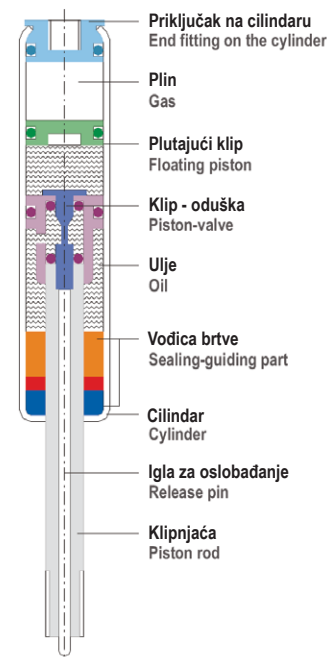
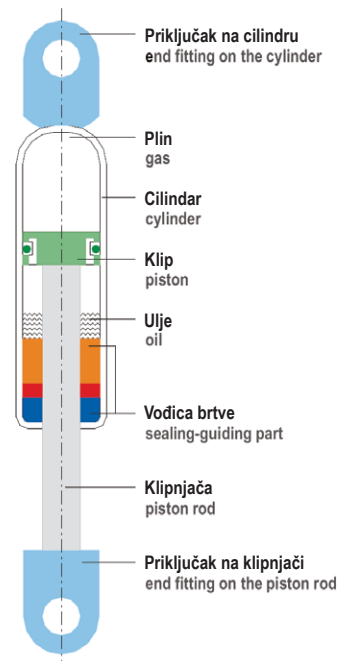
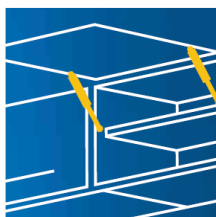


# METALIKA

KOMPONENTE ZA INDUSTRIJU **KACIN**

## PLINSKI AMORTIZERI

Priključci sa okom  
Zglobni priključci  
Viljuškasti priključci  
Sa efektom blokade  
Po posebnoj porudžbini



Široki izbor plinskih amortizera za upotrebu na vozilima, kod nameštaja, na poklopcima, u mašingradnji.



**Plinske vzmeti**  
*Sila, ki premika*

**Gas springs**  
*Force that moves*



## Kazalo Table of content

## Primeri uporabe Applications

3	Osnovne značilnosti plinskih vzmeti Gas spring components and function
5	Označevanje plinskih vzmeti Gas springs type code
6-7	PV z varjenimi ušesi - PV A1, PV A2, PV A5 GS with welded hinge eyes - PV A1, PV A2, PV A5
8-11	PV z navoji - PV A1, PV A2, PV A4, PV A5 GS with thread - PV A1, PV A2, PV A4, PV A5
12	Nastavljiva PV z elastičnim blokirnim učinkom - NPV C2 Elastic locking gas spring - NPV C2
13	Nastavljiva PV z močnim blokirnim učinkom - NHC C2, C3 Rigid locking gas spring - NHC C2, NHC C3
14	Prožilni mehanizmi - PG AI 28, PR1, PR2 Release systems - PG AI 28, PR1, PR2
15	PV z dinamičnim dušenjem - PV F1, PV F2 GS with dynamic extension damping - PV F1, PV F2
16-21	Priključki End fittings
22	Elementi za pritrditev Attachment elements
22	Tehnična navodila Technical instructions



## Gas spring components and function

Plinska vzmet je zaprt sistem z notranje defiranim tlakom dušika. Sestavljena je iz batnice, cilindra, tesnilno-vodilnega dela in priključkov (glej Sliko 1). Tlak znotraj cilindra, pomnožen s presekom batnice, definira nazivno silo plinske vzmeti:  $F1 = p \times A$ .

Primer izračuna nazivne sile glede na položaj in težo bremena je prikazan na Sliki 2. Najvišji tlak pri iztegnjeni, neobremenjeni plinski vzmeti je 160 barov. Če želimo, da nam plinska vzmet pomaga dvigniti neko breme, jo moramo najprej stisniti. Pri tem se tlak v cilindru poviša, razlika v tlaku pa povzroči, da plinska vzmet breme dvigne in ga zadrži v krajni poziciji.

Rezultat spreminjanja tlaka se odraža v karakteristiki plinske vzmeti, ki je prikazana v diagramu sila - hod (glej Sliko 3).

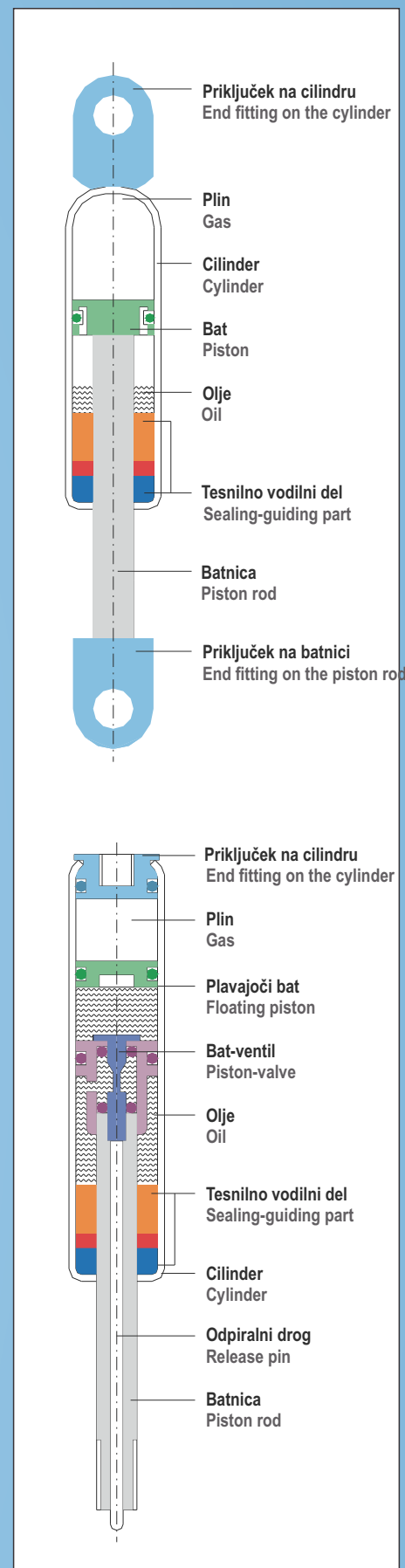
Pri neobremenjeni plinski vzmeti je batnica vedno v iztegnjenem položaju. V cilindru plinske vzmeti je manjša količina olja, ki maže tesnila in zagotavlja povečano dušenje ob koncu raztegovanja.

A gas spring is a closed system with innerly defined pressure of nitrogen. It consists of a piston rod, a cylinder, a sealing-guiding unit and end fittings (see Picture 1). The pressure inside the cylinder multiplied by the cross-section of the piston rod defines the extension force of the gas spring:  $F1 = p \times A$ .

Picture 2 shows how to calculate the extension force of a gas spring regarding the position and the weight of the load. The highest pressure of a fully extended, unloaded, gas spring is 160 bars. In order to make a gas spring help us lift a particular load, it must first be compressed, which increases the pressure inside the cylinder.

The difference in pressure makes the gas spring lift the load and keep it in the final position. The result of the change in pressure is indicated in the characteristic of the gas spring, as seen in the diagram force - stroke (see Picture 3).

The piston rod of an unloaded gas spring is always in the extended position. A minor quantity of oil inside the cylinder lubricates the seals and ensures increased damping at the end of extension.



