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KOREA GAS SPRING



The Best Quality Products

입증된 기술에 지만하지 않고 끊임없는 연구개발을 통해 고객
의 만족을 위해 신기술, 신제품 개발에 온 정성을 다하는 기업
입니다.

KGS
KGS 株式會社
KOREA GAS SPRING CO.,LTD.

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The world most qualified dampening system provider



KOREA GAS SPRING

Message

안녕하십니까? 그동안 저희 KGS(주)는 창립이후 지속적인 기술혁신과 창의적인 연구개발을 통하여 고객만족의 기업정신을 추구해 왔습니다. 오랫동안 축적된 기술과 경험의 토대위에 고객 여러분의 성원과 지도로 당사는 성실하게 성장 되었습니다. 매년 꾸준한 설비증설과 연구개발 투자로 유압 완충 장치 전문 생산업체로서 첨단기술 개발과 고품질의 제품실현을 물론 소량 다품종 생산 공급을 통해 긴급대응으로 “믿을수 있는 기업”, “신뢰받는 기업”으로서의 그 역할에 성실한 노력을 아끼지 않았습니다. 언제나 연구와 기술개발이 판매보다 우선되어야 한다는 신념이래 전직원이 제품개발에 앞장서며 고객만족에서 그치지않고 고객감동으로 까지 실현시킬수있는 제품을 생산하는것, 이것이 KGS(주)의 나아갈 길입니다. 감사합니다

We, KGS Co., Ltd., have been in pursuit of the Company Spirit of Customer Satisfaction through lasting technological innovation and creative research & development(R&D) since founded (in 0000). We have steadily grown up thanks to our customers' favorable cheering and guidance based upon our technology and experience accumulated for a long time.

We will lavish our sincere efforts on our role as a "credible company" and "public confidence-winning company" through urgent countermeasure by means of production & supply of small lot & multiple items as well as ultramodern technological development and realization of high quality as a company specialized in production of hydraulic bumpers through year-by-year steady extension of installations and investment of research and development(R&D).

Under our conviction "Always research and technical development should takes precedence over sales, that our all employees will be on the cutting edge of development of new items and that we will produce such the goods to realize up to customer's deep impression not putting a stop to customer satisfaction is just our KGS Co., Ltd.'s way to go forward.

Thank you very much.

KGS Co., Ltd. President,

Company History

- 2001 1 (주)한일정밀 조립공장 설립
- 2001 9 케이지에스 주식회사 설립
- 2002 7 국내 유수업체 납품
- 2003 6 미주지역 수출계약
- 2003 9 ISO9001 인증 획득
- 2004 3 공장 이전 (주촌면 내삼리 983-1)
- 2005 2 고압품개발 (300Kg)
- 2006 3 역기능 GAS SPRING 개발/수출
- 2007 2 공장 확장이전 (주촌면 내삼리 906)

- 2001 Jan Established the assembly plant of Hanil Precision Co., Ltd.
- 2001 Sep Established KGS Co., Ltd.
- 2002 July Delivered goods to the leading company in Korea.
- 2003 June Made an export contract with the companies of America.
- 2003 Sep Acquired ISO 9001 Certification
- 2004 March Moved the plant (#983-1, Naesam-ri, Juchon-myeon)
- 2005 Feb Developed hi-pressure goods (300Kg)
- 2006 March Developed & exported the reverse function Gas Spring.
- 2007 Feb Extended & moved the plant. (#906, Naesam-ri, Juchon-myeon)

KOREA GAS SPRING

Gas Spring System

▶▶▶ GAS SPRING이란? / WHAT IS GAS SPRING?

Gas spring은 주로 자동차의 Tail gate 및 Hood부분에 장착되어 Door의 개폐를 용이하게 한다. Gas spring은 Pressure Tube, Piston Rod, Oil seal, Oil 및 기타 부품들로 이루어져 있으며, 압력 튜브내에 질소 가스를 봉입한 후 질소가스가 새지 않도록 밀봉하여 습동되면서 Pressure Tube 체적 변화에 따라 내부의 압력이 달라지면서 하중의 차이가 발생하여 작동한다.

The gas spring is usually mounted to the tail gate or hood/bonnet and makes easy of lifting/lowering the coverlet. The gas spring consists of pressure tube(Cylinder), piston rod(Shaft), oil seal and other components. After sealing the Nitrogen gas in the pressure tube, it is sealed not to leak, then piston rod is operating. It is supposed to operate owing to the difference of internal pressure and load in which are depending on Volumet ransformation in the pressure tube.

