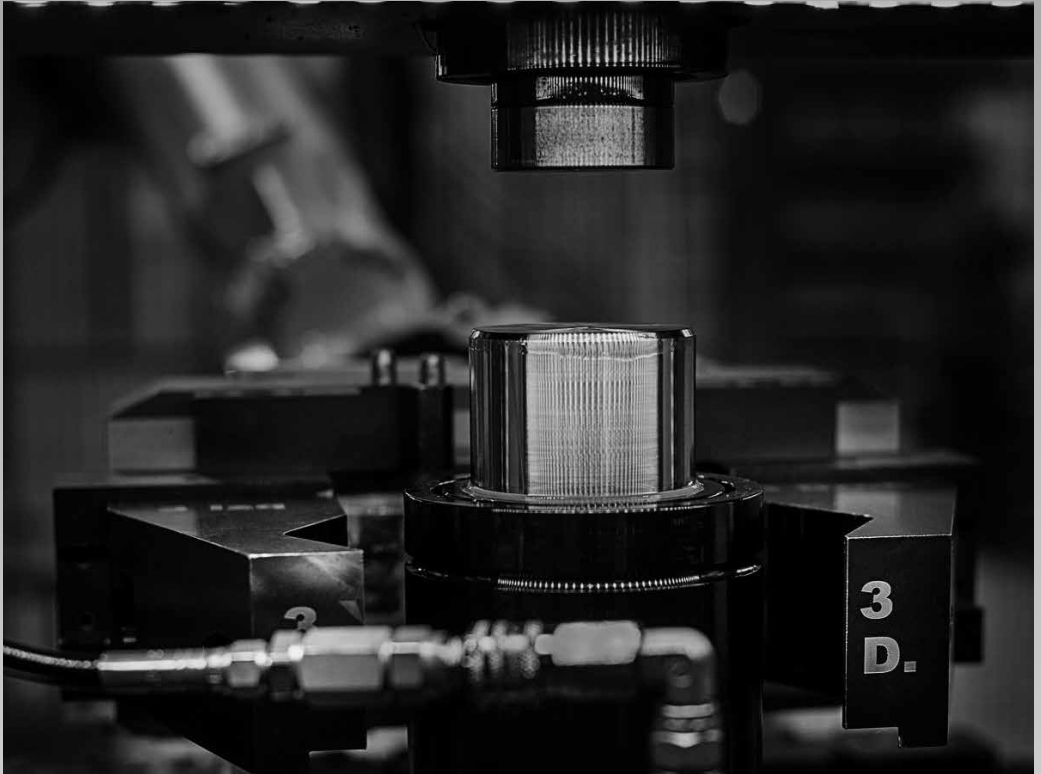


# TS

## TOOL SEPARATION GAS SPRINGS



- Specially suited for tool separation applications.



- Cost savings compared to alternative.



- Easy implementation without tuning.



- Compatible with ISO dimensions.



- Increases productivity.

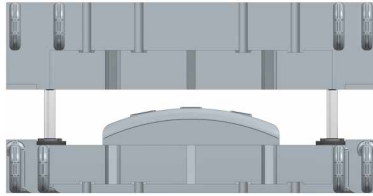
**AZOL**  
**GAS**

*Service in Motion*





## CHALLENGE

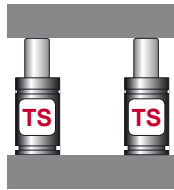


Certain dies are equipped with tool separation gas springs replacing mechanical stops in the die sets.

The tool separation gas springs are used to separate upper and lower parts of the die set and prevent contact between surfaces during transport or storage of the die.

When in production, conventional gas springs used as tool separation wear prematurely.

## SOLUTION



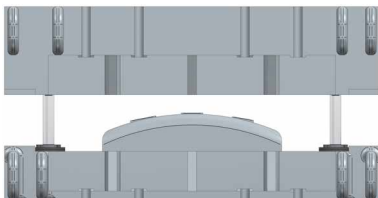
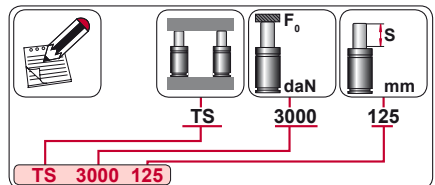
TS gas spring meets the needs of applications requiring tool separation or storage gas springs.

The new generation of tool separation gas springs TS are equipped with a low-friction guide system that enables to increase the SPM (strokes per minute) in comparison to conventional gas springs.

## TECHNICAL DATA

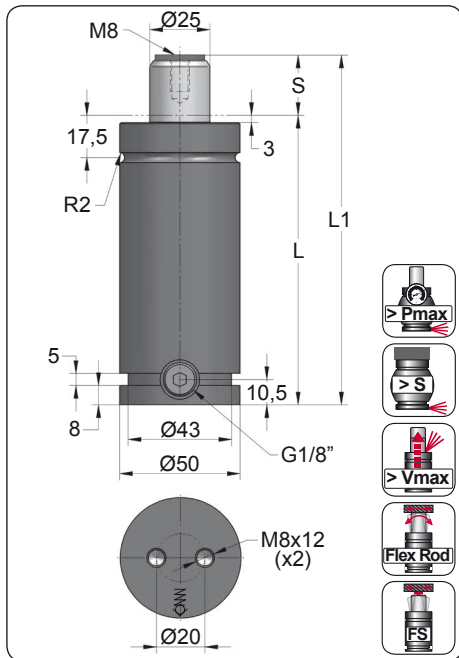
MODEL	F <sub>0</sub> daN	∅ mm	S mm	L1 mm	Pmax bar	Charge Port		
<b>TS 750</b>	750	∅50	100 - 300	295 - 695	150	G1/8"	600 CP-	✓
<b>TS 1500</b>	1500	∅75	100 - 300	310 - 710	150	G1/8"	600 CP-	✓✓
<b>TS 3000</b>	3000	∅95	125 - 300	370 - 720	150	G1/8"	600 CP-	✓✓✓
<b>TS 5000</b>	5000	∅120	125 - 300	390 - 740	150	G1/8"	600 CP-	✓✓✓✓
<b>TS 7500</b>	7500	∅150	125 - 300	405 - 755	150	G1/8"	600 CP-	✓✓✓✓✓

## HOW TO ORDER

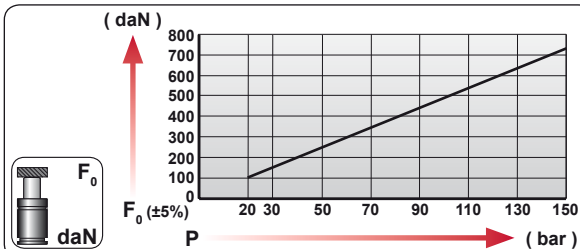


# TS 750

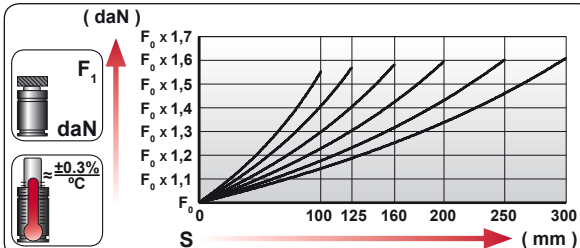
BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0



ORDER	S (mm)	L1 ±0,25 (mm)	L (mm)	Kg.
TS 750 100	100	295	195	1.99
TS 750 125	125	345	220	2.19
TS 750 160	160	415	255	2.48
TS 750 200	200	495	295	2.81
TS 750 250	250	595	345	3.22
TS 750 300	300	695	395	3.63

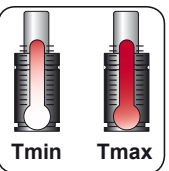
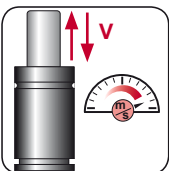
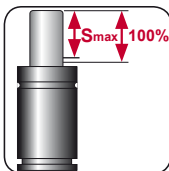
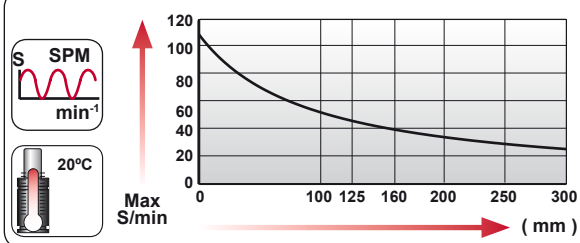


CODE		Pressure			
		bar	psi		
TS 750 125		150	2175	740	1160
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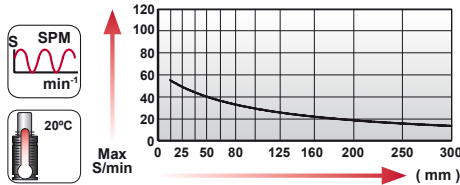
	ENG ORDER		
	DEU BESTELLUNG	daN	mm
	FRA COMMANDE		
	ITA ORDINE		
	ESP PEDIDO		
POR PEDIDO			

TS 750 125



N <sub>2</sub>	Smax < 90%	Vmax 2 m/s	bar psi 20 290	bar psi 150 2175	°C °F 0 32	°C °F 80 176	600 CP-
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## AG 750

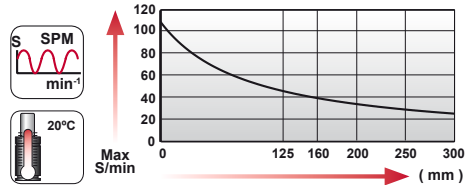


## TS 750

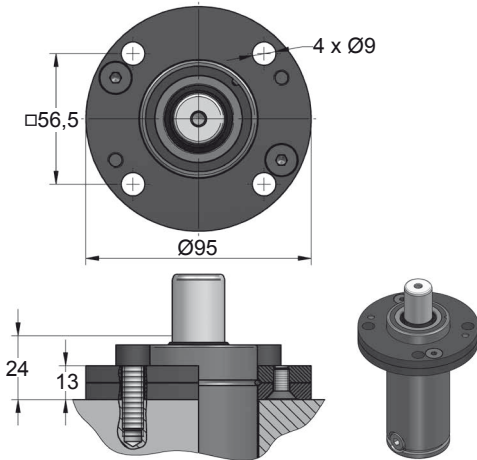


TS gas spring meets the needs of applications requiring tool separation or storage gas springs.