Slika 1 / Picture 1

## Tehnična navodila za plinske vzmeti

- Plinska vzmet je napolnjena z zelo visokim pritiskom plina, zato je ne smemo nikoli odpirati, izpostavljati visokim temperaturam, mehansko poškodovati ali obremeniti s silami, ki niso predvidene pri normalni uporabi.
- Vgradnja: plinsko vzmet vgradimo tako, da je batnica obrnjena navzdol. Takšen položaj omogoča mazanje tesnil in dušenje ob koncu hoda. Če je potreben drugačen vgradni položaj, navedite to ob naročilu.
- Skladiščenje: plinska vzmet se lahko skladišči v poljubnem položaju, vendar ne priporočamo skladiščenja daljšega od enega leta, ker se lahko pri prvi uporabi po daljšem mirovanju pojavi « slip stick effect » – zatikanje vzmeti zaradi lepljenja tesnila ob cilinder. Paziti je treba, da se plinska vzmet pri skladiščenju mehansko ne poškoduje.
- Plinska vzmet ima svojo življenjsko dobo. Po določenem številu hodov spusti in ne deluje več, zato njene uporabe ne smemo predvideti kot varnostni element. Pri delovanju lahko na batnici ostane manjša količina olja, ki ne sme priti v stik s hrano, vodo ali podobnimi stvarmi.
- Pri uporabi, kjer so prisotne vibracije, morajo biti priključki močnejše privijačeni ali zalepljeni, da se ne odvijajo. Visoka frekvenca delovanja povzroča segrevanje plinske vzmeti in poškodbo tesnil.
- Plinska vzmet naj bo vgrajena tako, da ne pride do kolizije pri stiskanju. Priključki morajo biti namaščeni, da ne bi prihajalo do prevelikih stranskih sil in s tem do zvijanja batnice. Izogibati se je treba neaksialnim silam.
- Mehanske poškodbe, ostanki barv ali nečistoče lahko poškodujejo tesnilni del plinske vzmeti. Cilinder se ne sme poškodovati ali deformirati. V vseh navedenih primerih se garancija ne prizna. Za področja uporabe, kjer lahko pride do omenjenih poškodb, se lahko izdelajo plinske vzmeti z zaščitno cevjo.
- Plinska vzmet ne sme biti obremenjena z nateznimi silami, ki so za več kot 30% višje od nazivne sile. Kjer je to mogoče, naj bosta končna položaja bremena pri odpiranju in zapiranju 5 mm pred minimalno in maksimalno dolžino plinske vzmeti.
- Temperaturno območje uporabe plinske vzmeti je med -30 in +80°C. Če se plinska vzmet uporablja izven dovoljenega temperaturnega območja, navedite to ob naročilu. Spreminjanje temperature vpliva na silo plinske vzmeti, in sicer za 3,5% za vsakih 10°C.
- Batnica pri nastavljivi plinski vzmeti je izdelana iz cevi, v kateri drsi sprožilec. Nečistoče in vlaga lahko povzročijo korozijo znotraj cevi, kar lahko blokira sprožilec in onemogoči aktiviranje plinske vzmeti. Nastavljiva plinska vzmet naj bo vgrajena tako, da je batnica obrnjena navzdol. Pri aktiviranju vzmeti se lahko sprožilec poda največ do začetka batnice.
- Iz naročila mora biti razvidno, ali se bo plinska vzmet uporabljala pod »normalnimi« pogoji (nazivna sila pri 20°C, naravno okolje zrak) ali v posebnih razmerah. Če ob naročilu nismo seznanjeni z vsemi posebnostmi delovnega okolja plinske vzmeti, izdelamo standardno varianto in ne jamčimo za pravilno delovanje v okviru garancijskega roka.
- Ko plinska vzmet ni več uporabna, je ne smemo kar tako odvreči med ostale odpadke. Na cilindru je treba izvrtati luknjo 2mm, ki je približno 20mm oddaljena od konca cilindra, gledano s strani, kjer ni batnice. Ker lahko preostali plin v cilindru z visoko hitrostjo ekspandira, je še posebej treba paziti, da trdi delci od vrtanja ne poškodujejo oči. Preostalo olje je treba izliti med odpadna olja, nato pa lahko plinsko vzmet odvržemo med ostale kovinske odpadke.

### Tolerance, karakteristike

- Toleranca dolžine: +/- 2 mm
- Toleranca nazivne sile: +/- 10N oziroma +/- 5%
- Maksimalna hitrost raztegotvanja: cca. 0,30 m/s.
- Življenjska doba: 30.000 hodov

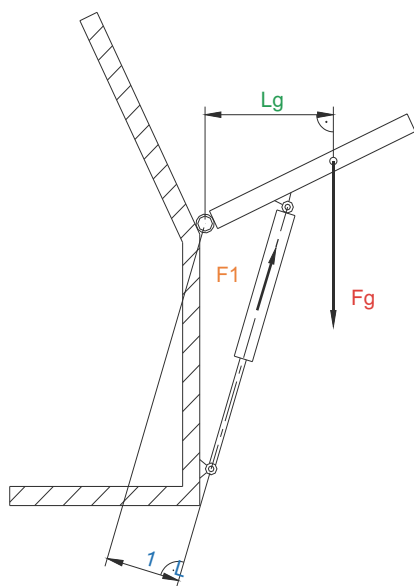
## Technical instructions of gas springs

- The gas spring is filled with gas under very high pressure, so it must never be opened, exposed to high temperatures, mechanically damaged or used to lift a heavier load than recommended.
- Mounting: the gas spring must be mounted with the piston rod downwards. This position enables lubrication of the seals and damping at the end of the stroke. If a different mounting position is required, it must be specified in the order.
- Storage: gas springs can be stored in whatever position. However, it is not recommended to store them longer than one year because of "a slip-stick effect" which may be caused by the seals sticking on the cylinder when gas springs are used for the first time after a long period of rest. It is extremely important to avoid any mechanical damage.
- Gas springs have a particular lifespan – they wear out after a certain number of strokes, so they should not be considered as safety elements. Minor quantities of oil which may remain on the piston rod must not get in contact with food, water or similar goods.
- If gas springs are exposed to strong vibrations, the end fittings need to be strongly fastened or glued to avoid loosening. High frequency of strokes may heat the gas spring and consequently damage the seals.
- The mounting position of gas springs should be such as to prevent collision when compressed. The end fittings must be lubricated in order to avoid the effect of side forces which may bend the piston rod. Non-axial forces must be avoided.
- Mechanical damage, corrosion, paint residues or dirt may seriously damage the sealing unit of a gas spring. The cylinder must not be damaged or deformed. In case any of the above mentioned effects causes inadequate functioning of gas springs, they are no longer covered by our guarantee. If a particular application of gas springs implies danger of such damage, protective tubes for gas springs can be produced.
- The gas spring must not be exposed to any forces that exceed the extension force for more than 30%. If possible, the final positions of the load when compressed or extended should be 5 mm before the minimum or maximum length of the gas spring.
- The temperature range of the application of gas springs is between -30°C to + 80°C. If gas springs are to be used within a different temperature range, it should be specified in the order. The change in temperature affects the extension force of the gas spring – approximately 3,5% for every 10°C.
- The piston rod of a locking gas spring is made of a tube with a release pin. It is extremely important to avoid any dirt or moisture which may cause corrosion inside the tube, consequently block the release pin and prevent the activation of the gas spring. Locking gas springs should be mounted with the piston rod downwards. When the locking gas spring is activated, the release pin can only go as far as the beginning of the piston rod.
- In the order, it should be clearly indicated if gas springs are to be used in normal conditions (extension force defined at 20°C, natural environment – air) or in special circumstances. If there are no specific requirements, we normally produce standard gas springs.
- When a gas spring is out of use, it should not be disposed of without a preliminary preparation. On the cylinder, a borehole of 2 mm should be made about 20 mm from the end of the cylinder – on the side which is not connected to the piston rod. Special precautions should be taken because the remaining gas in the cylinder may expand with very high speed and throw around hard pieces of boring which may damage the eyes. The rest of oil should be disposed of like any other waste oil and the empty gas spring can be treated just like any other metal waste.

### Tolerances, characteristics

- Length tolerance: +/- 2mm
- Extension force tolerance: +/- 10N or +/- 5%
- Maximum extension speed: approximately 0,30 m/s
- Lifespan: 30.000 strokes

## Gas spring components and function



$$F1 = \frac{Fg \times Lg}{L1 \times n} + (10-15\%)$$

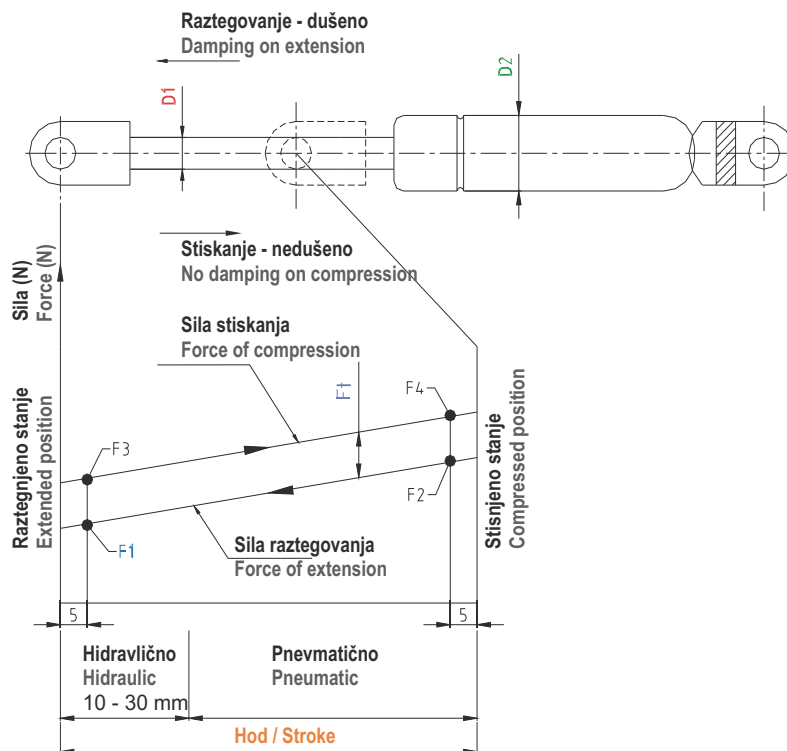
Formula za izračun nazivne sile  
Formula for the extension force

**Fg** - sila teže lopute (N)  
**Fg** - force of the flap weight (N)

**Lg** - razdalja do prijemališča sile teže (m)  
**Lg** - distance to the point of the weight force (m)

**L1** - razdalja do prijemališča potisne sile (m)  
**L1** - distance to the point of the extension force (m)

**n** - število plinskih vzmeti  
**n** - number of gas springs



Do hidravličnega dušenja končne pozicije pri raztegovanju pride v primeru, ko je plinska vzmet montirana z batnico obrnjeno navzdol.