▶▶▶ 당사 GAS SPRING의 장점 / MERITS OF GAS SPRING

당사 GAS SPRING은 작동의 용이함과 편리함을 필요로 하는 적용 품(장착대상물)의 반발력 조정과 힘의 반력을 상쇄시키는 데 매우 용이하게 사용된다.

- 1) 높은 반력과 긴 행정에서도 일정한 탄력 변화율을 유지(하중을 받는 중에 도 낮은 변화율 유지)
- 2) 컴팩트한 디자인과 외형
- 3) 어떠한 적용 품에도 쉽게 장착가능한 뛰어난 조립성
- 4) 추가적인 감쇄력 조절 장치의 사용 없이도 작동상의 자동 감쇄 기능
- 5) 팽창, 압축, 속도의 조절 기능
- 6) 제품 사용 중 언제 든지 반발력(상행) 조정 가능
- 7) 가스 주입 방식의 독특함

A gas spring is utilized for the adjustment of reaction force of application, which requires convenience and easiness of operating.

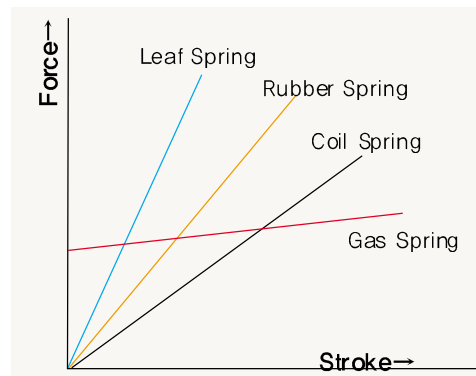
- 1) Sustaining of the constant elasticity change rate even in the high reaction force and long stroke.
- 2) Compact design and appearance
- 3) Easy mounting and installing in any application at any position
- 4) Automatic operational dampening function with out any additional adjustment device.
- 5) compression and extension speed adjustable.
- 6) Reaction force will be adjustable at any time of usage.(in case of charge up)
- 7) The unique gas filling system.

▶▶▶ GAS SPRING의 기능 / FUNCTION OF GAS SPRING

가스 스프링은 비교적 무겁고 하중이 큰 물체의 덮개 부분이나 개, 폐구의 반력을 상쇄시키는 가장 효과적인 방법으로 사용될 수 있다. 또한 다루기 어렵고 무거운 물체를 안전하게 포지셔닝시키며, 들어올림, 낮춤기능을 이상적으로 수행할 수 있도록 한다.

기타 금속, 기계, 스프링보다 쓰임새가 매우 다양하고, 일반 스프링과는 달리 긴 행정(Stroke)에서도 힘의 차이가 거의 없는 것이 특징이며, 속도 조절, 감쇄(Damping), 충격 완화, 간단한 장착성, 컴팩트한 사이즈, 평탄한 반발력 선도(force Diagram), 그리고 다양한 범위의 반발력을 그 주된 기능으로 한다.

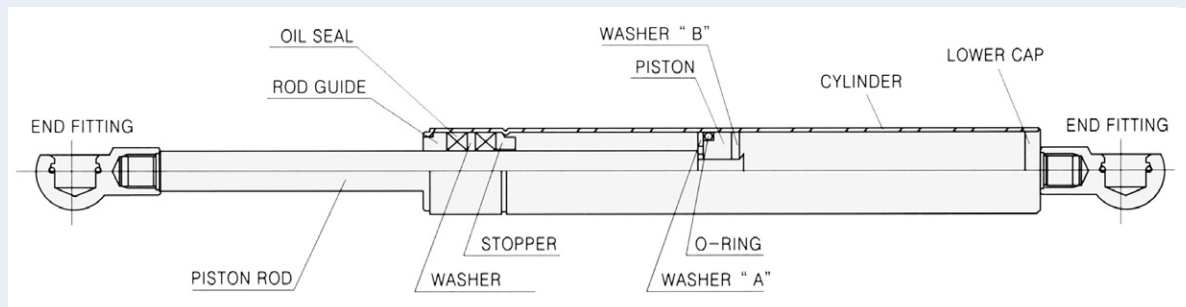
A gas spring can be effectively used to offset the reaction force of coverlet or opening & closing cockpit, which has heavy weight. It makes easy control of material which is hard to deal with, and it makes ideal position of lifting and lowering safely. Against of the other general springs, gas spring makes little difference of force with long stroke,



▶▶▶ 최적화된 외관 / OPTIMUM APPEARANCE

GAS SPRING은 Rod, Pressure Tube, Piston, Oil의 중요부품 및 기타 부품들로 이루어져 봉합된 실린더이다. 또한 이러한 실린더 내부에는 압축된 불활성가스(질소가스)와 극소량의 Oil이 포함되어 있다.

