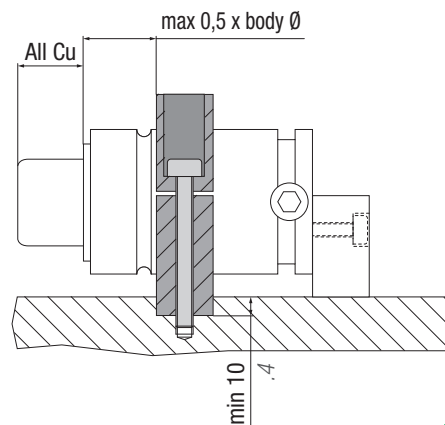
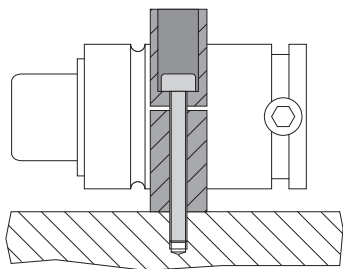
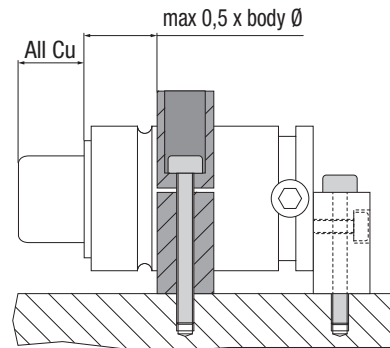


Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

FSA - FSB - FSC - FSD - FSE



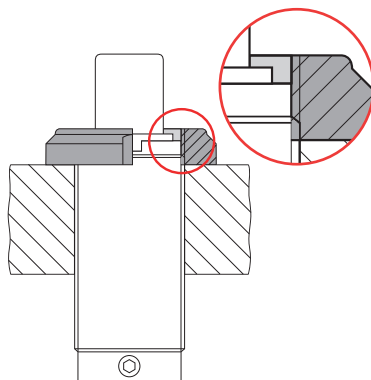
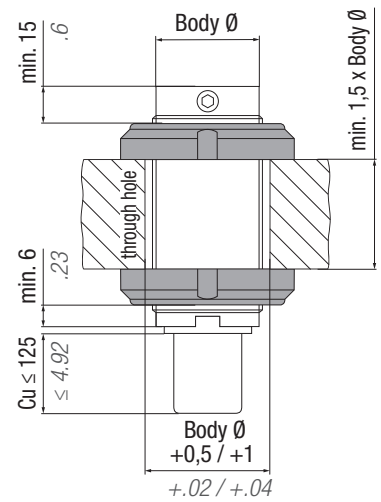
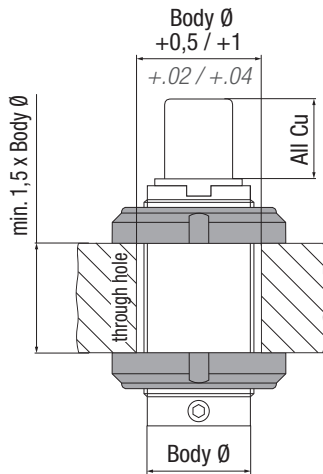
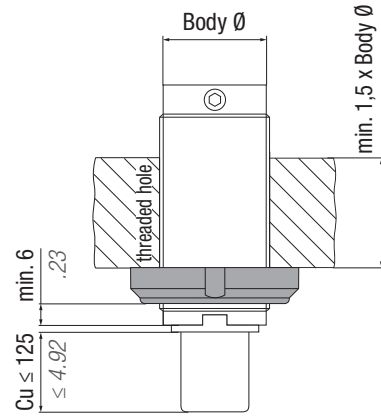
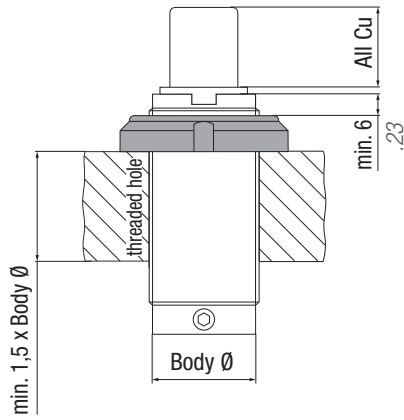
(FSA - FSB - FSC - FSD - FSE) + R