Hydraulic damping in the final position occurs when the piston rod is pointed downwards.

**D1** - Ø batnice  
**D1** - Ø piston rod

**D2** - Ø cilindra  
**D2** - Ø cylinder

**F1** - nazivna sila (merjena 5mm pred koncem raztegovanja)  
**F1** - extension force (measured 5mm before the end of the extended position)

**Hod** - maksimalni hod za posamezni tip  
**Hub** - maximum stroke for each type

**K=F2 / F1** - karakteristika plinske vzmeti  
**K=F2 / F1** - characteristic of a gas spring

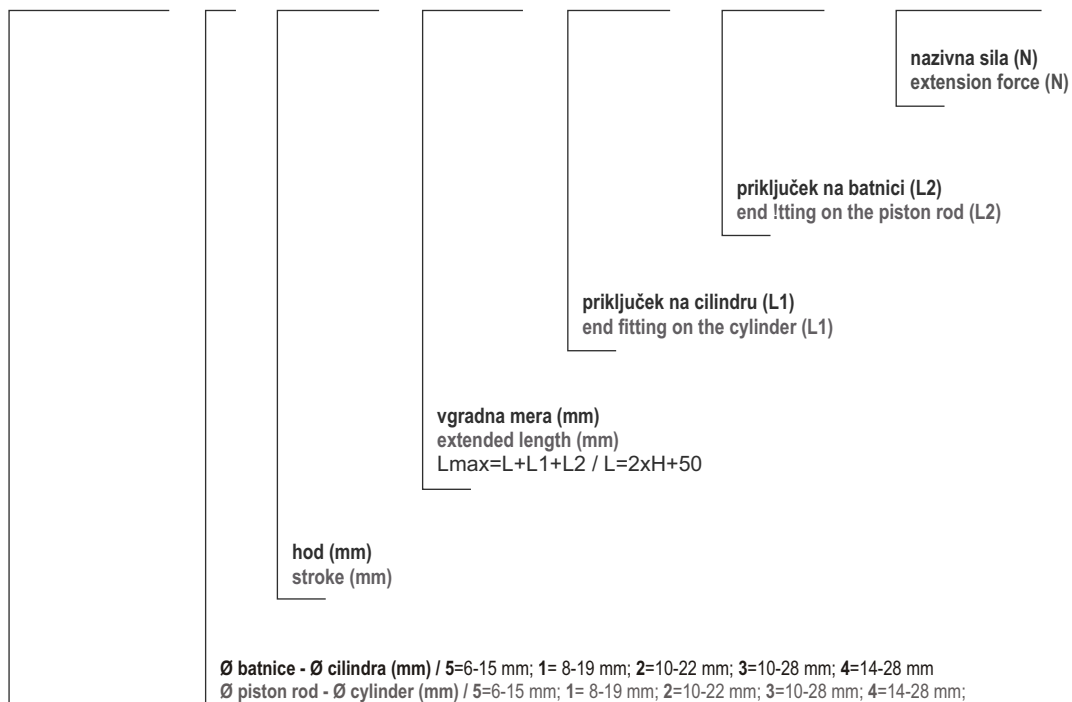
**Ft** - sila trenja  
**Ft** - traction force

Tabela / Chart

D1	D2	F1 (N)		Hod / Stroke	K	Ft - max
mm	mm	min.	max.	max. (mm)	ca / app.	N
6	15	50	400	150	1,30	50
8	19	100	700	300	1,35	60
10	22	100	1200	500	1,40	80
14	28	15	2500	500	1,50	500

# Označevanje plinskih vzmeti / Type code

## PV A 2 200 510 N31 N31 - 500N



**PV A - plinska vzmet (maksimalna hitrost raztegovanja ca. 0,30 m/s, normalno dušenje končnega položaja, vgradni položaj - batnica obrnjena navzdol)**

PV A - gas spring (maximum extension speed - approximately 0,30 m/s, normal damping at the end, mounting position – piston rod downwards)

**PV D - plinska vzmet (maksimalna hitrost raztegovanja ca. 0,30 m/s, povečano dušenje končnega položaja, vgradni položaj - batnica obrnjena navzdol)**

PV D - gas spring (maximum extension speed - approximately 0,30 m/s, increased damping at the end, mounting position – piston rod downwards)

**PV E - plinska vzmet z vgrajeno oljno komoro (možen drugačen način vgradnje, npr. batnica obrnjena navzgor, maksimalna hitrost ca. 0,30 m/s)**

PV E - gas spring with oil chamber (other mounting position also possible, e.g. piston rod upwards, maximum extension speed - approximately 0,30 m/s)

**PV F - Plinska vzmet z dinamičnim dušenjem Dušenje gibanja je omogočeno ne glede na položaj vgradnje. Gibanje bremena se zaustavlja kontinuirano do popolne zaustavitve.**

PV F Gas Springs with dynamic extension damping. The motion is slowed down smoothly and continuously until it arrive end/stop point. Motion damping is enabled regardless of the mounting position.

**NPV - nastavljiva plinska vzmet z elastičnim blokirnim učinkom (sprožilec na batnici, maksimalna hitrost raztegovanja ca. 0,30 m/s)**

NPV – elastic locking gas spring (release pin in the piston rod, maximum extension speed - approximately 0,30 m/s)

**NHC - nastavljiva plinska vzmet z močnim blokirnim učinkom (sprožilec na batnici, maksimalna hitrost raztegovanja ca. 0,15 m/s)**

NHC – rigid locking gas spring (release pin in the piston rod, maximum extension speed - approximately 0,15 m/s)

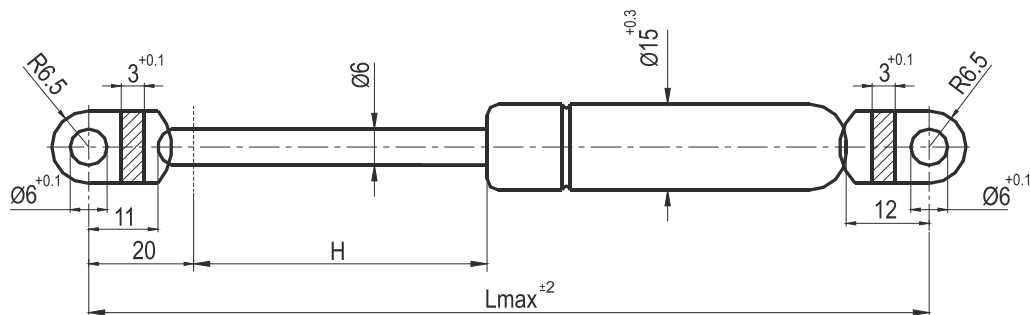
# PV z varjenimi ušesi

# GS with welded hinge eyes

## PV A5

batnica 6 / cilinder 15  
piston rod 6 / cylinder 15

**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metalika-kacin.com



Mere / Measures (mm):

H	L <sub>max</sub>	H	L <sub>max</sub>
---	------------------	---	------------------

20	105	100	265
----	-----	-----	-----

40	145	120	305
----	-----	-----	-----

60	185	150	365
----	-----	-----	-----

80	225		
----	-----	--	--

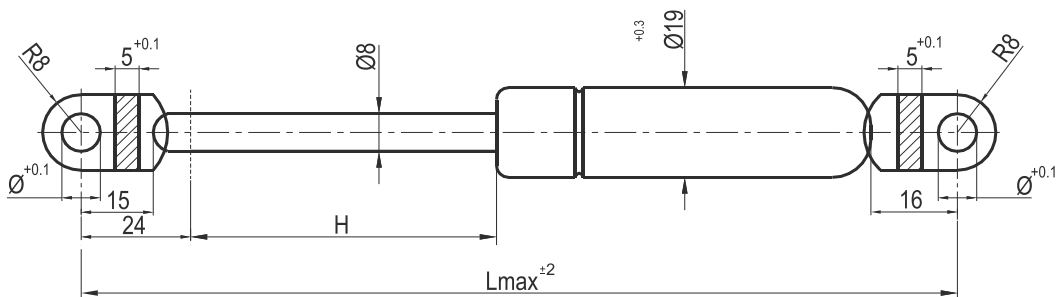
$L_{max}=2 \times H + 65$

Primer naročevanja / Order example: PV A5 100 265 H01 H01 - 100N

Nazivna sila / Extension force: 50 - 400N  
 Batnica / Piston rod: Ø 6 mm jeklena, črno nitrirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 15 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni-barvani, umetna masa / steel-painted or plastic