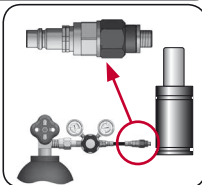
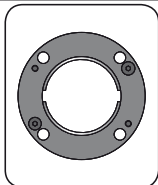
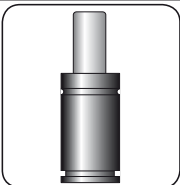
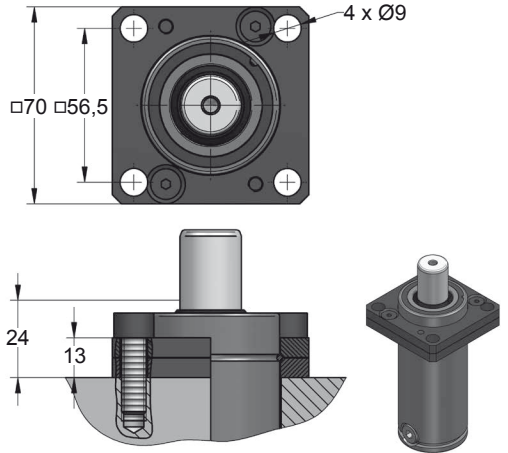
The new generation of tool separation gas springs TS are equipped with a low-friction guide system that enables to increase the SPM (strokes per minute) in comparison to conventional gas springs.



## A14-050



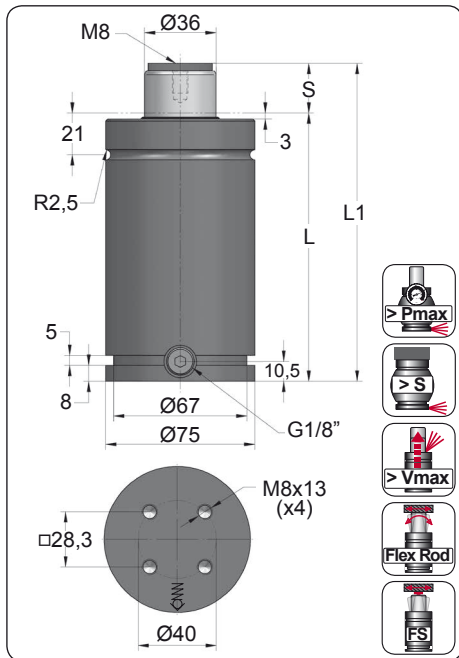
## A34-050



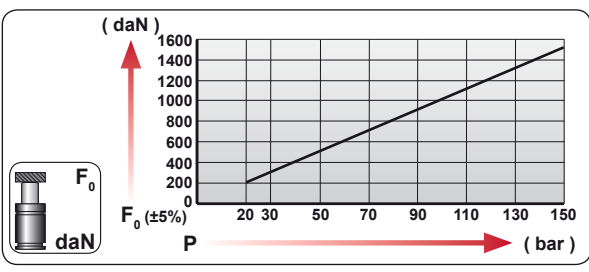
CODE	TS 750 125	KIT S-XXXXXXX KIT C-XXXXXXX	A14-050	18 CG 1-Q	
ENG	ORDER	GAS SPRING	REPAIR KIT	FLANGE	CHARGING ADAPTER
DEU	BESTELLUNG	GASDRUCKFEDER	ERSATZTEILSATZ	FLANSCH	LADEADAPTER
FRA	COMMANDE	RESSORT À GAZ	KIT DE RÉPARATION	BRIDE	RACCORD DE CHARGE
ITA	ORDINE	CILINDRO AD AZOTO	KIT DI MANUTENZIONE	FLANGE	ADATTATORE DI CARICO
ESP	PEDIDO	RESORTE DE GAS	KIT DE REPARACION	BRIDA	ADAPTADOR DE CARGA
POR	PEDIDO	CILINDRO DE GÁS	KIT DE MANUTENÇÃO	FLANGE	ADAPTADOR DE CARGA

# TS 1500

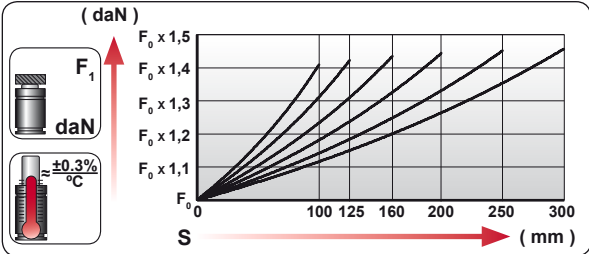
BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0



ORDER	S (mm)	L1 ±0,25 (mm)	L (mm)	Kg.
TS 1500 100	100	310	210	4.38
TS 1500 125	125	360	235	4.75
TS 1500 160	160	430	270	5.26
TS 1500 200	200	510	310	5.85
TS 1500 250	250	610	360	6.58
TS 1500 300	300	710	410	7.31

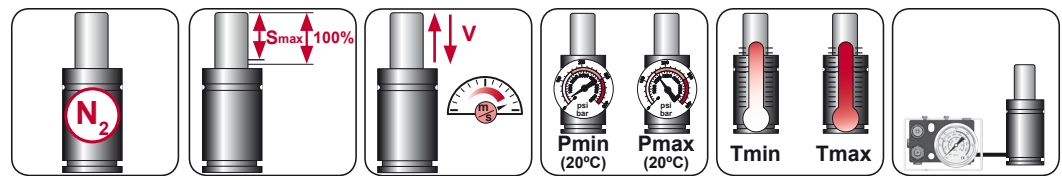
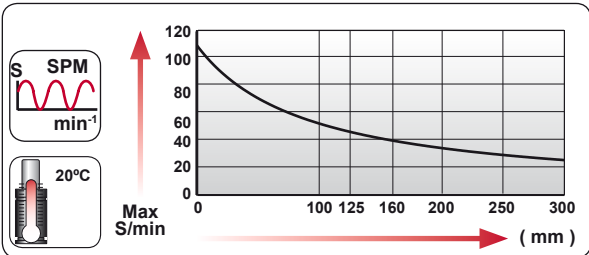


CODE	[Valve Icon]	Pressure		Force	
		bar	psi	daN	daN
TS 1500 125	[Valve Icon]	150	2175	1530	2175
-----	[Valve Icon]	-----	-----	-----	-----



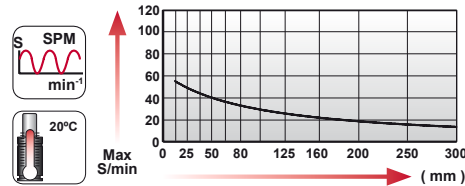
Language	Order Code	Force $F_0$ (daN)	Stroke S (mm)
ENG	ORDER	1500	125
DEU	BESTELLUNG		
FRA	COMMANDE		
ITA	ORDINE		
ESP	PEDIDO		
POR	PEDIDO		

TS 1500 125



N <sub>2</sub>	Smax < 90%	Vmax 2 m/s	bar psi 20 290	bar psi 150 2175	°C °F 0 32	°C °F 80 176	600 CP-
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## AG 1500

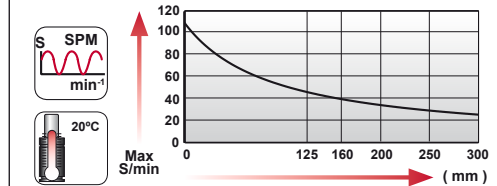


## TS 1500

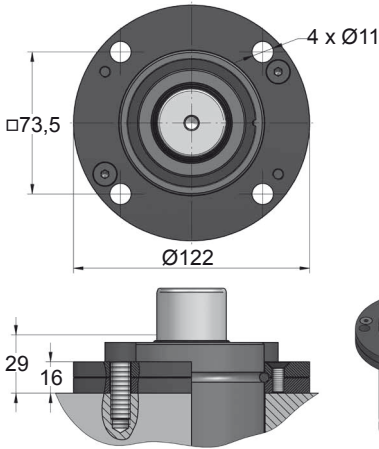


TS gas spring meets the needs of applications requiring tool separation or storage gas springs.

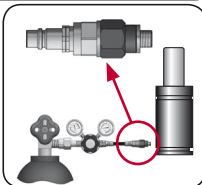
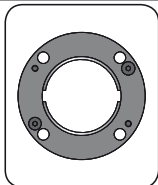
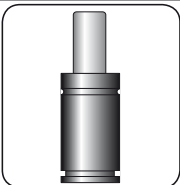
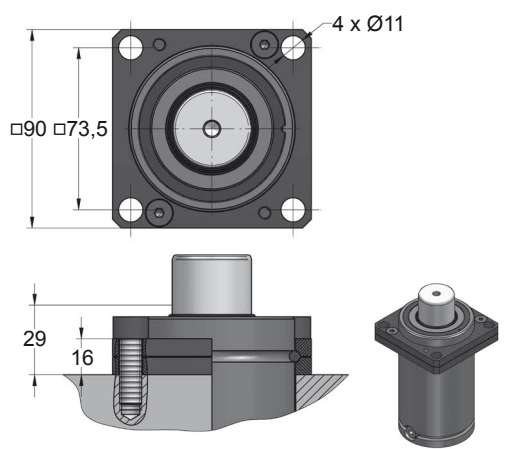
The new generation of tool separation gas springs TS are equipped with a low-friction guide system that enables to increase the SPM (strokes per minute) in comparison to conventional gas springs.