All dimensions in mm / inch

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

GM

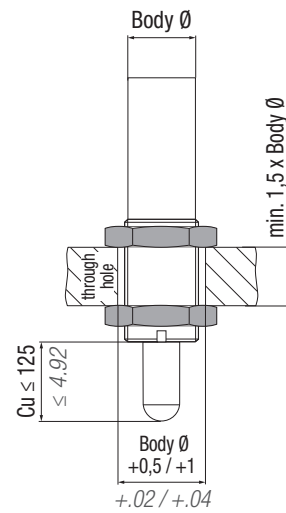
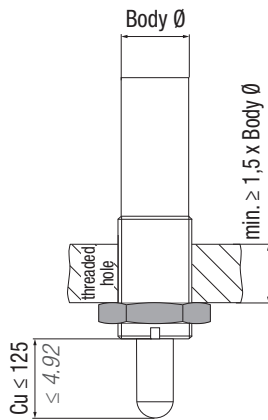
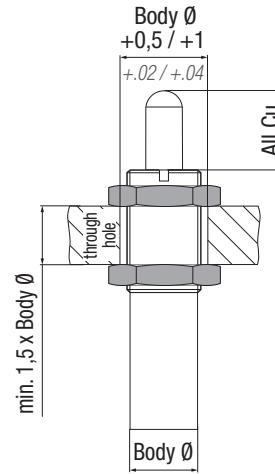
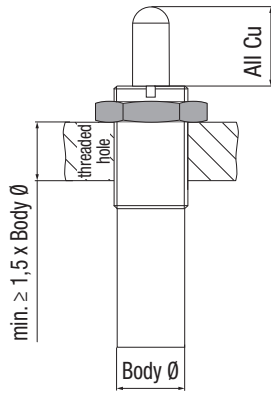