A gas spring is composed of sealed tube with piston rod(shaft), piston, oil seal and the other Components. Compressed inert nitrogen gas and minimum operating oil was included inside of the tube as well.

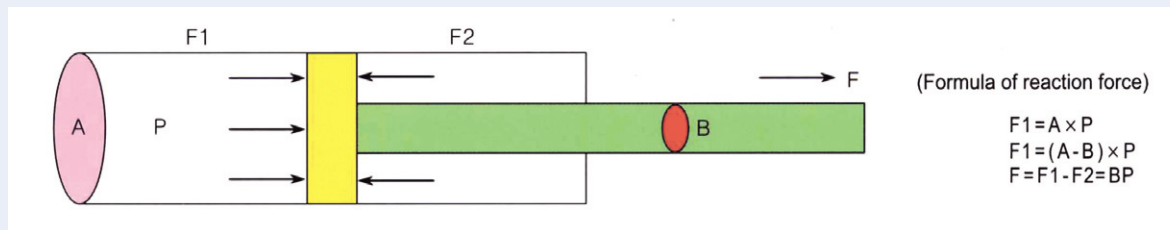


• Gas Spring 단면도 및 내부구성품

▶▶▶ 작동원리 / OPERATIONAL PRINCIPLE

Pressure tube 내부에서 동등한 압력(그림의 P부분)은 피스톤의 양측의 그것과 동일하다.

The equivalent pressure inside of the tube("P" on the picture) is the same as that of both side of piston.

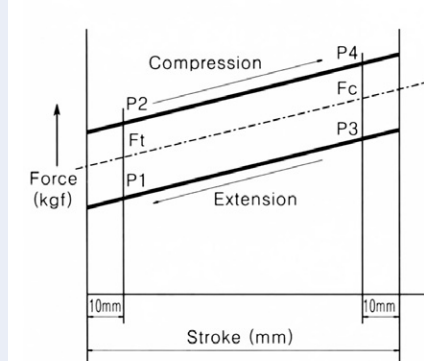


Rod가 Tube내벽으로 밀려들어 갈 때, 내부압력이 소량 증가하면서, Gas 체적의 일부가 대체된다. 이는 Stroke의 기능으로써의 반발력을 야기시킨다. 실제로, 가스 스프링의 반발력은 또한(Dynamic 이나 Static type 모두) 마찰력 효과에 의해 영향을 받는다.

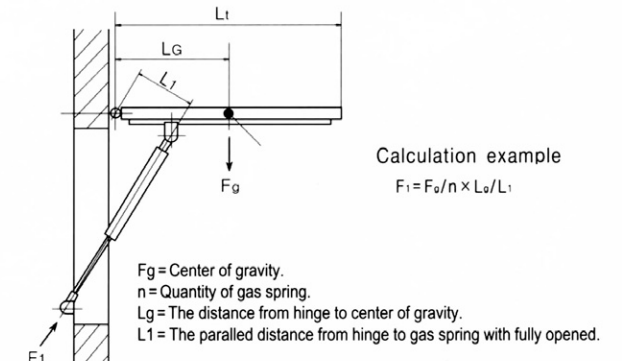
While the rod(shaft) is pushed into the cylinder, the part of gas volume is replaced with pressure as inside pressure is slightly increasing.