## A14-075



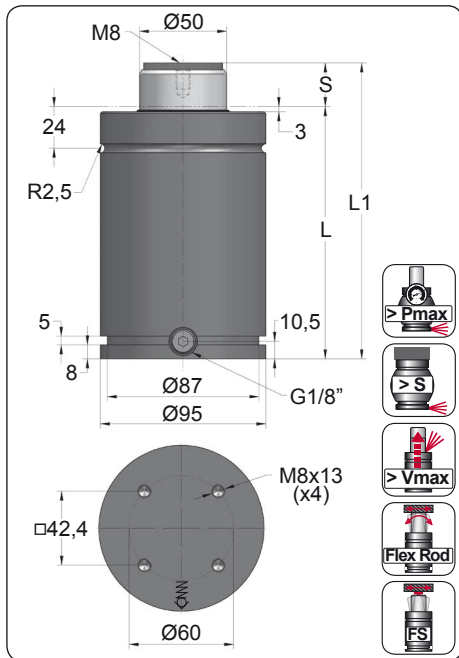
## A34-075



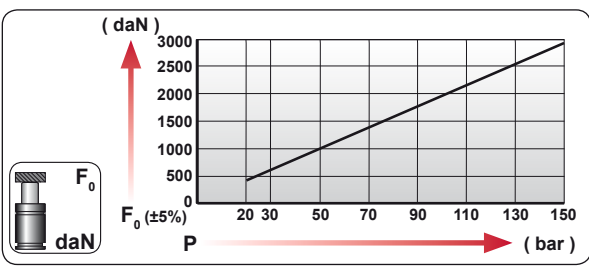
CODE	TS 1500 125	KIT S-XXXXXXX KIT C-XXXXXXX	A14-075	18 CG 1-Q
ENG ORDER	GAS SPRING	REPAIR KIT	FLANGE	CHARGING ADAPTER
DEU BESTELLUNG	GASDRUCKFEDER	ERSATZTEILSATZ	FLANSCHEN	LADEADAPTER
FRA COMMANDE	RESSORT À GAZ	KIT DE RÉPARATION	BRIDE	RACCORD DE CHARGE
ITA ORDINE	CILINDRO AD AZOTO	KIT DI MANUTENZIONE	FLANGE	ADATTATORE DI CARICO
ESP PEDIDO	RESORTE DE GAS	KIT DE REPARACION	BRIDA	ADAPTADOR DE CARGA
POR PEDIDO	CILINDRO DE GÁS	KIT DE MANUTENÇÃO	FLANGE	ADAPTADOR DE CARGA

# TS 3000

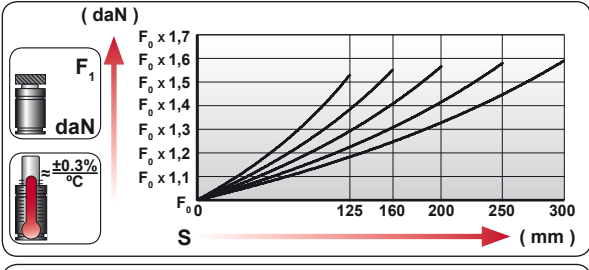
BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0



ORDER	S (mm)	L1 ±0,25 (mm)	L (mm)	Kg.
TS 3000 125	125	370	245	8.20
TS 3000 160	160	440	280	9.11
TS 3000 200	200	520	320	10.15
TS 3000 250	250	620	370	11.46
TS 3000 300	300	720	420	12.76

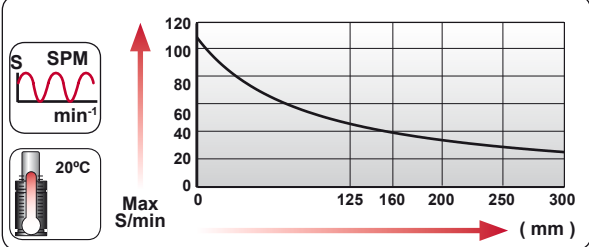


CODE	Pressure (bar/psi)	F <sub>0</sub> (daN)	F <sub>1</sub> (daN)
TS 3000 125	150 / 2175	2945	4500
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ENG ORDER  
 DEU BESTELLUNG  
 FRA COMMANDE  
 ITA ORDINE  
 ESP PEDIDO  
 POR PEDIDO

TS 3000 125



N<sub>2</sub>      S<sub>max</sub> < 90%      V<sub>max</sub> 2 m/s      P<sub>min</sub> P<sub>max</sub> (20°C)      T<sub>min</sub> T<sub>max</sub>      600 CP-

N <sub>2</sub>	S <sub>max</sub> < 90%	V <sub>max</sub> 2 m/s	bar psi 20 290	bar psi 150 2175	°C °F 0 32	°C °F 80 176	600 CP-
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## AG 3000

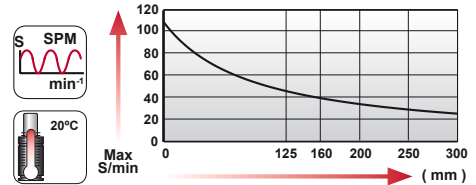
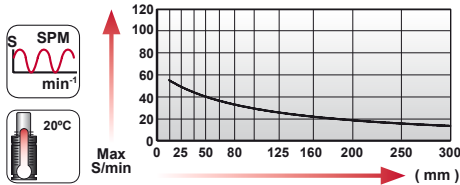


## TS 3000

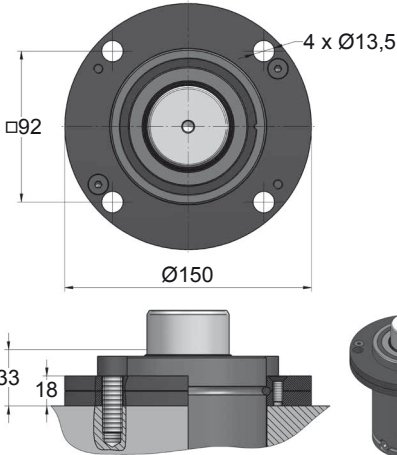


TS gas spring meets the needs of applications requiring tool separation or storage gas springs.

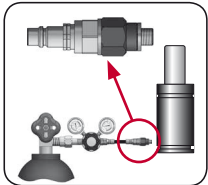
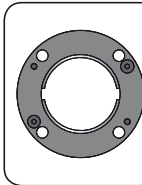
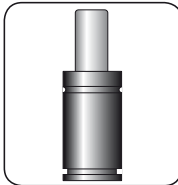
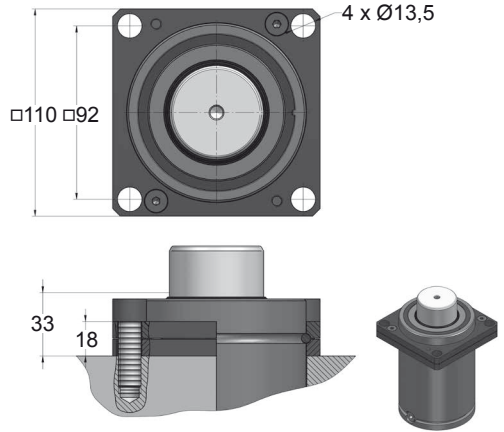
The new generation of tool separation gas springs TS are equipped with a low-friction guide system that enables to increase the SPM (strokes per minute) in comparison to conventional gas springs.



## A14-095



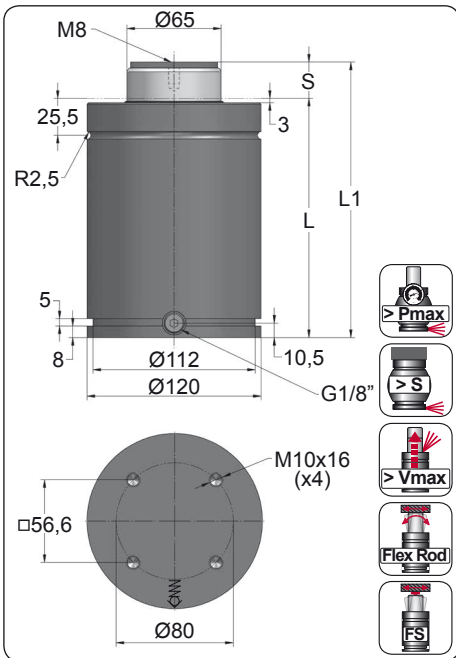
## A34-095



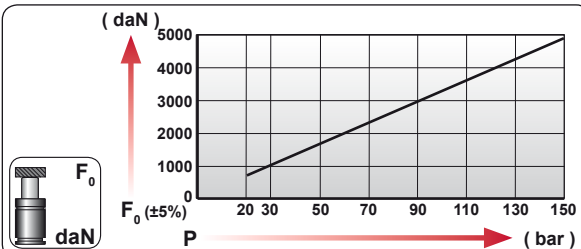
CODE	TS 3000 125	KIT S-XXXXXXX KIT C-XXXXXXX	A14-095	18 CG 1-Q
ENG ORDER	GAS SPRING	REPAIR KIT	FLANGE	CHARGING ADAPTER
DEU BESTELLUNG	GASDRUCKFEDER	ERSATZTEILSATZ	FLANSCHEN	LADEADAPTER
FRA COMMANDE	RESSORT À GAZ	KIT DE RÉPARATION	BRIDE	RACCORD DE CHARGE
ITA ORDINE	CILINDRO AD AZOTO	KIT DI MANUTENZIONE	FLANGE	ADATTATORE DI CARICO
ESP PEDIDO	RESORTE DE GAS	KIT DE REPARACION	BRIDA	ADAPTADOR DE CARGA
POR PEDIDO	CILINDRO DE GÁS	KIT DE MANUTENÇÃO	FLANGE	ADAPTADOR DE CARGA