INSTALLATION GUIDELINE - THREAD MOUNT



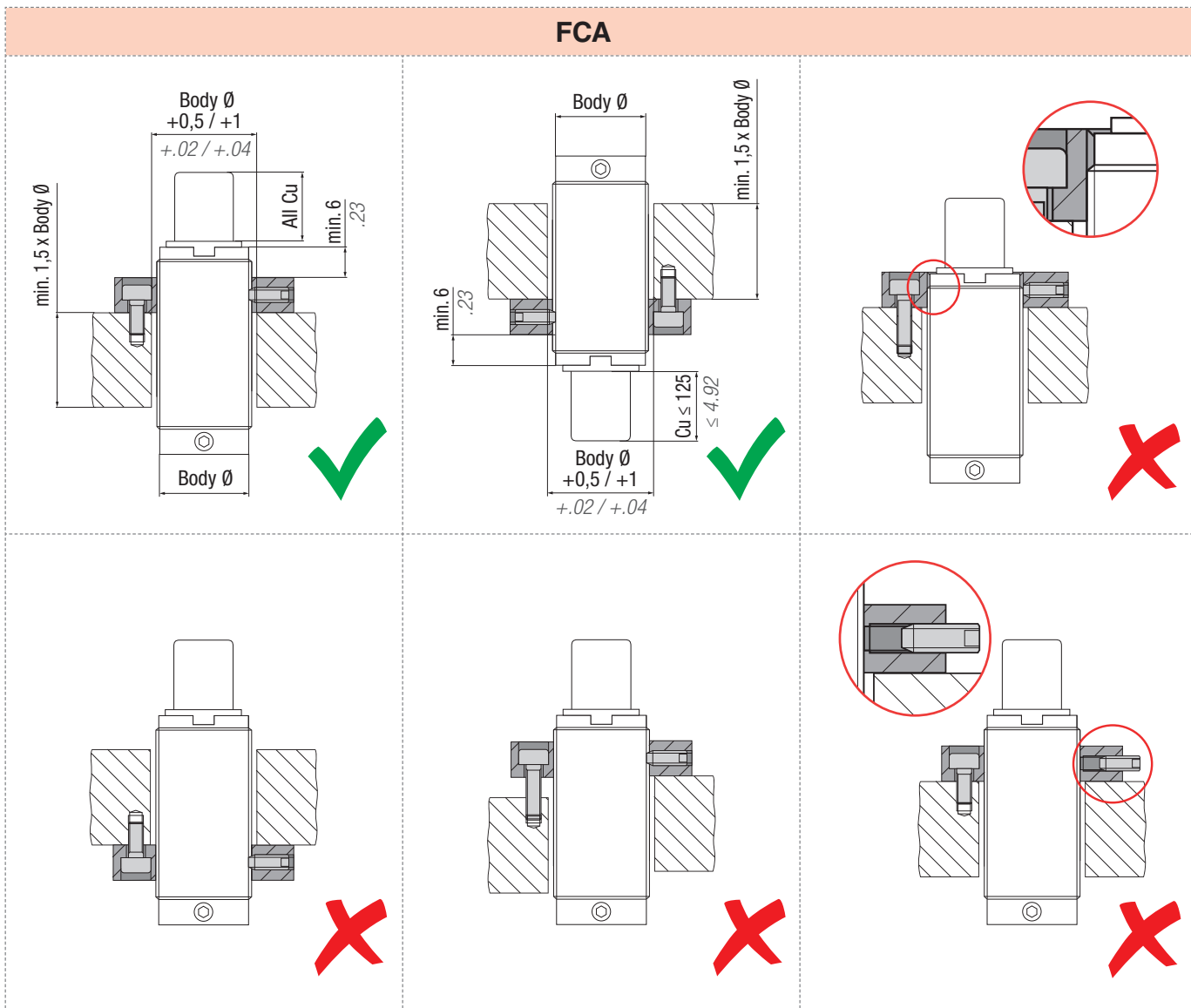
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

DM - DI



Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

FCA



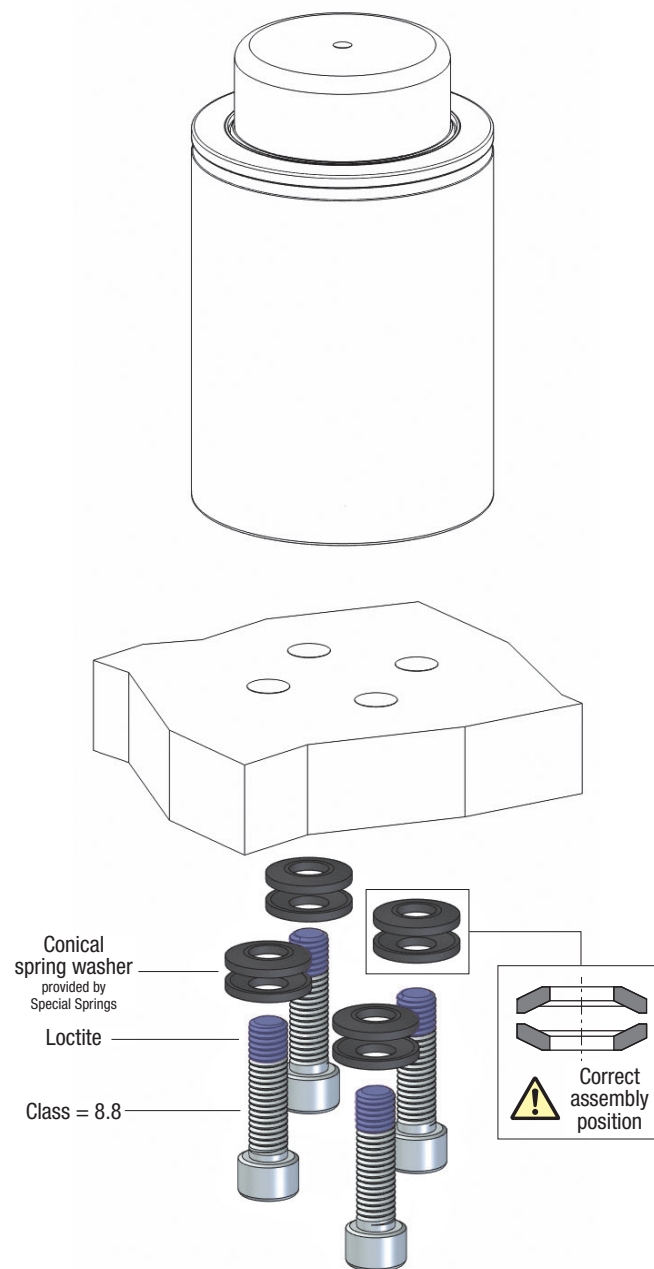
INSTALLATION GUIDELINE - ML, MP, MQ series