This replacement causes reaction force as function of stroke. This reaction force of gas spring is also affected by friction force(both in the dynamic and static)

■ 반발력 선도 (Force Diagram)

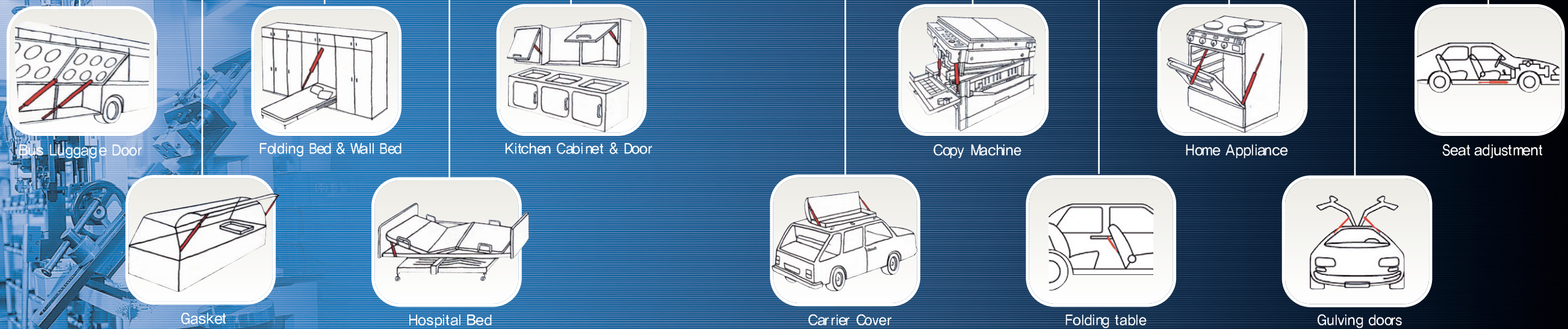
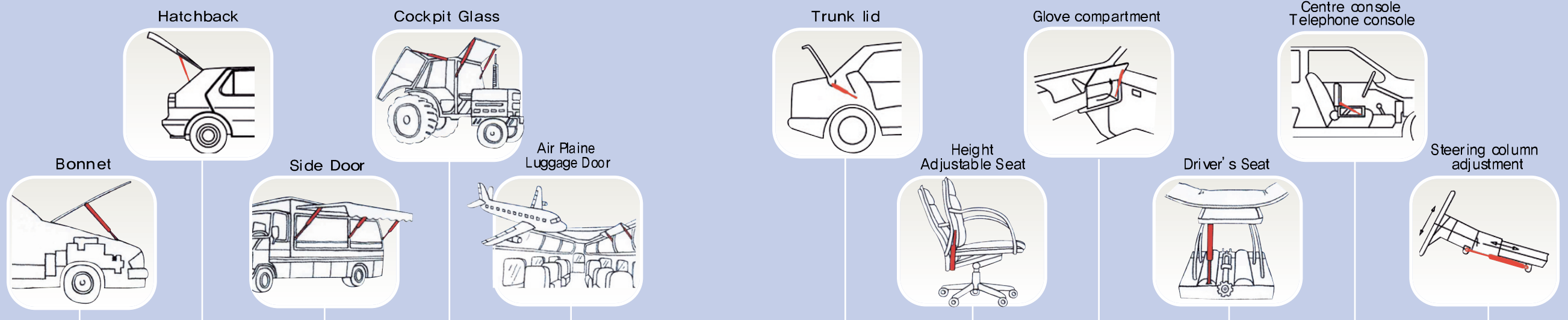


■ 간단한 반발력 계산법 (Force calculation)



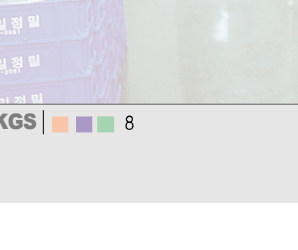
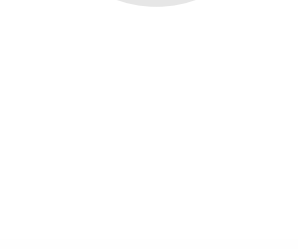
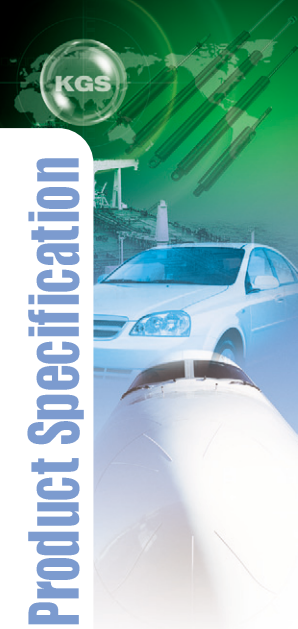
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Product Application