# TS 5000

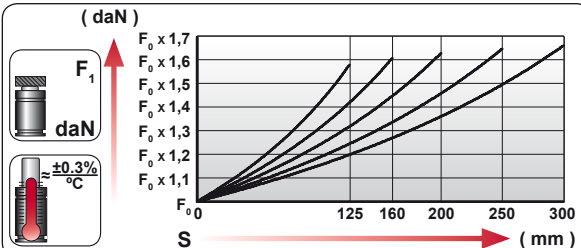
BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25	RENAULT EM24.54.700
VW 39D 878		NISSAN K32S0



ORDER	S (mm)	L1 ±0,25 (mm)	L (mm)	Kg.
TS 5000 125	125	390	265	14.47
TS 5000 160	160	460	300	15.89
TS 5000 200	200	540	340	17.52
TS 5000 250	250	640	390	19.55
TS 5000 300	300	740	440	21.59

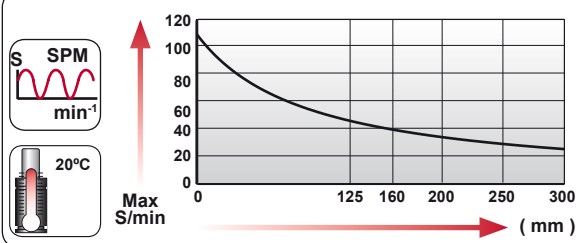


CODE					
		bar	psi		
TS 5000 125		150	2175	4980	7860
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ENG ORDER	DEU BESTELLUNG	FRA COMMANDE	ITA ORDINE	ESP PEDIDO	POR PEDIDO
TS	5000	125			

TS 5000 125



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N <sub>2</sub>	Smax < 90%	Vmax 2 m/s	bar psi 20 290	bar psi 150 2175	°C °F 0 32	°C °F 80 176	600 CP-
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## AG 5000

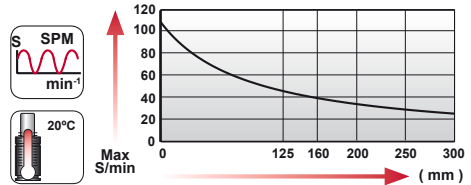
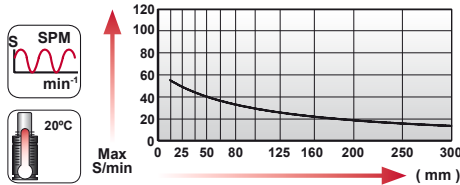


## TS 5000

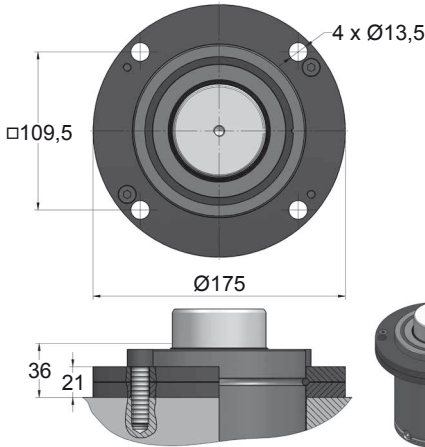


TS gas spring meets the needs of applications requiring tool separation or storage gas springs.

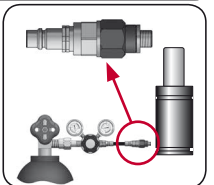
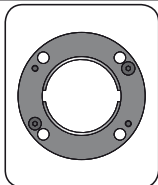
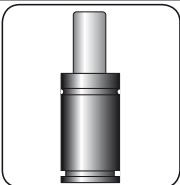
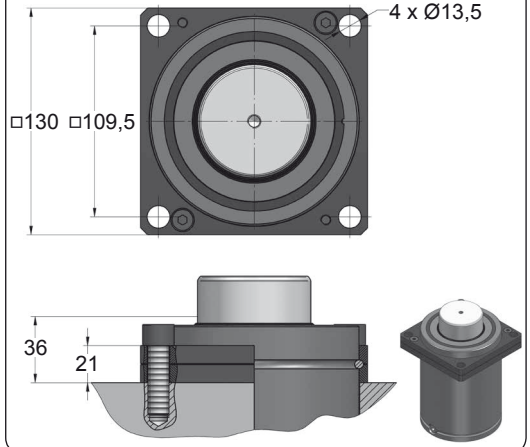
The new generation of tool separation gas springs TS are equipped with a low-friction guide system that enables to increase the SPM (strokes per minute) in comparison to conventional gas springs.



## A14-120



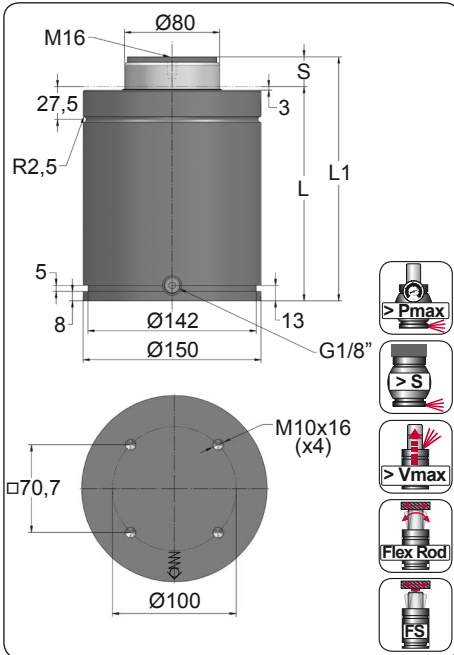
## A34-120



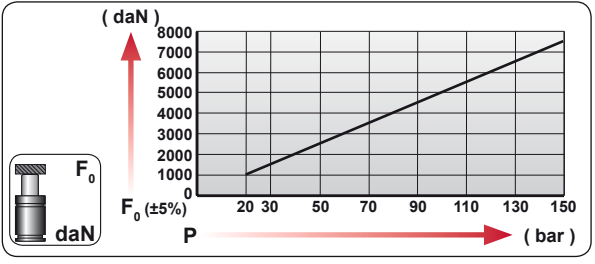
CODE	TS 5000 125	KIT S-XXXXXXX KIT C-XXXXXXX	A14-120	18 CG 1-Q
ENG ORDER	GAS SPRING	REPAIR KIT	FLANGE	CHARGING ADAPTER
DEU BESTELLUNG	GASDRUCKFEDER	ERSATZTEILSATZ	FLANSCHEN	LADEADAPTER
FRA COMMANDE	RESSORT À GAZ	KIT DE RÉPARATION	BRIDE	RACCORD DE CHARGE
ITA ORDINE	CILINDRO AD AZOTO	KIT DI MANUTENZIONE	FLANGE	ADATTATORE DI CARICO
ESP PEDIDO	RESORTE DE GAS	KIT DE REPARACION	BRIDA	ADAPTADOR DE CARGA
POR PEDIDO	CILINDRO DE GÁS	KIT DE MANUTENÇÃO	FLANGE	ADAPTADOR DE CARGA

# TS 7500

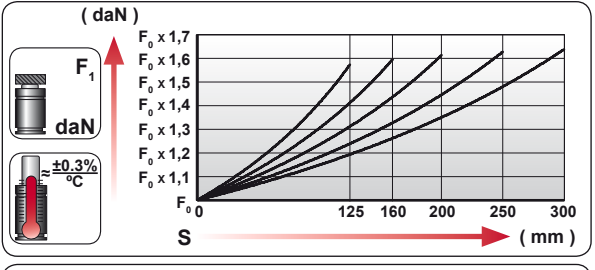
BMW B2 4006	FORD W-DX35-6203	PSA E24.54.815.G
MB B8 3180 220 000 001	GM 90.25	RENAULT EM24.54.700
VW 39D 878		



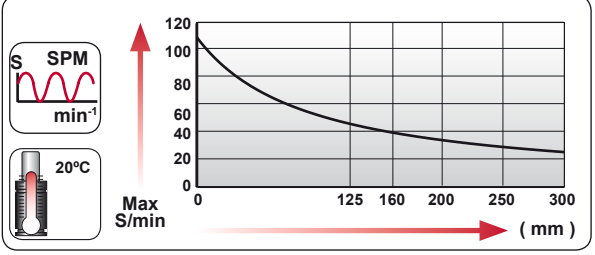
ORDER	S (mm)	L1 ±0,25 (mm)	L (mm)	Kg.
TS 7500 125	125	405	280	24.30
TS 7500 160	160	475	315	26.51
TS 7500 200	200	555	355	29.04
TS 7500 250	250	655	405	32.20
TS 7500 300	300	755	455	35.36



CODE					
		bar	psi		
TS 7500 125		150	2175	7540	11860
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	ENG ORDER		
	DEU BESTELLUNG	daN	mm
FRA COMMANDE	TS 7500 125		
ITA ORDINE			
ESP PEDIDO			
POR PEDIDO			



N <sub>2</sub>	Smax < 90%	Vmax 2 m/s	bar psi 20 290	bar psi 150 2175	°C °F 0 32	°C °F 80 176	600 CP-
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## AG 7500

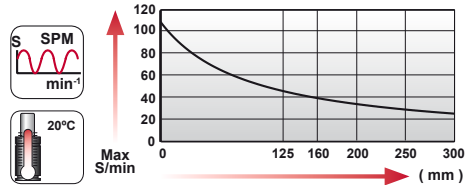
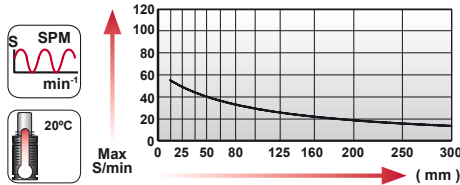


## TS 7500

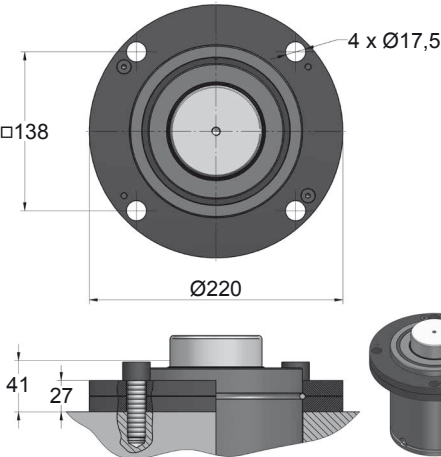


TS gas spring meets the needs of applications requiring tool separation or storage gas springs.