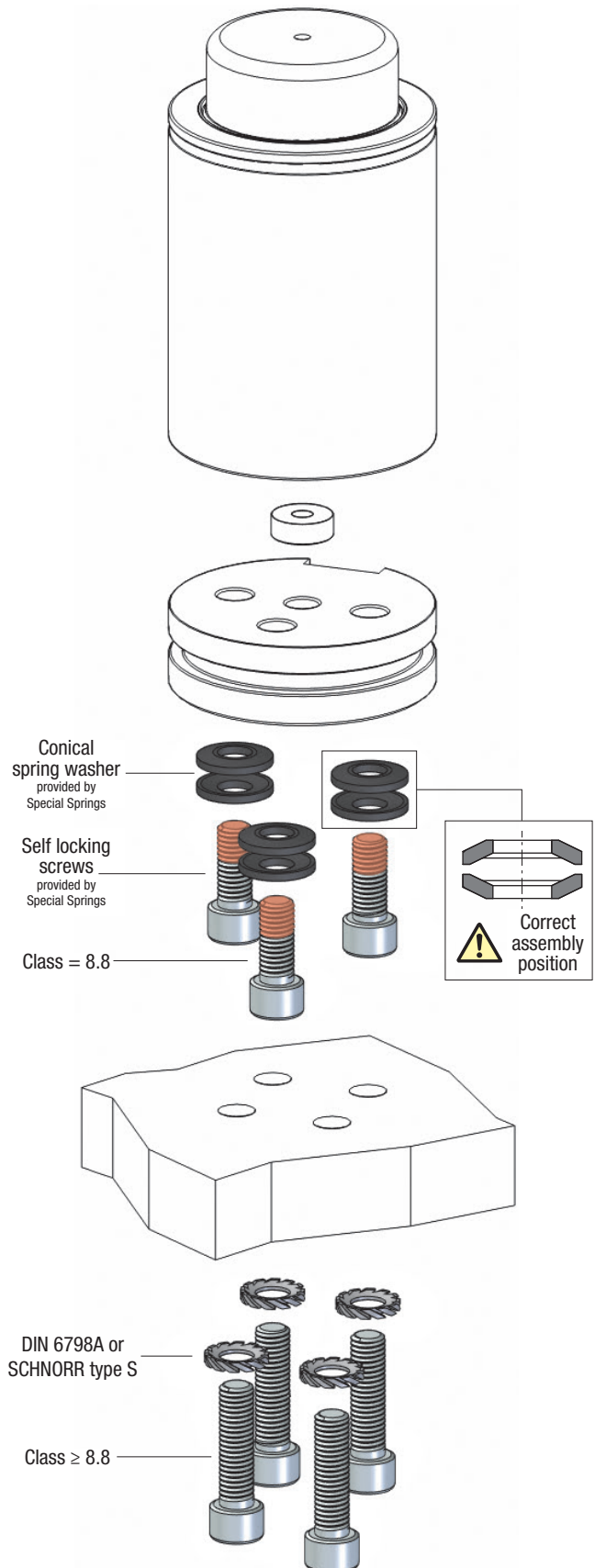
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