## PV A1

batnica 8 / cilinder 19  
piston rod 8 / cylinder 19



Mere / Measures (mm):

H	L <sub>max</sub>	H	L <sub>max</sub>	H	L <sub>max</sub>
---	------------------	---	------------------	---	------------------

60	205	120	325	200	485
----	-----	-----	-----	-----	-----

80	245	140	365	220	525
----	-----	-----	-----	-----	-----

90	265	160	405	250	585
----	-----	-----	-----	-----	-----

100	285	180	445	300	685
-----	-----	-----	-----	-----	-----

$L_{max}=2 \times H + 85$

Primer naročevanja / Order example: PV A1 200 485 H12 H12 - 400N

Nazivna sila / Extension force: 100 - 700N  
 Batnica / Piston rod: Ø 8 mm jeklena, črno nitrirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 19 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni-barvani, umetna masa / steel-painted or plastic



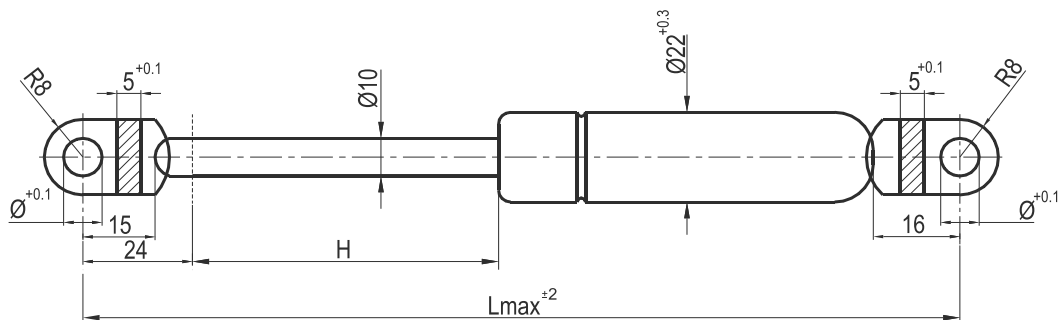
# PV z varjenimi ušesi

## GS with welded hinge eyes

**PV A2**

batnica 10 / cilinder 22  
piston rod 10 / cylinder 22

**METALIKA**  
COMPONENTS FOR INDUSTRY  
www.metalika-kacin.com



Mere / Measures (mm):

H	L <sub>max</sub>	H	L <sub>max</sub>	H	L <sub>max</sub>
60	205	140	365	300	685
80	245	160	405	350	785
90	265	180	445	350	785
100	285	200	485	400	885
120	325	250	585	500	1085

$L_{max} = 2 \times H + 85$

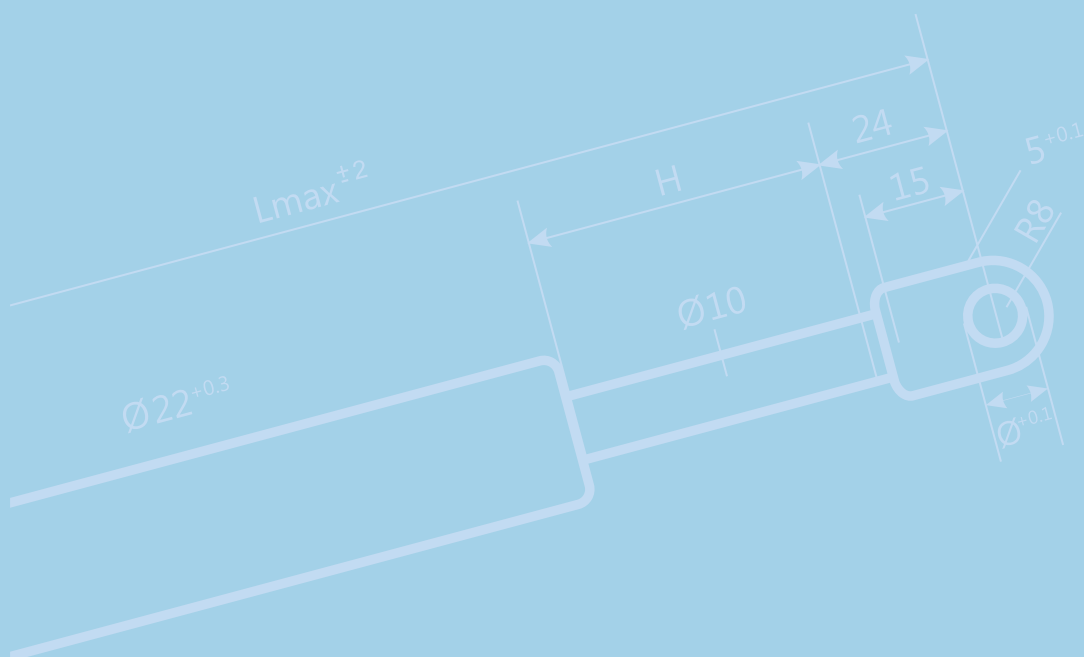
Primer naročevanja / Order example: PV A2 200 485 H12 H12 - 400N

Nazivna sila / Extension force: 100 - 1200N

Batnica / Piston rod: Ø 10 mm jeklena, črno nitrirana / steel, black nitrated

Cilinder / Cylinder: Ø 22 mm jeklen, črno barvan / steel, black painted

Priključki / End fittings: jekleni-barvani, umetna masa / steel-painted or plastic



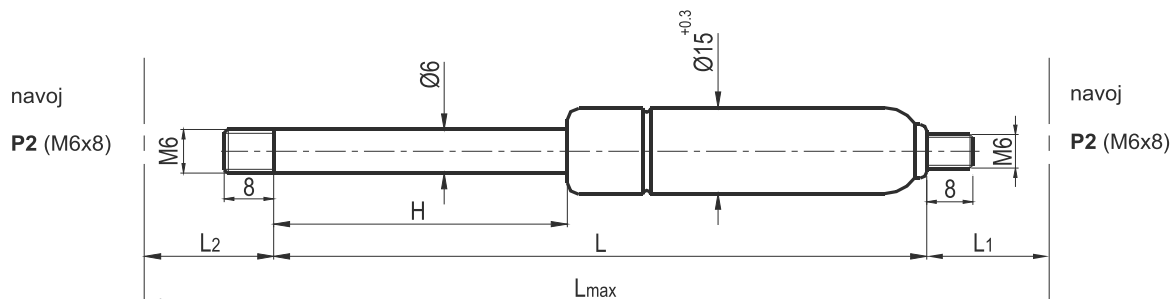
# PV z navoji

## GS with thread

### PV A5

batnica 6 / cilinder 15  
piston rod 6 / cylinder 15

**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metalika-kacin.com



Mere / Measures (mm):

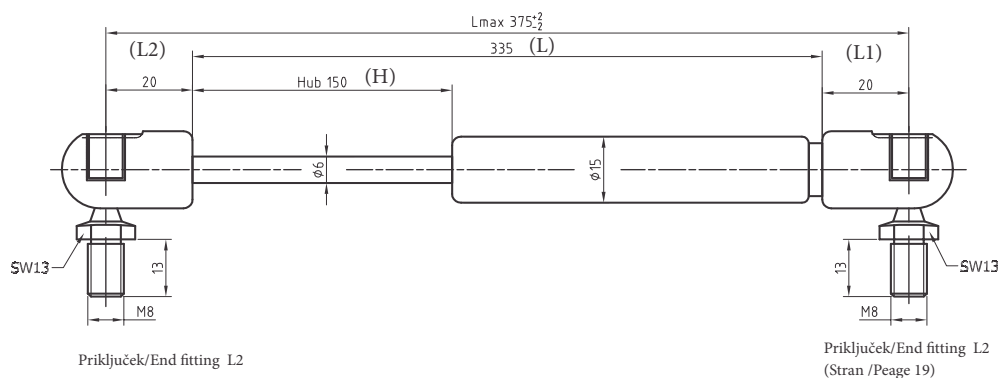
H	L	H	L
40	115	120	275
60	155	150	335
80	195		
100	235		

$L=2 \times H + 35$  /  $L_{max}=L + L1 + L2$

Primer naročevanja / Order example: PV A5 100 271 L L - 100N

Nazivna sila / Extension force: 50 - 400N  
 Batnica / Piston rod: Ø 6 mm jeklena, črno nitrirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 15 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni, umetna masa / steel, plastic

