## The Safer Choice

Introduced in 1983, the KALLER gas spring technology quickly led to worldwide demand. The Safer Choice - Training, Safety and Reliability - has always been a KALLER top priority for providing the safer working environment. We recommend looking through all available KALLER features when selecting gas springs and gas or hose linked systems.



#### **KALLER Training Program**

TRAINING. Without doubt the KALLER Training Program is the best and most creative way to fully understand and appreciate the importance of the safety and reliability features.



#### PED approved for 2 million strokes

RELIABILITY. Our 2 million stroke PED approval ensures safer component cycle life.



#### Flex Guide<sup>™</sup> System

RELIABILITY. Prolongs service life, life, allows more strokes per minute, and offers greater tolerance to lateral tool movements.



#### Dual Seal<sup>™</sup> Link Systems

RELIABILITY. Fewer production interruptions due to leakage caused by vibration. Simplified installation thanks to the non-rotation feature.



#### **Overstroke Protection System**

SAFETY. When a gas spring is overstroked, this helps reduce the risk of tool damage or injury.



#### **Overload Protection System**

SAFETY. Jammed cam or tool part being forced by gas springs? This will help reducing such risks.



#### Overpressure Protection System

SAFETY. Vents the spring if the internal gas pressure exceeds the maximum allowable limit to prevent accidents.

### Gas Spring Selection Guide 2012



Would you like to order this product? All available information at www.kaller.com

kaller.com



#### **Gas Spring Selection Guide 2012**

	Description		Gas spring	Available stroke lengths* (mm)	Initial force at max pressure		Total length*	Cylinder
series			model		(N)	(lbf)	(mm)	diameter (mm)
EP2/ EP3	EP3 16 EP2 24 EPS2 24 are color cod-	1.1	EP3 16	10 - 125	420	95	45 + (2 x Stroke)	M16x1.5/ 16x2
	ed gas Ejector-Pins, fully interchange- able with mechanical spring plungers		EP2 24	10 - 125	1,700	380	45 + (2 x Stroke)	M24x1.5
			EPS2 24	10 - 125	1,700	380	45 + (2 x Stroke)	M24x1.5
2	R12, R15 & R19 rod sealed and color coded gas springs that are compact and fully adjustable	A. Hall	R12	7 - 125	500	110	42 or 45 + (2 x Stroke)	Ø 12
			R15	7 - 125	700	160	42 or 45 + (2 x Stroke)	Ø 15
		1111 1111	R19	7 - 125	900	200	42 or 45 + (2 x Stroke)	0 19
Mini	Repairable, color coded and fully ad- justable gas springs available with or without threaded cylinders		MM2	10 - 125	2,000	450	42 or 45 + (2 x Stroke)	M28v1 5
		AND DECK	MC3	10 - 125	2,000	450	$50 + (2 \times Stroke)$	Ø 32
CU	Super Compact gas springs that provide extreme forces with minimal Cylinder Diameters	9	CU 420	6 - 50	4,250	960	56 - 195	Ø 25
			CU 740	6 - 50	7,400	1,660	63 - 195	Ø 32
		<u> </u>	CU 1000	6 - 50	10,600	2,380	61 - 230	Ø 38
			CU 1800	6 - 50	18,000	4,045	66 - 220	Ø 50
		100-2	CU 2900	10 - 50	29,500	6,630	85 - 205	Ø 63
			CU 4700	10 - 50	47,000	10,570	80 - 240	Ø 75
			CU 7500	10 - 50	75,000	16,860	90 - 255	Ø 95
			CU 11800	10 - 50	118,000	26,530	100-260	0 120
			X 170	7 - 105	1 700	41,140	110 - 270	Ø 19
ower Line	The world's shortest, strongest and most advanced rod sealed gas springs		X 320	7 - 125	3,200	720	30 or 35 + (2 x Stroke)	0 25
			X 350	10 - 125	3 600	810	30 + (2 x Stroke)	Ø 32
			X 500	10 - 125	4,700	1,055	30 + (2 x Stroke)	Ø 38
			X 750	10 - 125	7,400	1,665	32 + (2 x Stroke)	Ø 45
			X 1000	13 - 125	9,200	2,070	38 + (2 x Stroke)	Ø 50
			X 1500	13 - 125	15,000	3,375	44 + (2 x Stroke)	Ø 63
			X 2400	16 - 125	24,000	5,400	45 + (2 x Stroke)	Ø 75
			X 4200	16 - 125	42,000	9,440	58 + (2 x Stroke)	Ø 95
			X 6600	16 - 125	66,300	14,905	68 + (2 x Stroke)	Ø 120
			X 9500	19 - 125	95,000	21,400	78 + (2 x Stroke)	Ø 150
			X 20 000	19 - 125	200,000	45,000	110+ (2 x Stroke)	Ø 195
₽	Ranges from model sizes 750 to 7,500, with the same features and technology as the TU. At the same time, the TL gas spring is shorter than the corresponding TU by 25 mm, except TL 5000 and TL 7500, which are 37.5 and 50 mm shorter respectively	a dib	TL 750	12.5 - 250	7,400	1,665	70 + (2 x Stroke)	Ø 50
			TL 1500	12.5 - 250	15,000	3,375	85 + (2 x Stroke)	Ø 75
			TL 3000	12.5 - 250	30,000	6,740	95 + (2 x Stroke)	0 95
			TL 3000	25 - 250	75,000	11,240	102,5 + (2 x Stroke)	Ø 120
5			TL 250	10 - 125	2 650	790	$50 + (2 \times \text{Stroke})$	Ø 38
	<b>T</b> IL		TU 500	10 - 160	4,700	1.055	85 + (2 x Stroke)	Ø 45
			TU 750	12.7 - 300	7,400	1,665	95 + (2 x Stroke)	Ø 50
	basis of the International Standards		TU 1500	25 - 300	15,000	3,375	110 + (2 x Stroke)	Ø 75
	Organisation(ISO 11 901) for gas springs as well as the Ford WDX and GM gas spring standards	💐 🖓 🖉 🔁	TU 3000	25 - 300	30,000	6,740	120 + (2 x Stroke)	Ø 95
			TU 5000	25 - 300	50,000	11,240	140 + (2 x Stroke)	Ø 120
			TU 7500	25 - 300	75,000	16,860	155 + (2 x Stroke)	Ø 150
			TU 10000	25 - 300	106,000	23,830	160 + (2 x Stroke)	Ø 195
	The Power Line - Heavy Duty series, a crossover between our standard TU series and our Power Line X series	JL 🔛 🔟	TX 1000	13 - 300	9,200	2,075	95 + (2 x Stroke)	Ø 50
Ĭ			I X 2400	25 - 300	24,000	5,400	110 + (2 x Stroke)	10 /5
			TX 4200	25 - 300	42,000	9,450	120 + (2 x Stroke)	Ø 120
			TX 9500	25 - 300	95.000	21.400	140 + (2 x Stroke)	Ø 120
$\left  \right $	Speed Control <sup>™</sup> have been engi- neered to reduce or eliminate blank holder bounce; commonly associated with increased return stroke speeds		SPC 750	125 - 300	7 400	1,665	110 + (2 x Stroke)	Ø 75
			SPC 1500	125 - 300	15,000	3,375	120 + (2 x Stroke)	Ø 95
SF			SPC 3000	125 - 300	30,000	6,750	140 + (2 x Stroke)	Ø 120
	from link drive presses.		SPC 5000	125 - 300	50,000	11,250	155 + (2 x Stroke)	Ø 150
LCF	These innovative Low Contact Force gas spring are 100% interchangeable with ISO gas springs (i.e. our TU series) and reduce shock loads, noise levels and pad bounce problems	IL IL a	LCF 750	12.7 - 300	7,400	1,665	95 + (2 x Stroke)	Ø 50
			LCF 1500	25 - 300	15,000	3,375	110 + (2 x Stroke)	Ø 75 Ø 95
				25 - 300	50,000	0,740	120 + (2 x Stroke)	Ø 120
			LCF 5000	25 - 300	75.000	16.860	140 + (2 x Stroke) 155 ± (2 x Stroke)	Ø 120
μT	Mould Temp gas springs are compact and powerful piston rod sealed gas springs, which can be used up to 120°C	53	MT 16	10-80	420	95	48 + (2 x Stroke)	M16x1.5
		ALL.	MT 24	10 - 80	1,700	380	48 + (2 x Stroke)	M24x1.5
			MT 300	10 - 80	3,000	675	30 + (2 x Stroke)	Ø 32
			MT 500	10 - 80	4,700	1,055	30 + (2 x Stroke)	Ø 38
			MT 750	10 - 80	7,440	1,665	32 + (2 x Stroke)	Ø 45
Ĺ			MT 1000	13 - 80	9 200	2 070	38 + (2 x Stroke)	Ø 50