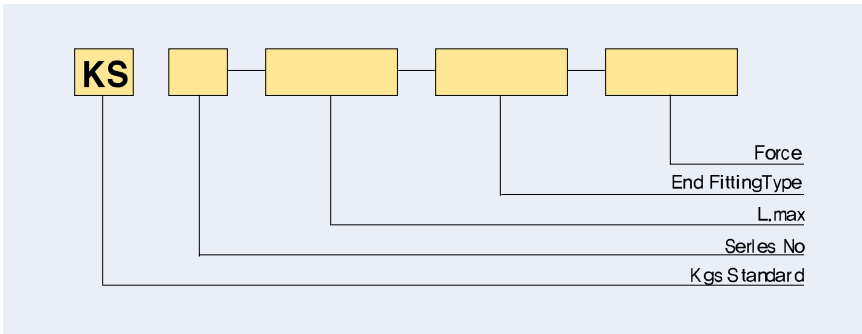




KOREA GAS SPRING



ORDERING INFORMATION



DIMENSIONS

Type	Rod Endfitting	Piston Rod	Cylinder	Cylinder Endfitting
S				
P1 B25				
HB				
B21				
B03 B06 B07 B08 B09				
PS1				
PS2				
H200 H300 H500 H600				
P9				
B01 B10				

D Stroke(5~10mm)
L.MAX

Series	ØA	ØB	L.max	Force(kgf)	단위 (mm) 비고
KS1	6	15	150~500	1~35	
KS2	8	18	150~800	3~60	
KS3	10	22	150~1200	5~100	
KS4	12.5	27.4	150~1200	5~150	
KS5	14	27.4	150~1200	10~280	
KS6	12.5	22	150~1200	10~280	

* Special type은 별도협의 가능.

GENERAL SPECIFICATION AND STANDARD TEST

MATERIAL SPECIFICATION

- Tube (Cylinder) : STKM 12
- Piston Rod : S45C , S25C (Chromium Plate or nitride treatment)
- Gas : Nitrogen 99.99 % purity

STANDARD TEST

1. Tensile strength test : Min 5,000 N
2. Life cycle test (minimum 40,000 times)
3. High temperature test at +80℃
4. Low temperature test at -30℃
5. Salt spray test : Min. 144 hours

CAUTION

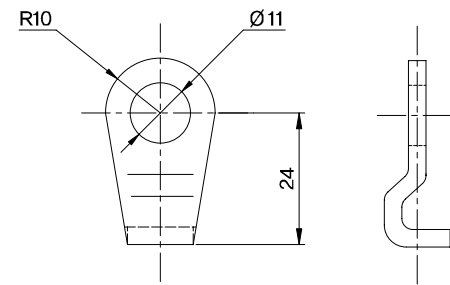
- Do not try to take apart or drill into a gas spring , it is filled with oil and pressurized inert gas.
- Do not lubricate or damage to piston rod , it may cause fatal malfunction.
- Put the cylinder side upward for the safety of gas spring during storing in your premise with unmounted.
- Operating Temperature : -30℃ ~ +80℃
— (A gas spring elevating abilities might deteriorate progressively as temperature get colder)



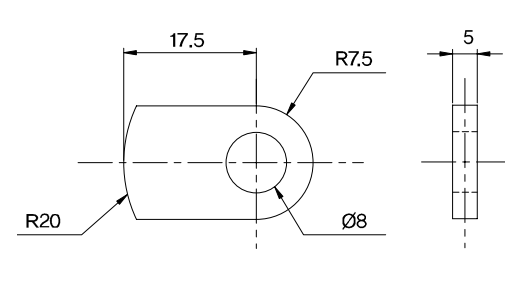
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Various Endfitting