- IT** Installare le molle a gas rispettando le indicazioni fornite qui sotto. Informazioni dettagliate sono presenti nel kit dedicato.
- EN** Install the gas springs following the directions given here below. Detailed information is included in the specific kit.
- DE** Montieren Sie die Gasdruckfedern gemäß den unten folgenden Anweisungen. Detaillierte Anweisungen finden Sie im jeweiligen Bausatz.
- FR** Installez les ressorts à gaz en suivant les instructions données ci-dessous. Des informations détaillées sont incluses dans le kit spécifique.
- ES** Instale los resortes de gas siguiendo las instrucciones dadas a continuación. La información detallada se incluye en el kit específico.
- PT** Fixar os cilindros respeitando as orientações abaixo. Todas as informações detalhadas estão presentes no manual de instruções de cada cilindro.

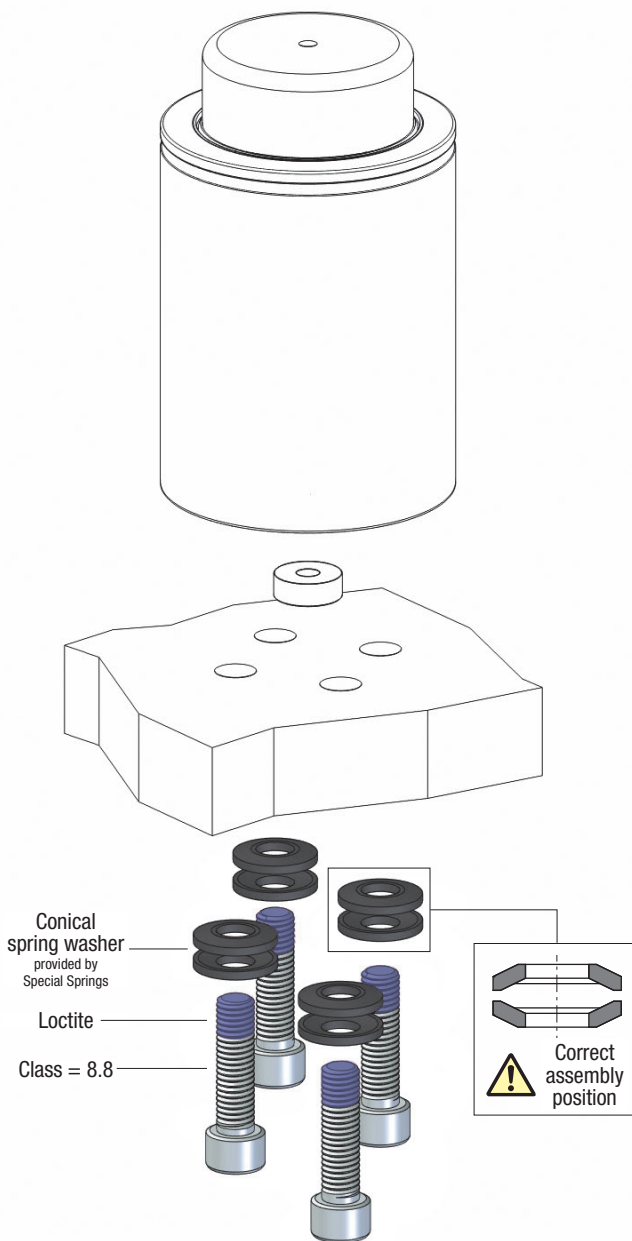
ML, MP, MQ series - SELF CONTAINED



ML - LINKABLE

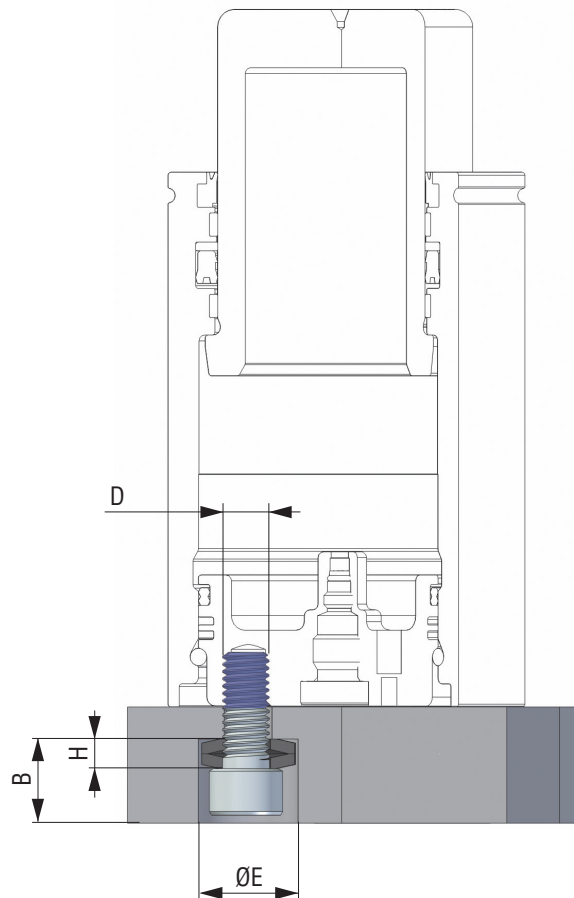


ML - EASY MANIFOLD



FIXING INFORMATION

- IT** Si raccomanda di installare le molle a gas nelle versioni "Self Contained" e "Easy Manifold" rispettando le indicazioni qui sotto.