Primer naročanja / Order example: PV A5 150 375 L2L2- 100N



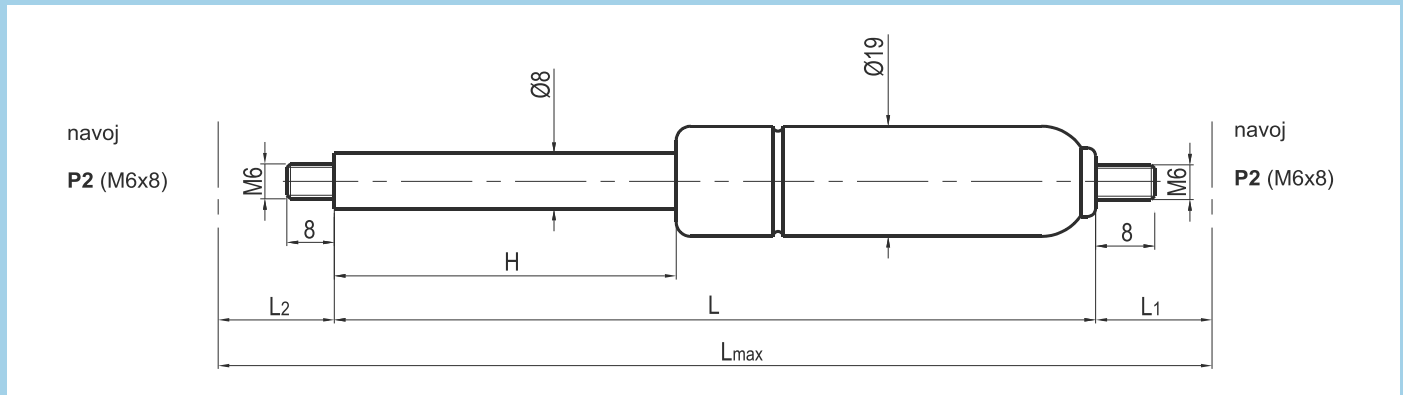
# PV z navoji

## GS with thread

### PV A1

batnica 8 / cilinder 19  
piston rod 8 / cylinder 19

**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metalika-kacin.com



Mere / Measures (mm):

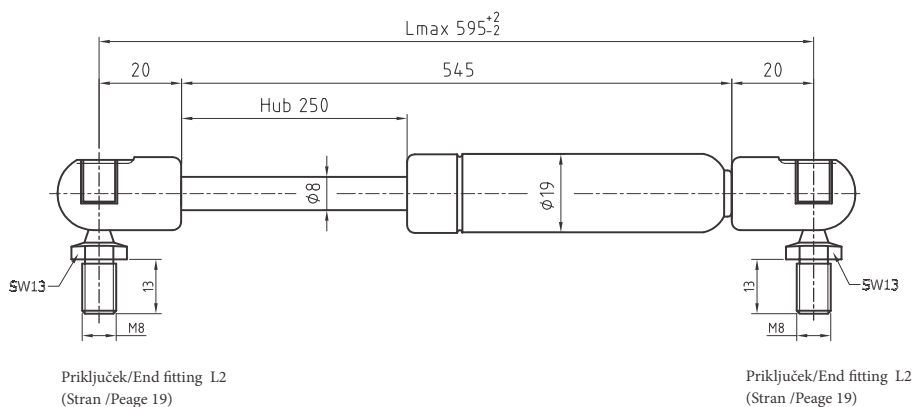
H	L	H	L	L2	Lmax
60	165	140	325	220	485
80	205	160	365	250	545
100	245	180	405	300	645
120	285	200	445		

$$L=2 \times H + 45 / L_{max}=L + L1 + L2$$

Primer naročevanja / Order example: PV A1 200 486 LL - 300N

Nazivna sila / Extension force: 100 - 700N  
 Batnica / Piston rod: Ø 8 mm jeklena, črno nitrirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 19 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni, umetna masa / steel, plastic

Primer naročanja / Order example: PV A1 250 595 L2L2 - 300N



Priključek/End fitting L2  
(Stran / Page 19)

Priključek/End fitting L2  
(Stran / Page 19)

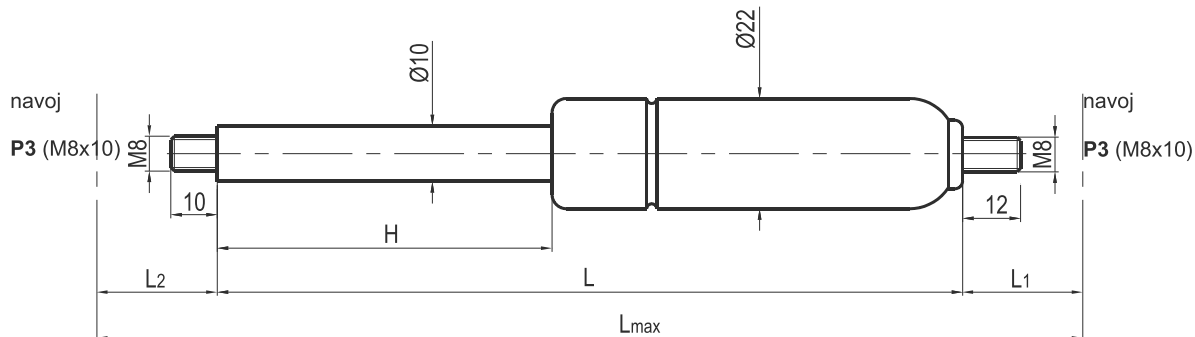
# PV z navoji

## GS with thread

### PV A2

batnica 10 / cilinder 22  
piston rod 10 / cylinder 22

**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metalika-kacin.com



Mere / Measures (mm):

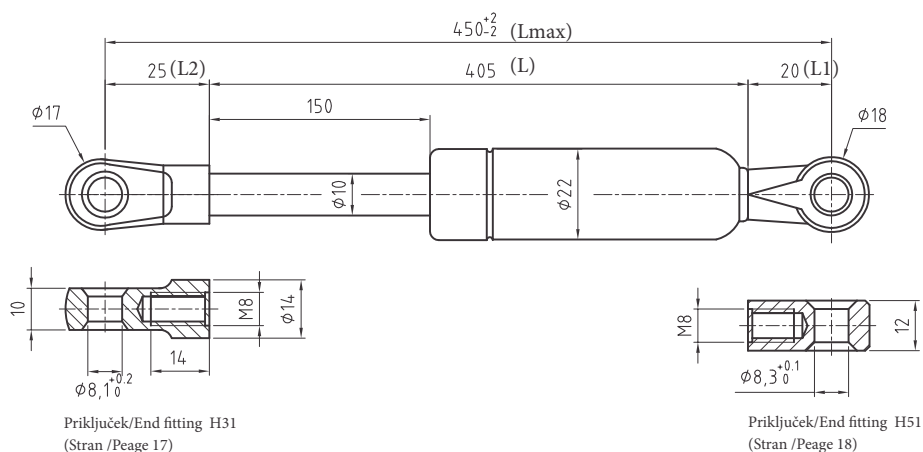
H	L	H	L	L	L
60	170	160	370	300	650
80	210	180	410	350	750
100	250	200	450	400	850
120	290	220	490	450	950
140	330	250	550	500	1050

$$L=2 \times H + 50 / L_{max}=L + L1 + L2$$

Primer naročevanja / Order example: PV A2 200 510 N31 N31 - 500N

Nazivna sila / Extension force: 100 - 1200N  
 Batnica / Piston rod: Ø 10 mm jeklena, črno nitrirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 22 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni, umetna masa / steel, plastic

Primer naročanja / Order example: PV A2 150 450 H51H31 - 500N



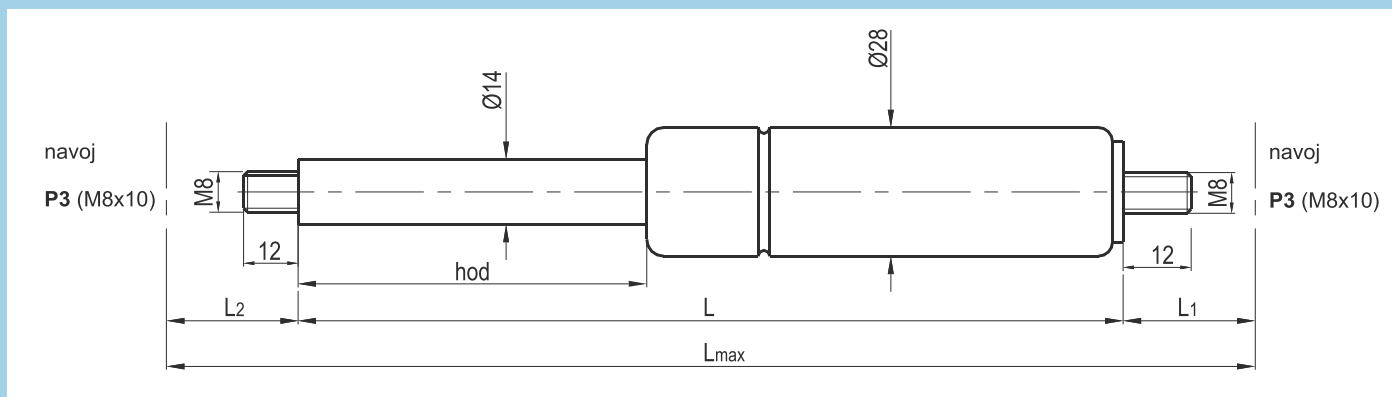
# PV z navoji

## GS with thread

### PV A4

batnica 14 / cilinder 28  
piston rod 14 / cylinder 28

**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metalika-kacin.com



Mere / Measures (mm):