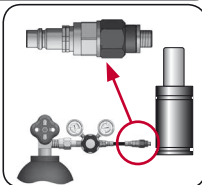
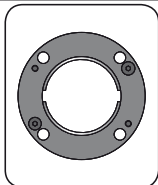
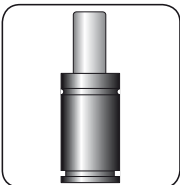
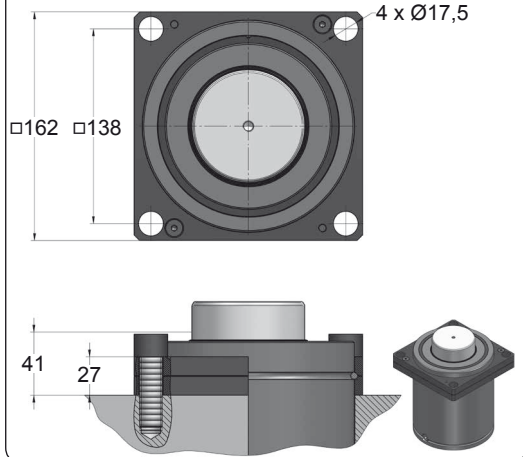
The new generation of tool separation gas springs TS are equipped with a low-friction guide system that enables to increase the SPM (strokes per minute) in comparison to conventional gas springs.



## A14-150

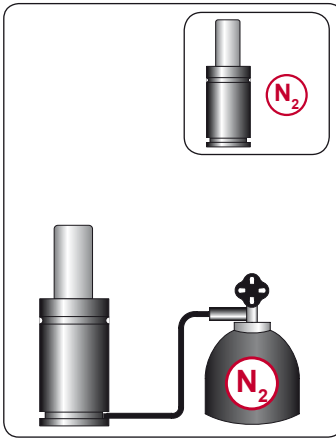
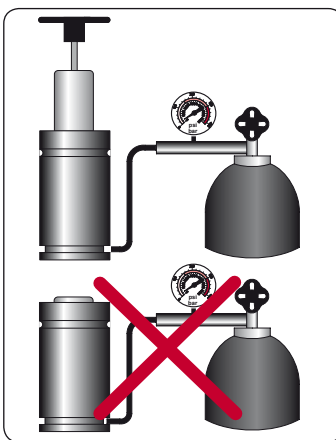
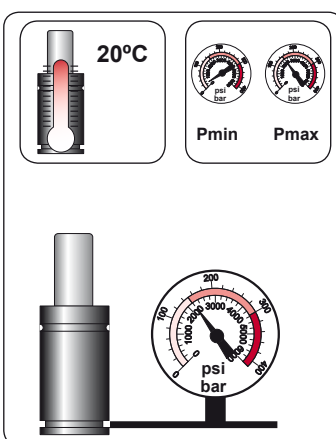


## A34-150

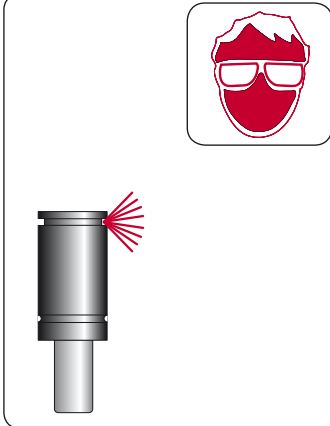
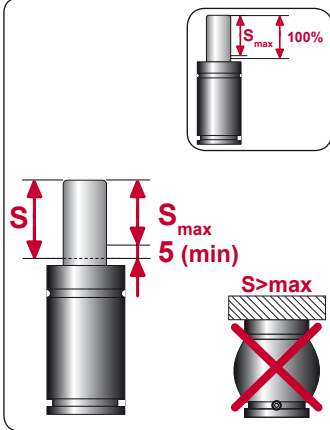
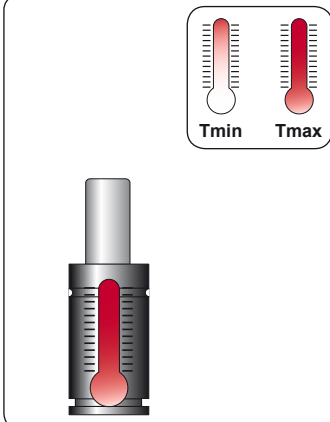


CODE	TS 7500 125	KIT S-XXXXXXX KIT C-XXXXXXX	A14-150	18 CG 1-Q
ENG	ORDER	GAS SPRING	FLANGE	CHARGING ADAPTER
DEU	BESTELLUNG	GASDRUCKFEDER	FLANSCH	LADEADAPTER
FRA	COMMANDE	RESSORT À GAZ	BRIDE	RACCORD DE CHARGE
ITA	ORDINE	CILINDRO AD AZOTO	FLANGE	ADATTATORE DI CARICO
ESP	PEDIDO	RESORTE DE GAS	BRIDA	ADAPTADOR DE CARGA
POR	PEDIDO	CILINDRO DE GÁS	FLANGE	ADAPTADOR DE CARGA

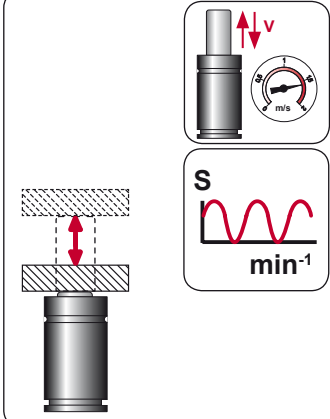
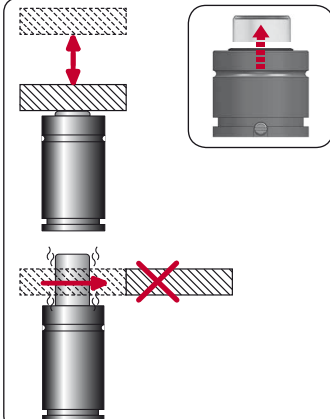
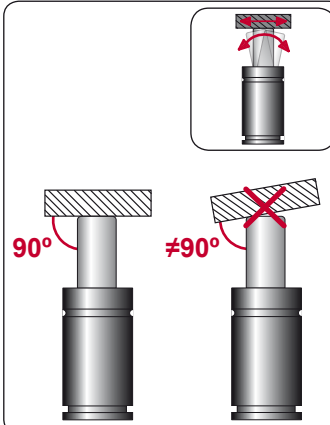
# OPERATING INSTRUCTIONS

	<p><b>ENG</b> Charge only with NITROGEN (N<sub>2</sub>).</p> <p><b>DEU</b> Gasdruckfedern dürfen nur mit Stickstoff gefüllt werden.</p> <p><b>FRA</b> Charge seulement avec du GAZ AZOTE (N<sub>2</sub>).</p> <p><b>ITA</b> Caricare soltanto con GAS AZOTO (N<sub>2</sub>).</p> <p><b>ESP</b> Cargar únicamente con GAS NITROGENO (N<sub>2</sub>).</p> <p><b>POR</b> Carregar somente com GÁS de NITROGÊNIO (N<sub>2</sub>).</p>
	<p><b>ENG</b> Never fill a gas spring when the piston rod is not fully extended.</p> <p><b>DEU</b> Befüllung der Gasdruckfeder nur bei voll ausgefahrener Kolbenstange.</p> <p><b>FRA</b> Ne remplissez jamais un ressort où la tige n'est pas entièrement sortie.</p> <p><b>ITA</b> Caricare il cilindro ad azoto solo quando lo stelo e' completamente estratto.</p> <p><b>ESP</b> No cargar un cilindro de gas si el vástago no está completamente extendido.</p> <p><b>POR</b> Não carregue o cilindro se a haste não estiver totalmente fora do cilindro.</p>
	<p><b>ENG</b> Charge the gas spring between the minimum and the maximum allowable pressure, at a 20°C temperature.</p> <p><b>DEU</b> Gasdruckfedern dürfen nur zwischen dem minimal und maximal zulässigen Fülldruck befüllt werden, immer unter Berücksichtigung einer Umgebungstemperatur von 20°C.</p> <p><b>FRA</b> Chargez le ressort à gaz du minimum jusqu'à la pression maximale autorisée, à une température de 20°C.</p> <p><b>ITA</b> Caricare il cilindro ad azoto entro la pressione minima e massima autorizzata, ad una temperatura di 20°C.</p> <p><b>ESP</b> Cargar el cilindro de gas entre la máxima y mínima presión permitida, siempre teniendo en cuenta una temperatura de 20°C.</p> <p><b>POR</b> Sempre carregue o cilindro dentro do pressão mínimo e máximo autorizado, a uma temperatura de 20°C.</p>