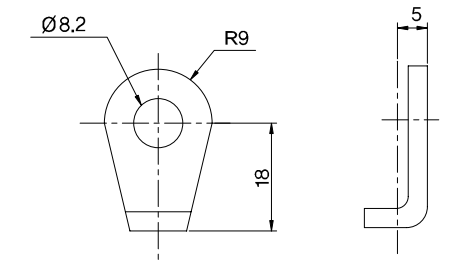
B01



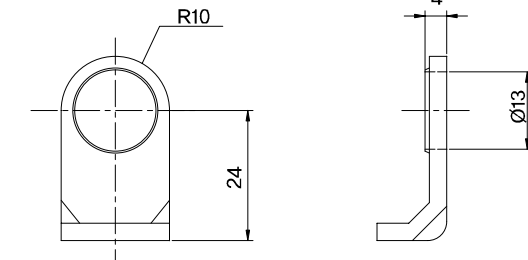
P1



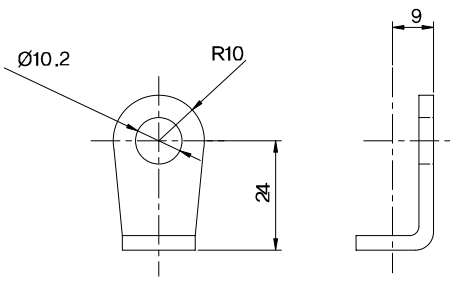
B03



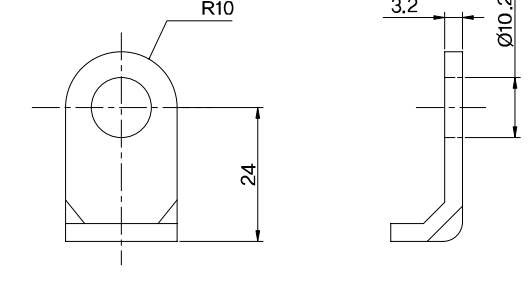
B06



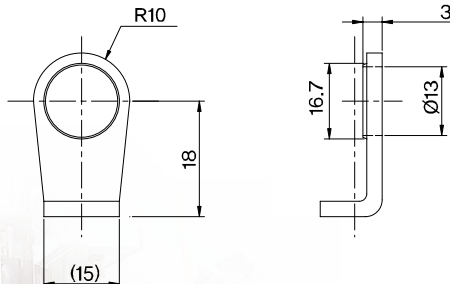
B07



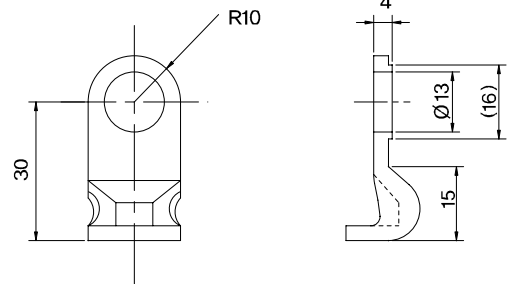
B08



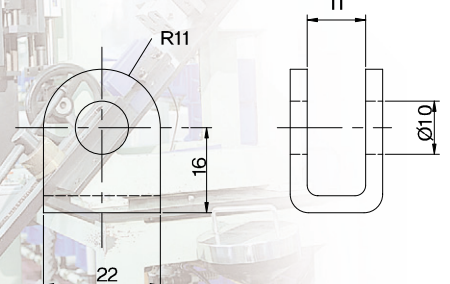
B09



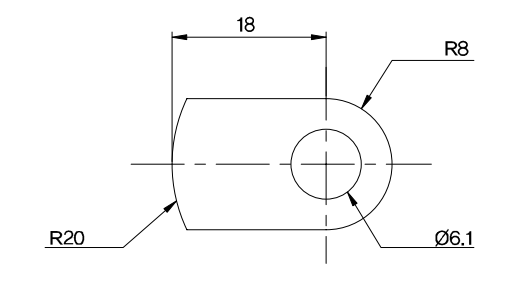
B10



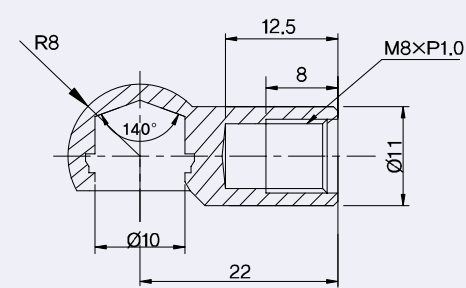