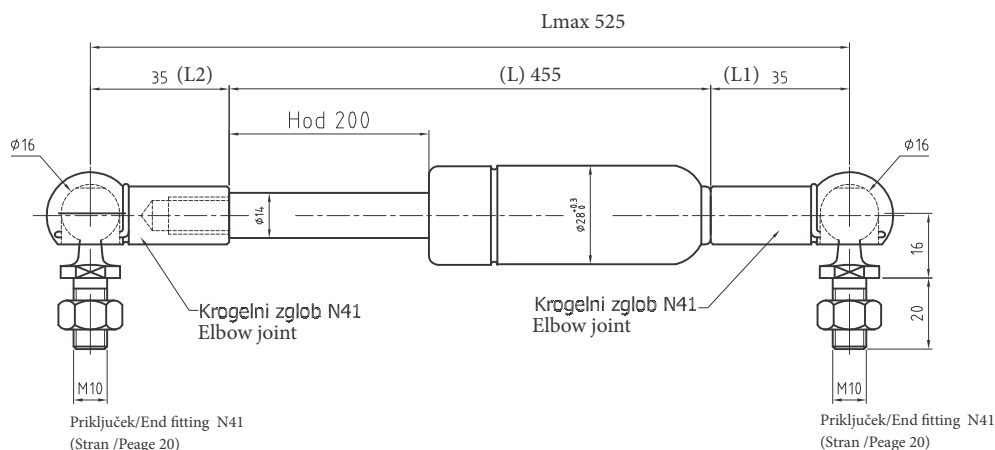
H	L	H	L
100	255	350	755
200	455	400	855
250	555	500	1055
300	655		

$$L=2 \times H + 55 / L_{max}=L + L1 + L2$$

Primer naročevanja / Order example: PV A4 350 835 N41 N41 - 1500N

Nazivna sila / Extension force: 100 - 2500 N  
 Batnica / Piston rod: Ø 8 mm jeklena, črno nitirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 19 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni, umetna masa / steel, plastic

Primer naročanja / Order example: PV A4 200 525 N41N41- 1500N



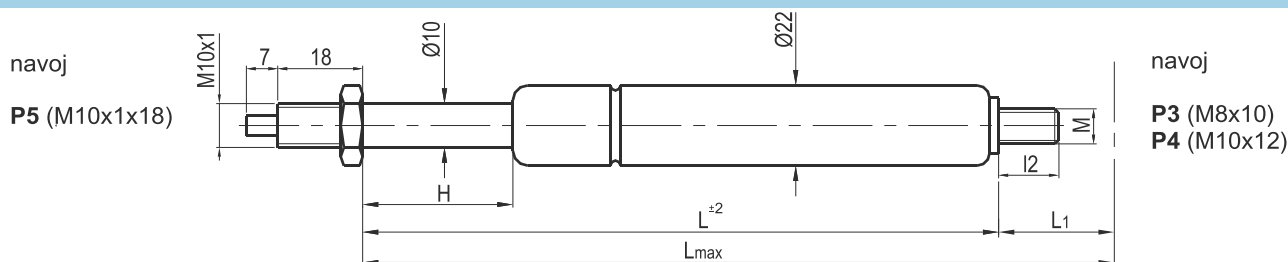
# Nastavljive plinske vzmeti

## Locking gas springs

### NPV C2

standardna izvedba batnica 10 / cilinder 22  
standard dimension piston rod 10 / cylinder 22

**METALIKA**  
COMPONENTS FOR INDUSTRY  
www.metatika-kacin.com



Mere / Measures (mm):

H	L	H	L	H	L	H	L	H	L	H	L	H	L
25	130	50	180	100	280	160	400	220	520	350	780	450	980
30	140	60	200	120	320	180	440	250	580	400	880	500	1080
40	160	80	240	140	360	200	480	300	680				

$$L=2 \times H + 80 / L_{max}=L + L1$$

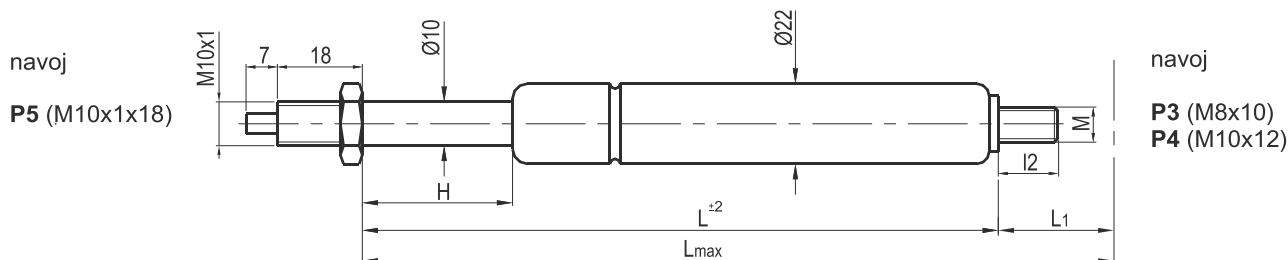
Primer naročevanja / Order example:

NPV C2 40 185 H52 P5 - 600N

Nazivna sila / Extension force: 100 - 1200N  
Batnica / Piston rod: Ø 10mm jeklena, črno nitrirana / steel, black nitrated  
Cilinder / Cylinder: Ø 22mm jeklen, črno barvan / steel, black painted  
Priključki / End fittings: jekleni, umetna masa / steel, plastic

### NPV C2

krajša izvedba batnica 10 / cilinder 22  
short dimension piston rod 10 / cylinder 22



Mere / Measures (mm):

H	L	H	L	H	L
25	96	60	166	140	326
30	106	80	206	160	366
40	126	100	246	180	406
50	146	120	286	200	446

$$L=2 \times H + 46 / L_{max}=L + L1$$

Primer naročevanja / Order example: NPV C2 40 151 H51 P5 - 600N

Nazivna sila / Extension force: 100 - 1200N  
Batnica / Piston rod: Ø 10mm jeklena, črno nitrirana / steel, black nitrated  
Cilinder / Cylinder: Ø 22mm jeklen, črno barvan / steel, black painted  
Priključki / End fittings: jekleni, umetna masa / steel, plastic

#### Tehnične značilnosti

Nastavljiva plinska vzmet z elastičnim blokirnim učinkom (NPV) je napolnjena s plinom in manjšo količino olja, ki zagotavlja mazanje tesnil. Ker je plin v cilindru stisljiv, je blokiranje v obeh smereh (tlačni in natezni) delovanja elastično. Blokiranje je možno v območju celotnega hoda plinske vzmeti.

#### Technical characteristics

The elastic locking gas spring (NPV) is filled with gas and a minor quantity of oil which ensures lubrication of the seals. The compression of the gas in the cylinder causes an elastic blocking effect in both directions – traction and extension. Blocking is possible along the whole stroke.