roducts with nique safety atures





are required in production.



er Cam - RC2, RCP2 used for cing, trimming, flanging and riking. The Roller Cam can nounted in both vertical and zontal planes.



-hit Striker Plate - SSP has engineered to address three e major problems that face al stampers:

gh noise levels

· Poor part quality

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1" = 25.4 mm Note:

 $1 \text{ daN} \approx 1 \text{ kgf}$ 1 daN ≈ 2.25 lbf

1 bar = 14.5 psi

#### **Gas Spring Selection Guide 2012**

# ther KALLER

Form<sup>™</sup> offers an excellent control em both for movement and forces. LER can offer a lockable return tion or an adjustable slow return.

**Cam®** used for piercing, cutting, ing and flanging operations. The em allows for a flexible distribution rces with optimal direction and city. By using a Flex Cam, fewer

cessive shock loads



The Micro EO24<sup>™</sup> Hose and Tube the system is our most compact, soft sealed gas linking system.



Hose-less Baseplate<sup>™</sup> the increasingly popular easy-accessible alternative to the conventional manifold systems on the market.



Controllable Gas Springs-KF2 a family of gas springs, for use in press tools, that can be locked in their bottom position and where the return stroke of the spring can be controlled.



Stock Lifters & Flange Strippers used in transfer and progression dies to provide self-guiding, non-rotating and easily adjustable lifting or stripping forces.



**Die Separation Gas Springs - DS** Using the new DS springs is an excellent way to avoid unnecessary wear of die, press and gas springs. A 70-80 % energy saving compared to using traditional springs is an additional benefit.