- EN** It is recommended to install gas springs in the "Self-Contained" and "Easy Manifold" versions by following the directions given here below.
- DE** Es wird empfohlen, die Gasdruckfedern der Versionen "Self-Contained" und "Easy Manifold" gemäß den unten aufgeführten Anweisungen einzubauen.
- FR** Il est recommandé d'installer les ressorts à gaz dans les versions "Self-Contained" (autonome) et "Easy Manifold" en suivant les instructions données ci-dessous.
- ES** Se recomienda instalar los resortes de gas en las versiones "Self-Contained" (autónomo) y "Easy Manifold" siguiendo las instrucciones dadas a continuación.
- PT** Se recomenda fixar os cilindros **autonomos** e os para "Easy Manifold", conforme as instruções abaixo.



Model	Washer code	Ø E		B		H		D
		mm	inch	mm	inch	mm	inch	
ML 1000 D	49RC06A	≥ 10,25	≥ .40	≥ 9,15	≥ .36	3,15	.12	M6
ML 1800 D	49RC06A	≥ 10,25	≥ .40	≥ 9,15	≥ .36	3,15	.12	M6
ML 3000 D	49RCHS08A	≥ 17,3	≥ .68	≥ 12	≥ .47	4	.16	M8
ML 4700 D	49RC08A	≥ 18,3	≥ .72	≥ 12	≥ .47	4	.16	M8
ML 7500 D	49RC08A	≥ 18,3	≥ .72	≥ 12	≥ .47	4	.16	M8
ML 12000 D	49RC10A	≥ 23,3	≥ .92	≥ 15	≥ .59	5	.20	M10



UNI EN ISO
21269:2007
class = 8.8

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