B21



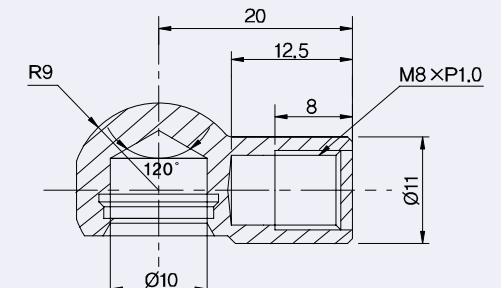
B25



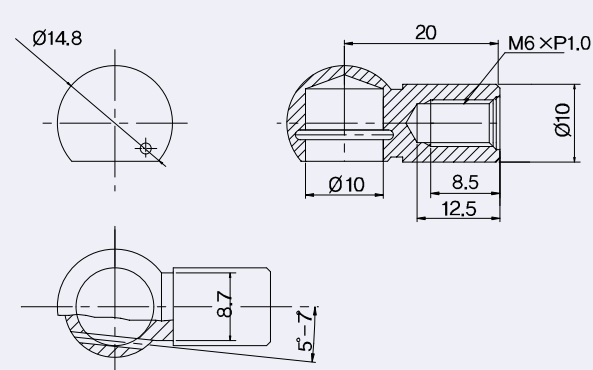
H200



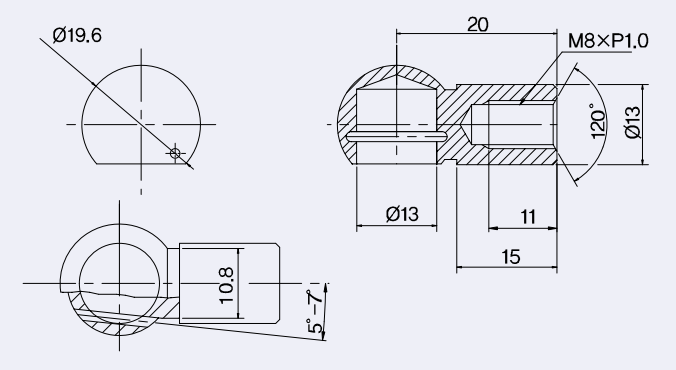
H300



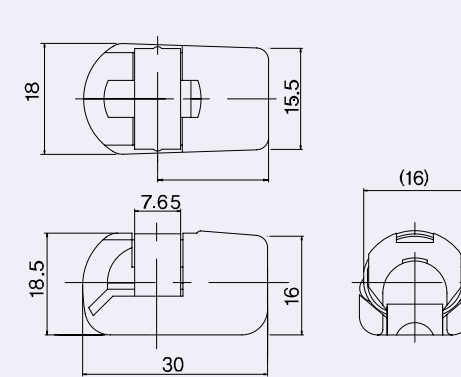
H500



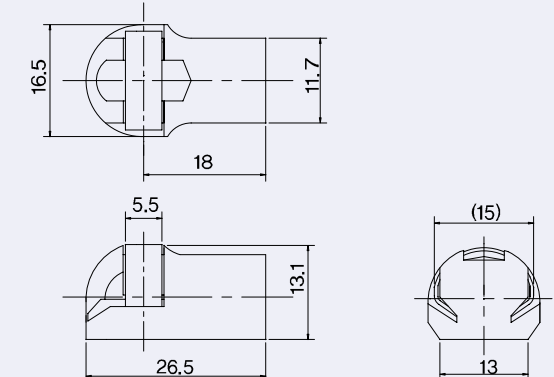
H600



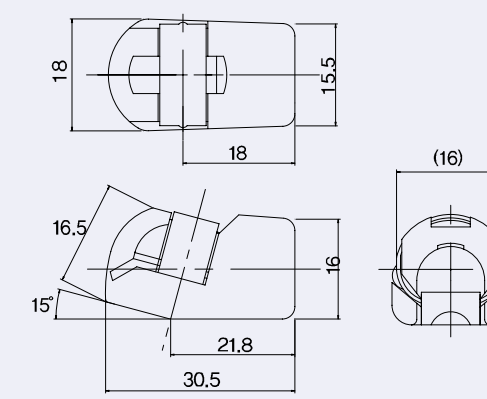
PS1



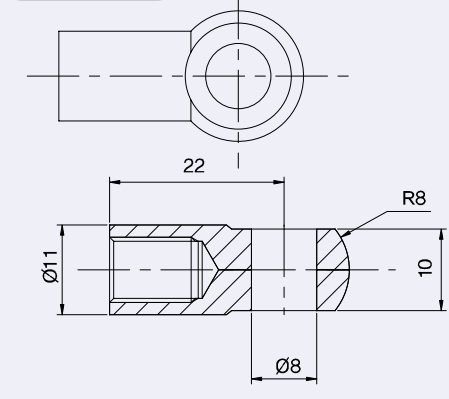
PS2



PS3



P9



* Special type은 별도협의 가능.