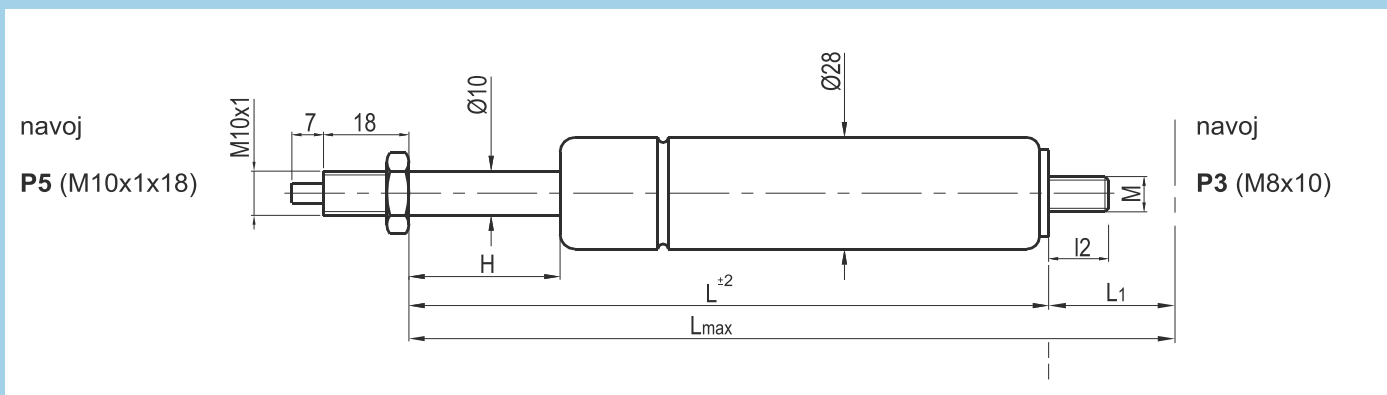
# Nastavljive plinske vzmeti

## Locking gas springs

### NHC C3

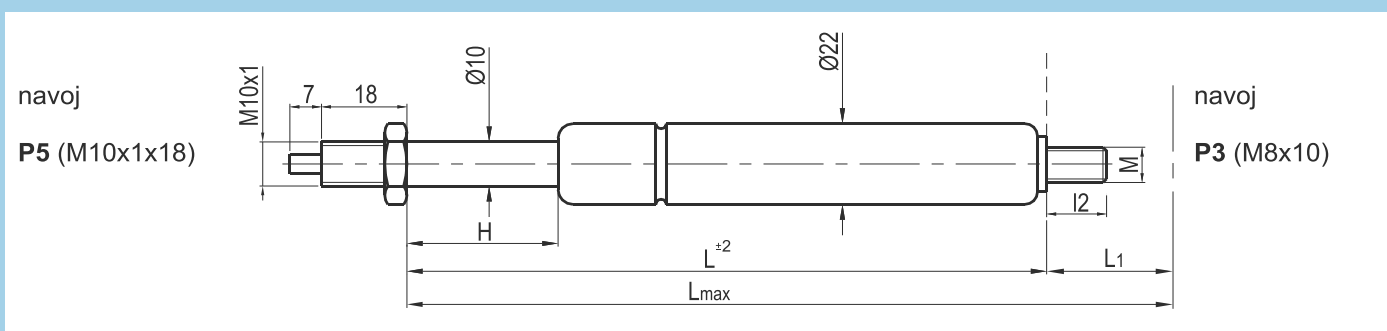
s povečanim blokirnim učinkom batnica 10 / cilinder 28  
with rigid locking piston rod 10 / cylinder 28

**METALIKA**  
COMPONENTS FOR INDUSTRY  
www.metatika-kacin.com



### NHC C2

s povečanim blokirnim učinkom batnica 10 / cilinder 22  
with rigid locking piston rod 10 / cylinder 22



Mere / Measures (mm):

H	L	H	L	H	L
25	150	120	378	300	810
30	162	140	426	350	930
40	186	160	474	400	1050
50	210	180	522	450	1070
60	234	200	570	500	1290
80	282	220	618		
100	330	250	690		

$$L=2,4 \times H + 90 / L_{max}=L + L1$$

Primer naročevanja / Order example: NHC C3 40 209 J9 P5 - 500N

Primer naročevanja / Order example: NHC C2 40 209 J9 P5 - 500N

Nazivna sila / Extension force: 100 - 1200N  
Batnica / Piston rod: Ø 10mm jeklena, črno nitrirana / steel, black nitrated  
Cilinder / Cylinder: Ø 22mm jeklen, črno barvan / steel, black painted  
Priključki / End fittings: jekleni, umetna masa / steel, plastic

#### Tehnične značilnosti

Nastavljiva plinska vzmet z močnim blokirnim učinkom (NHC) je napolnjena s plinom in oljem v dveh ločenih komorah, kar zagotavlja močan blokirni učinek v obeh smereh delovanja (tlačno in natezno). Blokiranje je možno v območju celotnega hoda plinske vzmeti. Sila blokiranja: tlačna ca 4 x F1 za NHC C2, ca 5 x F1 za NHC C3; natezna ca 3000N Hitrost iztegovanja: v=ca 0,15 m/s

#### Technical characteristics

The rigid locking gas spring (NHC) is filled with gas and oil in two separate chambers, which ensures a strong blocking effect in both directions – traction and extension. Blocking is possible along the whole stroke.

Blocking force: traction – approximately 4 x F1 for NHC C2, approximately 5 x F1 for NHC C3; extension – approximately 3000 N.  
Extension speed: v = approximately 0,15 m/s

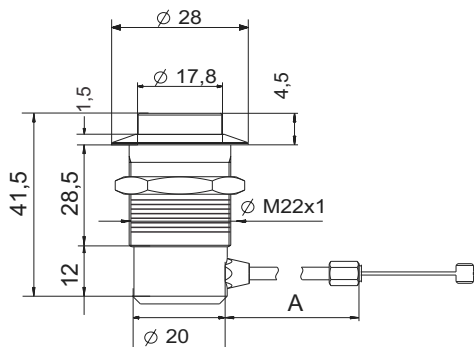
# Prožilni mehanizmi

## Release systems

### PG AI 28 - 90°

Gumb - izhod bovdena 90°  
Push-button - axial bowden exit

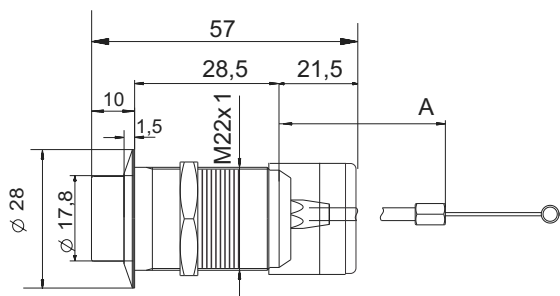
**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metaliika-kacin.com



Material	Button color	A / bowden cable length [mm]
button: plastic, housing: aluminium	Silver	500
	Red	750
	Black	1000
		1250

### PG AI 28 - 180°

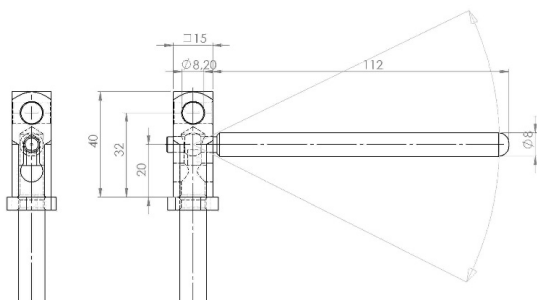
Gumb - izhod bovdena 180°  
Push-button - lateral bowden exit



Material	Button color	A / bowden cable length [mm]
button: plastic, housing: aluminium	Silver	500
	Red	750
	Black	1000
		1250

### PR 1 - 112

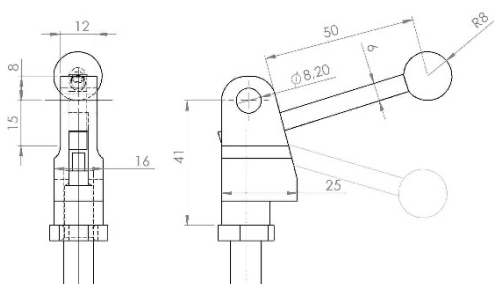
Prožilna ročica - daljši hod  
Lever - long stroke



Material	Description
Ročica/lever: steel - galvanised	<ul style="list-style-type: none"> <li>Pomik Ročice 112 mm Lever stroke 112 mm</li> <li>Možnost proženja z obeh strani Triggering possible from both sides</li> </ul>
Ohišje/body: aluminium	<ul style="list-style-type: none"> <li>Push/Pull opcija pomika ročice(↑↓) Push/Pull lever options (Up/Down)</li> <li>Dve izvrtini za pritrditev - 90° zamik Two bores for fixing - 90° offset</li> </ul>

### PR 2 - 50

Prožilna ročica - krajši hod  
Lever - short stroke



Material	Description
Ročica/lever: zamak	<ul style="list-style-type: none"> <li>Pomik Ročice 65mm Lever stroke 65mm</li> </ul>
Ohišje/body: zamak	<ul style="list-style-type: none"> <li>Prestavno razmerje 1:10 Transmission ratio 1:10</li> </ul>



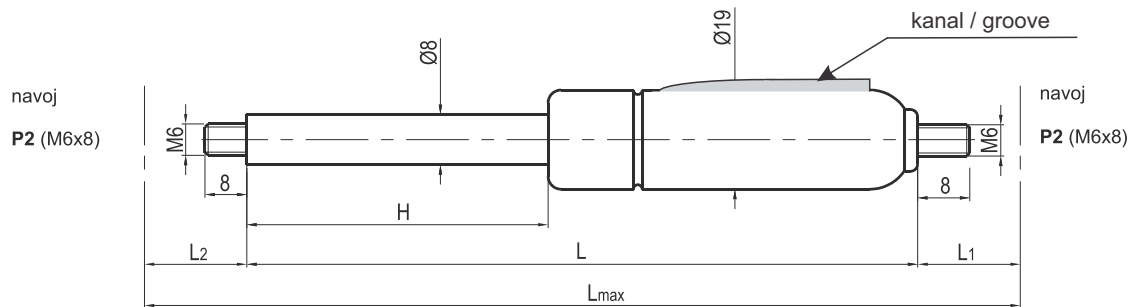
# Plinske vzmeti z dinamičnim dušenjem

## GS with dynamic extension damping

### PV F1

izvedba z navoji 8/19  
with thread 8/19

**METALIKA**  
COMPONENTS FOR INDUSTRY  
www.metatika-kacin.com



Mere / Measures (mm):