# OPERATING INSTRUCTIONS

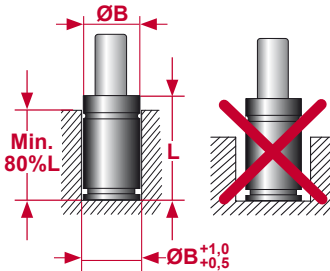

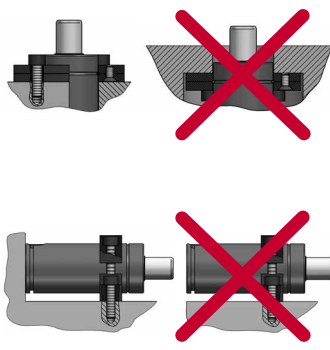
	<p><b>ENG</b> When discharging a gas spring point the gas flow away from operator or anybody else.</p> <p><b>DEU</b> Beim Entladen Ventil nicht auf Personen richten.</p> <p><b>FRA</b> Pendant la décharge, dirigez l'écoulement de gaz à l'écart de l'opérateur ou d'autre personne.</p> <p><b>ITA</b> Durante lo scarico, orientare il flusso del gas in direzione opposta all'operatore ad altra persona.</p> <p><b>ESP</b> Durante la descarga, orientar el flujo de gas fuera del alcance del operador o de cualquier persona.</p> <p><b>POR</b> Durante a descarga do cilindro aponte o fluxo de gás fora do alcance do operador ou qualquer outra pessoa.</p>
	<p><b>ENG</b> Maximum recommended stroke 90%. Overstroke &gt;100% would cause damages to the cylinder and serious risks.</p> <p><b>DEU</b> Es wird empfohlen, eine 10%ige Hubreserve einzuplanen. Ein Überhub führt zur Zerstörung der Gasdruckfeder mit großen Risiken für Gesundheit und Leben von Personen.</p> <p><b>FRA</b> Course recommandée maximale 90%. Une course au dessus de 100% causerait des dommages au cylindre et de graves risques.</p> <p><b>ITA</b> Corsa massima suggerita 90%. Una corsa &gt; 100% danneggia il cilindro e provoca gravi rischi.</p> <p><b>ESP</b> Carrera máxima recomendada 90%. Excesos de carrera &gt; 100% causarían daños al cilindro y graves riesgos.</p> <p><b>POR</b> Curso de trabalho máximo recomendado de 90%. Curso maior que 100% causará danos ao cilindro e riscos graves.</p>
	<p><b>ENG</b> Respect the limits of the operating temperature.</p> <p><b>DEU</b> Die Grenzen der Arbeitstemperatur sind zu berücksichtigen.</p> <p><b>FRA</b> Respecter les limites de température de fonctionnement.</p> <p><b>ITA</b> Rispettare i limiti di temperatura di funzionamento.</p> <p><b>ESP</b> Respetar los límites de temperatura de funcionamiento.</p> <p><b>POR</b> Respeitar os limites de temperatura de funcionamento.</p>

# OPERATING INSTRUCTIONS

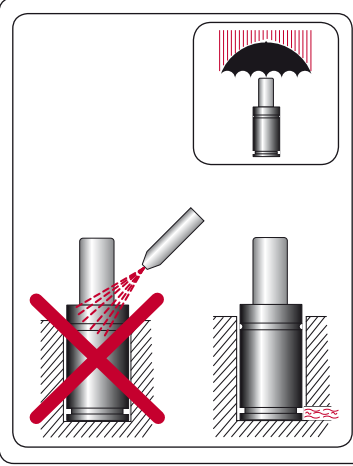
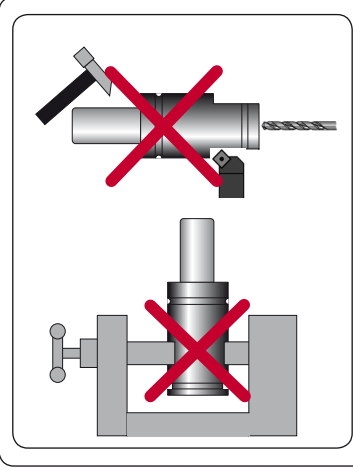
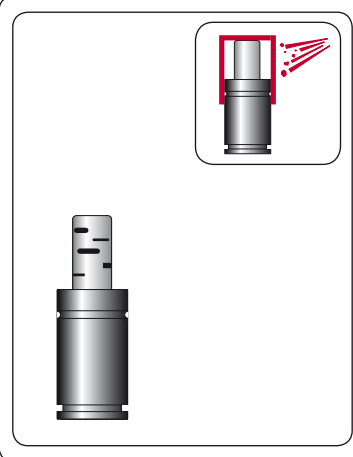
	<p><b>ENG</b> Do not exceed the maximum allowed stroke speed. Maximum allowed cycles per minute should never be exceeded.</p> <p><b>DEU</b> Überschreiten Sie nicht die maximal zulässige Kolbengeschwindigkeit. Die maximale Hubfrequenz sollte nicht überschritten werden.</p> <p><b>FRA</b> Ne dépassez pas la vitesse maximale de course autorisée. Les cycles par minute maximales autorisées ne doit jamais être dépassée.</p> <p><b>ITA</b> Non superare la velocità massima di corsa autorizzata. I cicli massime autorizzate al minuto non deve mai essere superata.</p> <p><b>ESP</b> No superar la velocidad máxima de carrera. El número de ciclos por minuto permitidos no debe superarse.</p> <p><b>POR</b> Não exceda a velocidade máxima do curso autorizada. Os ciclos máximos autorizados por minuto não deve ser excedido.</p>
	<p><b>ENG</b> Avoid freely release of the piston rod, this would cause damages to the gas spring.</p> <p><b>DEU</b> Ein freier Rückhub muss vermieden werden, um Beschädigungen an der Gasdruckfeder zu vermeiden.</p> <p><b>FRA</b> Évitez le dégagement libre de la tige de piston, ceci endommagerait le ressort à gaz.</p> <p><b>ITA</b> Evitare il ritorno libero dello stelo, per non danneggiare il cilindro ad azoto.</p> <p><b>ESP</b> Evitar el retorno libre del vástago, esto dañaría al cilindro de gas</p> <p><b>POR</b> Evite que a haste trabalhe livremente, isto causará danos ao cilindro.</p>
	<p><b>ENG</b> Gas springs must always work completely perpendicular to the contact surface. Side loads increase wearing and reduce life expectancy.</p> <p><b>DEU</b> Es dürfen keine seitlichen Kräfte auf die Gasdruckfedern wirken, da sich sonst die Lebensdauer wesentlich verringert.</p> <p><b>FRA</b> Les ressorts doivent toujours fonctionner complètement perpendiculaire à la surface de contact. Les charges latérales augmentent l'usure et réduisent la durée de vie.</p> <p><b>ITA</b> Le molle a gas devono funzionare sempre completamente il perpendicolare alla superficie di contatto. I carichi laterali aumentano l'usura e ne riducono la durata.</p> <p><b>ESP</b> Los cilindros de gas deben siempre trabajar de manera perpendicular a la superficie de contacto. Las cargas laterales aumentan el desgaste y reducen la vida útil.</p> <p><b>POR</b> Os cilindros devem sempre trabalhar de forma perpendicular à superfície de contato. As forças laterais aumentam o desgaste e reduzem a vida útil do cilindro.</p>



# OPERATING INSTRUCTIONS

	<p><b>ENG</b> When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1mm larger than the gas spring body diameter. And the bore pocket depth must be minimum 80% of L.</p> <p><b>DEU</b> Werden Gasdruckfedern in Vertiefung eingebaut, so sollte der Bohrungsdurchmesser nur 1 mm größer als der Federdurchmesser sein. Die Vertiefung sollte mindestens 80% von L betragen.</p> <p><b>FRA</b> Quand les ressorts sont installés dans une poche, le diamètre de poche ne devrait pas dépasser 1 mm de plus que le diamètre de corps du ressort. Et la profondeur de la poche doit être au minimum de 80% de L.</p> <p><b>ITA</b> Quando le molle a gas sono installate in una sede alesata, il diametro alesato della stessa non deve essere superiore di 1mm, rispetto al diametro del corpo della molla a gas. E la profondità della sede alesata deve essere di almeno 80% di L.</p> <p><b>ESP</b> Cuando los cilindros de gas se instalan en una cajera, el diámetro de la cajera no debería exceder 1mm de la dimension del cuerpo del cilindro de gas. Y la profundidad de la cajera debe ser como mínimo el 80% de L.</p> <p><b>POR</b> Quando o cilindro for instalado dentro de um alojamento, o diâmetro do mesmo não pode exceder 1mm do diâmetro do corpo do cilindro. E a profundidade do alojamento deve ser no mínimo 80% de L.</p>
	<p><b>ENG</b> Do not use the piston rod threaded hole for fixing the gas spring into the tool. This hole is only to be used for maintenance operations.</p> <p><b>DEU</b> Das Gewinde in der Kolbenstange dient nur zu Wartungsarbeiten und darf nicht zur Befestigung der Gasdruckfeder benutzt werden.</p> <p><b>FRA</b> N'employez pas le trou fileté de tige de piston pour la fixation du ressort dans l'outil. Ce trou doit être employé seulement pour des opérations d'entretien.</p> <p><b>ITA</b> Non usare il filetto dello stelo per la riparazione durante il lavoro. Il filetto deve essere usato solamente per gli interventi di manutenzione.</p> <p><b>ESP</b> No usar el agujero roscado del vástago para la fijación del cilindro al útil. Este agujero sólo debe emplearse para operaciones de mantenimiento.</p> <p><b>POR</b> Não use o furo rosqueado da haste para fixar o cilindro. Ele só deve ser utilizado em serviços de manutenção.</p>
	<p><b>ENG</b> Fix the gas spring into the tool through the appropriate mount. The bottom should be supported at all the times. A flat surface against the base is always required.</p> <p><b>DEU</b> Die Befestigung der Gasdruckfeder sollte mittels angemessener Befestigungsflansche erfolgen.</p> <p><b>FRA</b> Fixez le ressort à gaz dans l'outil par la bride appropriée.</p> <p><b>ITA</b> Fissare i cilindri ad azoto solamente con gli specifici elementi di fissaggio. E 'sempre consigliato di sostenere la base del cilindro del gas contro una superficie piana.</p> <p><b>ESP</b> Fijar el cilindro de gas al útil mediante las bridas adecuadas. Se recomienda siempre apoyar la base del cilindro de gas contra una superficie plana.</p> <p><b>POR</b> Fixe o cilindro na ferramenta com a flange adequada. É sempre recomendável para apoiar a base do cilindro de gás contra uma superfície plana.</p>

# OPERATING INSTRUCTIONS

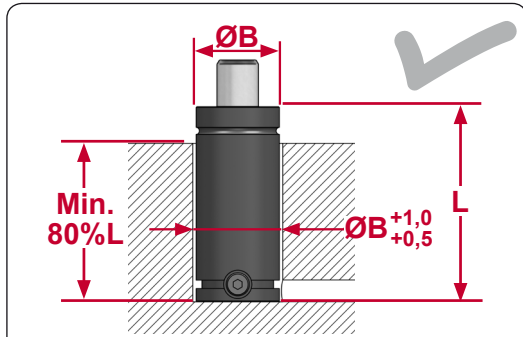
	<p><b>ENG</b> Protect the gas springs from solid or liquid contaminants. Provide adequate drainage in gas springs pockets.</p> <p><b>DEU</b> Schützen Sie die Gasdruckfedern vor Kontakt mit festen oder flüssigen Verschmutzungen. Bei Einbau in Kavitäten müssen Drainage-Kanäle eingebracht werden.</p> <p><b>FRA</b> Protégez les ressorts à gaz contre les contaminants solides ou liquides. Un drainage dans les poches des ressorts est recommandé.</p> <p><b>ITA</b> Proteggere i cilindri ad azoto da ogni contaminazione solida o liquida. E' suggerito uno scarico sufficiente nel caso di sede alesata.</p> <p><b>ESP</b> Proteger los cilindros de gas de contaminantes sólidos o líquidos. Proporcionar drenaje adecuado a las cajas donde se instalan los cilindros.</p> <p><b>POR</b> Proteja os cilindros de contaminadores sólidos ou líquidos. Recomenda-se a drenagem dos alojamentos.</p>
	<p><b>ENG</b> Avoid whatever impact and do not make any mechanical work on the gas spring body or piston rod.</p> <p><b>DEU</b> Schützen Sie die Gasdruckfeder insgesamt ( besonders Körper und Kolbenstangen ) gegen mechanische Beschädigung.</p> <p><b>FRA</b> Evitez quelqu'impact que ce soit et ne faites aucun travail mécanique sur la tige ou le corps du ressort à gaz.</p> <p><b>ITA</b> Evitare ogni lavoro meccanico ed ogni danneggiamento al corpo e allo stello della molla a gas.</p> <p><b>ESP</b> Evitar cualquier impacto o trabajo mecánico en el cuerpo o vástago del cilindro.</p> <p><b>POR</b> Evite qualquer impacto ou trabalho mecânico tanto na haste como no corpo do cilindro.</p>
	<p><b>ENG</b> Gas springs with scratches on the piston rod surface should be replaced.</p> <p><b>DEU</b> Gasdruckfedern mit Kratzern auf der Kolbestange-Oberfläche sollten ersetzt werden.</p> <p><b>FRA</b> Des ressorts à gaz avec des éraflures sur la surface de la tige devraient être remplacés.</p> <p><b>ITA</b> Le molle a gas con graffi sulla superficie dello stello devono essere sostituite.</p> <p><b>ESP</b> Los cilindros de gas con marcas en la superficie del vástago deberían reemplazarse.</p> <p><b>POR</b> O cilindro que apresentarem riscos na haste a mesma deverá ser substituída.</p>

# OPERATING INSTRUCTIONS

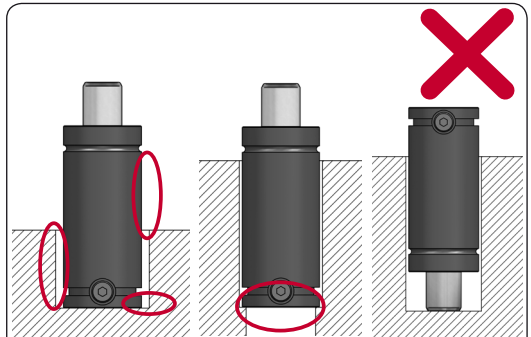
 	<p><b>ENG</b> Gas springs maintenance must be carried out only by skilled personnel, with the appropriate training, and always following the operating and service instructions from Azolgas.</p> <p><b>DEU</b> Arbeiten an den Gasdruckfedern dürfen ausschließlich von geschulten Mitarbeitern durchgeführt werden. Die technischen Hinweisen, Vorgaben und Anweisungen von Azolgas müssen unbedingt und jederzeit befolgt werden.</p> <p><b>FRA</b> L'entretien des ressorts à gaz doit être effectué uniquement par du personnel habilité, ayant les formations requises, et cela en respectant toujours les instructions de service d'Azolgas.</p> <p><b>ITA</b> La manutenzione delle molle a gas deve essere effettuata solo da personale esperto, con preparazione specifica e sempre seguendo le istruzioni di servizio di Azolgas.</p> <p><b>ESP</b> El mantenimiento de los resortes de gas debe ser efectuado por personal cualificado, con la debida formación, y siguiendo las instrucciones de utilización y mantenimiento de Azolgas.</p> <p><b>POR</b> A manutenção dos cilindros deve ser realizada somente por pessoas qualificadas, com treinamento apropriado, e seguindo as instruções de funcionamento e manutenção da Azolgas.</p>
 	<p><b>ENG</b> Most of Azolgas gas springs could be used into linked systems. Linked systems allow users to easily monitor, control and adjust pressure.</p> <p><b>DEU</b> Die meisten Azolgas Gasdruckfedern können durch Verschlauchung in einem Verbundsystem arbeiten. Das erleichtert das Steuern, Ablesen und das Anpassen des Druckes.</p> <p><b>FRA</b> La plupart des ressorts à gaz Azolgas peuvent être utilisés dans les systèmes reliés. Cela permet facilement aux utilisateurs de surveiller, contrôler et ajuster la pression.</p> <p><b>ITA</b> La maggior parte delle molle a gas della Azolgas possono essere utilizzate in sistemi collegati, che permettono agli utenti di verificare, controllare ed intervenire sulla pressione.</p> <p><b>ESP</b> La mayoría de los cilindros de gas Azolgas pueden ser usados en sistemas conexonados, permitiendo al usuario la fácil monitorización, control y ajuste de presión.</p> <p><b>POR</b> A maioria dos cilindros Azolgas pode ser utilizado em sistemas interligados, permitindo ao usuário fácil monitoramento e controlo da pressão.</p>
	<p><b>ENG</b> Designed and manufactured according PED 97/23/CE. The user of the gas springs is responsible for future inspections to be made to the springs in accordance with the regulations of the country where they will be used. Azolgas recommend to replace gas springs after 2 million strokes/10 years.</p> <p><b>DEU</b> Gasdruckfedern sind entwickelt und hergestellt nach Druckgeräte-Richtlinie PED 97/23/CE. Der Benutzer hat dafür zu sorgen dass die nationale Richtlinien bezüglich Wartung und periodische Inspektionen unbedingt eingehalten werden. Azolgas empfiehlt, die Gasdruckfedern nach 2 Millionen Hüben, spätestens nach 10 Jahren, zu ersetzen.</p> <p><b>FRA</b> Conçu et fabriqué selon PED 97/23/CE. L'utilisateur des ressorts à gaz est responsable pour les inspections qui doivent être faits pour les ressorts à gaz conformément à la réglementation du pays où ils seront utilisés. Azolgas recommandent de remplacer des ressorts après 2 millions de cycles/10 années.</p> <p><b>ITA</b> Progettato e prodotto secondo PED 97/23/CE. L'utente delle molle a gas è responsabile di future ispezioni da effettuare per le molle a gas, secondo le norme del paese in cui verranno utilizzati. Azolgas suggerisce di sostituire le molle a gas dopo 2 milioni di colpi/10 anni.</p> <p><b>ESP</b> Diseñado y fabricado según PED 97/23/CE. El usuario del equipo a presión deberá responsabilizarse de las futuras inspecciones a efectuar a dicho equipo de acuerdo con la normativa específica del país en el que vaya a utilizarse. Azolgas recomienda reemplazar los cilindros de gas después de 2 millones de ciclos/10 años.</p> <p><b>POR</b> Projetado e fabricado de acordo com a PED 97/23/CE. O usuário dos cilindros é responsável por inspeções futuras a serem feitas para os cilindros, de acordo com as normas do país onde eles serão utilizados. Azolgas recomenda a troca dos cilindros após 2 milhões de ciclos/10 anos.</p>

# INSTALLATION EXAMPLES

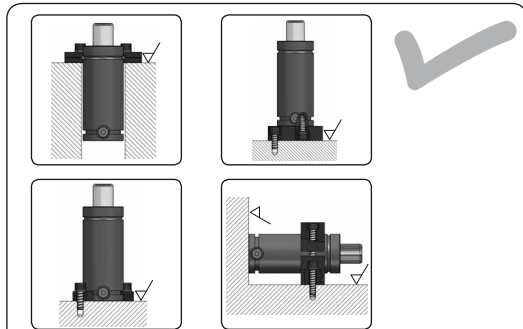
**AZOL  
GAS**



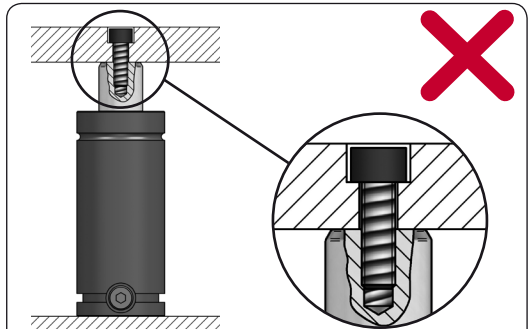
The bored pocket diameter should not exceed 1mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L. Provide adequate drainage in gas springs pockets when required.



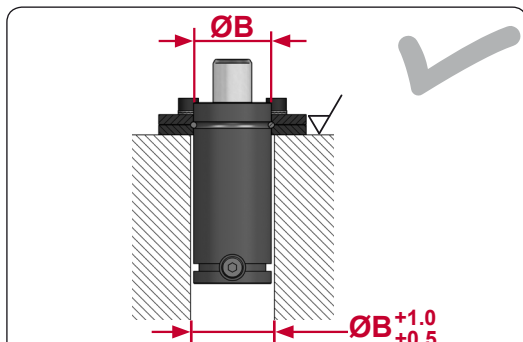
Incorrect pockets (i.e. larger diameter or shorter length) may cause structural damage or reduced life of gas springs.



Fix the gas spring into the tool through the appropriate mount in the right way.

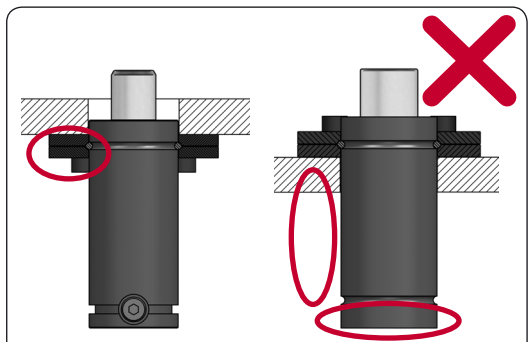


Do not use the piston rod threaded hole for fixing the gas spring into the tool. The top rod threaded hole is only to be used when servicing the gas springs.



### Example mount type A

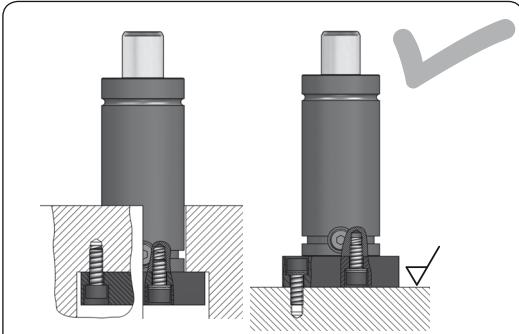
When using mount type A into a bored pocket, the bored pocket diameter should not exceed 1mm larger than the gas spring body diameter.



### Example mount type A

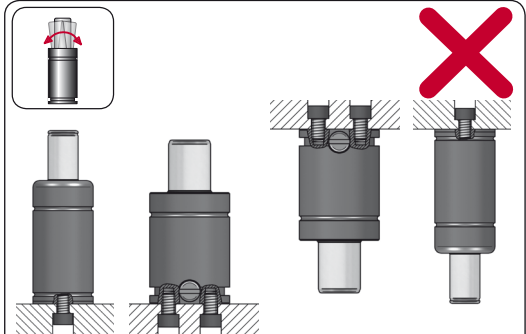
In Compact Power Stroke series (CS) and Heavy Load Series (CP-CPH) the bottom should be supported at all the times. A flat surface against the base is always required.

# INSTALLATION EXAMPLES

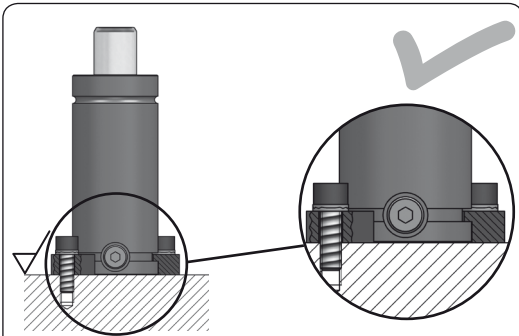


### Example mount type B

Fix the gas spring into the tool through the appropriate mount in the right way.

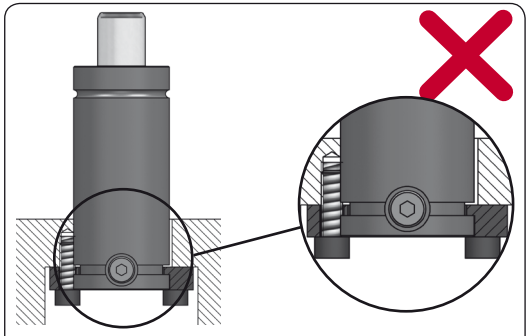


In MINI and Compact Height series (CW) avoid side loads by using the appropriate mounts. Do not fix the MINI and Compact Height series (CW) to the tool only by using screws at the bottom.



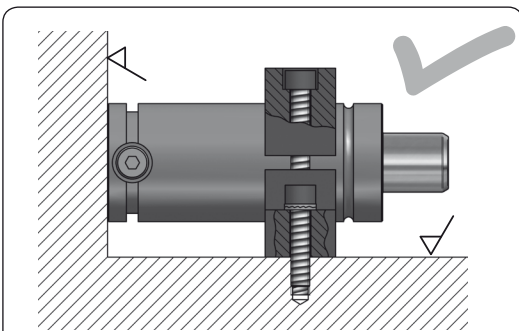
### Example mount type C

Fix the gas spring into the tool through the appropriate mount in the right way.



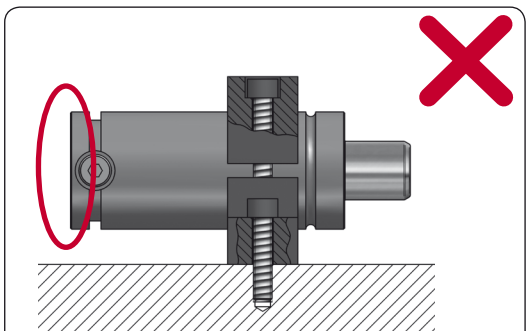
### Example mount type C

The bottom should be supported at all the times. A flat surface against the base is always required.



### Example mount type D

Fix the gas spring into the tool through the appropriate mount in the right way.



### Example mount type D

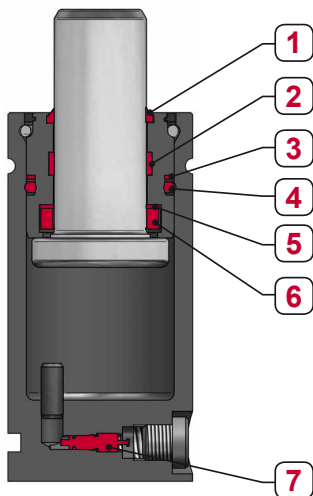
The bottom should be supported at all the times. A flat surface against the base is always required.

# REPAIR KIT

**AZOL  
GAS**



## SEAL KIT

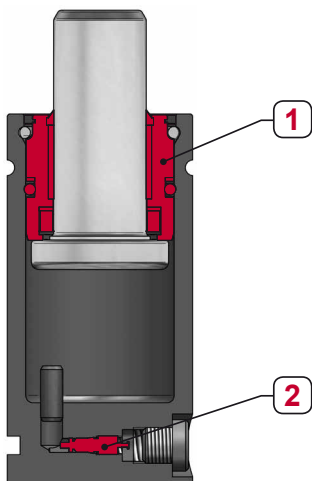


## KIT S-XXXXXXX

Nº	Description	Quantity
1	Wiper	1
2	Guide	1
3	O-ring protector	1
4	O-ring	1
5	Gasket protector	1
6	Gasket	1
7	Filling valve	1
	Oil bottle	1
	Operating instructions	1



## CARTRIDGE KIT



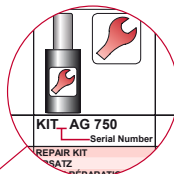
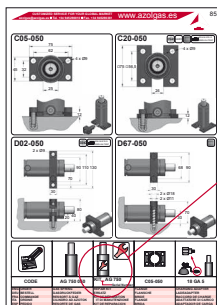
## KIT C-XXXXXXX

Nº	Description	Quantity
1	Dust cover	1
2	Cartridge	1
3	Filling valve	1
	Oil bottle	1
	Operating instructions	1

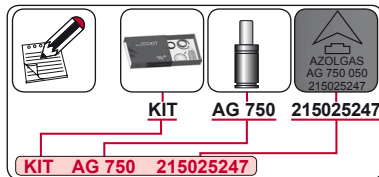


# REPAIR KIT

## HOW TO ORDER KIT REPAIR (OLD VERSION)

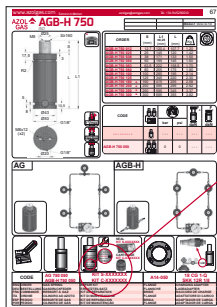
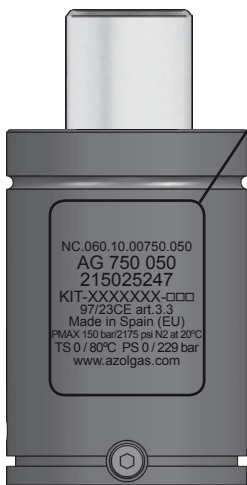


### HOW TO ORDER

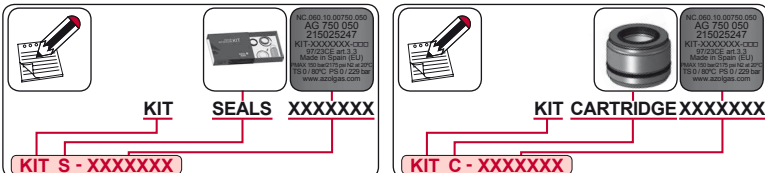


Should the gas spring be marked a serial number on the body (e.g. 215025247), the way to order the kit repair is as follows: **KIT – gas spring model – serial number**.

## HOW TO ORDER KIT REPAIR (NEW VERSION)



### HOW TO ORDER



Should the gas spring be marked a serial number on the body (e.g. 215025247), but additionally it has engraved the word **KIT** with an associated kit repair number (e.g. KIT 1234567), the way to order the kit repair is as follows: **KIT – serial number of the kit repair engraved – S (only seals) or KIT – serial number of the kit repair engraved – C (cartridge)**. □□□ are used to mark repairs (e.g. X□□).



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