H	L	H	L	H	L
60	165	140	325	220	485
80	205	160	365	250	545
100	245	180	405	300	645
120	285	200	445		

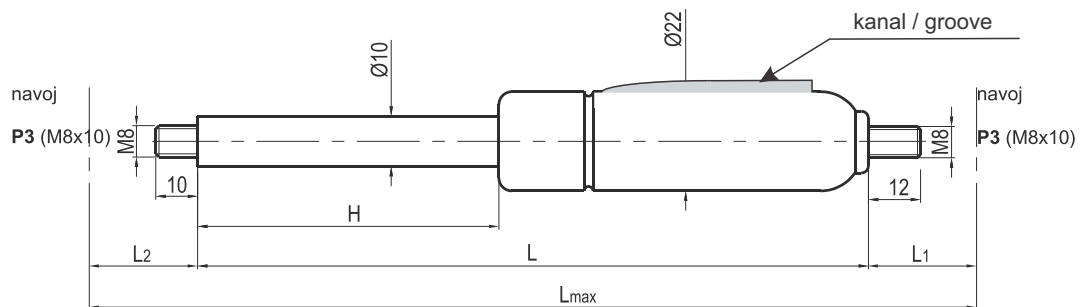
$L=2 \times H + 45$  /  $L_{max}=L + L1 + L2$

Primer naročevanja / Order example: **PV F1 200 486 LL - 300N**

Nazivna sila / Extension force: 50 - 700N  
 Batnica / Piston rod: Ø 8 mm jeklana, črno nitrirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 19 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni, umetna masa / steel, plastic

### PV F2

izvedba z navoji 10/22  
with thread 10/22



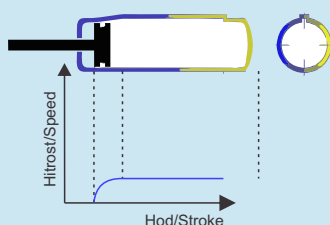
Mere / Measures (mm):

H	L	H	L	H	L
60	170	160	370	300	650
80	210	180	410	350	750
100	250	200	450	400	850
120	290	220	490	450	950
140	330	250	550	500	1050

$L=2 \times H + 50$  /  $L_{max}=L + L1 + L2$

Primer naročevanja / Order example: **PV F2 200 510 N31 N31 - 500N**

Nazivna sila / Extension force: 100 - 1200N  
 Batnica / Piston rod: Ø 10 mm jeklana, črno nitrirana / steel, black nitrated  
 Cilinder / Cylinder: Ø 22 mm jeklen, črno barvan / steel, black painted  
 Priključki / End fittings: jekleni, umetna masa / steel, plastic



#### Tehnične značilnosti

Pri PV Fx z dinamičnim dušenjem je hitrost raztegovanja definirana z globino kanala po dolžini cilindra. S spreminjanjem globine kanala se lahko spreminja hitrost po celotnem hodu. Gibanje bremena se zaustavlja kontinuirano do popolne zaustavitve. Dušenje gibanja je omogočeno ne glede na položaj vgradnje.

#### Technical characteristics

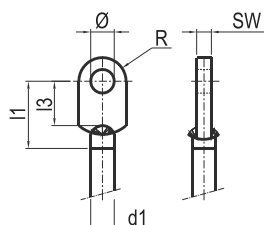
At GS with dynamic damping the speed of stretching is defined by the channel depth along the length of the cylinder. By varying the depth channel speed can be adjusted throughout the stroke. The motion is slowed down smoothly and continuously until it arrive end/stop point. Motion damping is enabled regardless of the mounting position.

# Priključki / End Fittings

**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metatika-kacin.com

## Varjeno uho na batnici

### Welded hinge eyes on the piston rod

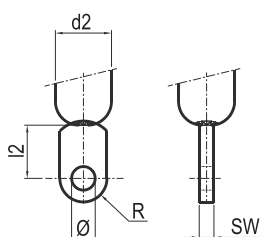


Oznaka / Type code	SW	Ø	I1	I3	d1	R
H01	3	6,2	20	11	6	6,5
H11	5	6,2	24	15	8; 10	8
H12	5	8,2	24	15	8; 10	8
H13	5	10,2	24	15	6	8
H22*	10	8,2			8; 10	
H23*	10	10,2			8; 10	

Primerno: / Suitable for: PV A5, PV A1, PV A2 – izvedba z varjenimi ušesi / gas springs with welded hinge eyes

## Varjeno uho na cilindru

### Welded hinge eyes on the cylinder

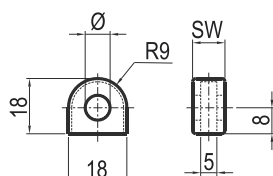


Oznaka / Type code	SW	Ø	I2	d2	R
H01	3	6,2	10	15	6,5
H11	5	6,2	16	19; 22	8
H12	5	8,2	16	19; 22	8
H13	5	10,2	16	19; 22	8
H22*	10	8,2		19; 22	
H23*	10	10,2		19; 22	

Primerno: / Suitable for: PV A5, PV A1, PV A2 – izvedba z varjenimi ušesi / gas springs with welded hinge eyes

## Uho iz umetne mase

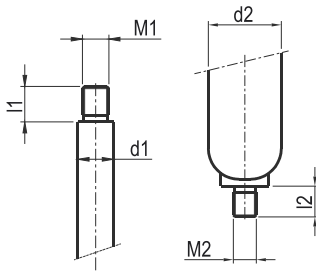
### Plastic hinge eyes



Natakajeno na varjeno uho na batnici in cilindru / Welded hinge eyes on the cylinder

# Priključki / End Fittings

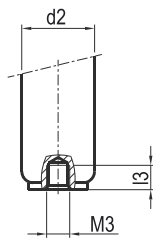
## Navoj na batnici / navoj na cilindru Thread on the piston rod / Thread on the cylinder



Oznaka / Type code	M1 Batnica / Piston rod	M2 Cilinder / Cylinder	I1 Batnica / Piston rod	I2 Cilinder / Cylinder
P2	M6	M6	8	8
P3	M8	M8	10	11,5
P4	M10	M10	12	12
P5	MF 10x1	MF 10x1	18	10

Primerno: / Suitable for: PV A5, PV A1, PV A2, PV A4

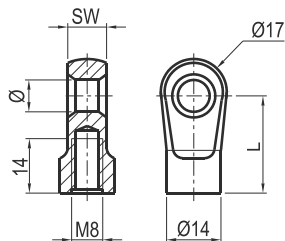
## Notranji navoj na cilindru Inner thread on the cylinder



Oznaka / Type code	M3 Cilinder - notranji / Cylinder - inner	I1 Cilinder - notranji / Cylinder - inner
P6	M6	10
P7	M8	10
P8	M10	10
P9	MF 10x1	10

Primerno: / Suitable for: NPV, NHC

## Uho Hinge eyes



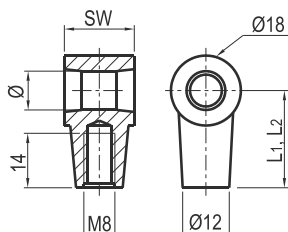
Oznaka / Type code	Ø	L	SW	Material
H31	8,1	25	10	zamak

Primerno: / Suitable for: PV A2, PV A4, NPV, NHC

# Priključki / End Fittings

## Uho Hinge eyes

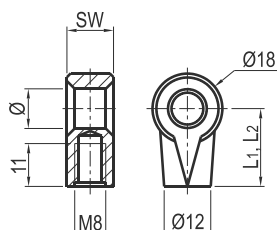
**METALIKA**  
COMPONENTS FOR INDUSTRY KACIN  
www.metatika-kacin.com



Oznaka / Type code	Ø	L1, L2	SW	Material
H41	8,1	25	18	zamak
H42	10,1	25	18	zamak

Primerno: / Suitable for: PV A2, PV A4, NPV, NHC

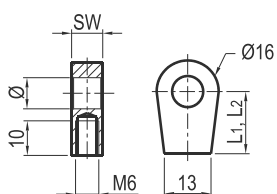
## Uho Hinge eyes



Oznaka / Type code	Ø	L1, L2	SW	Material
H51	8,1	20	12	zamak
H52	8,1	20	12	zamak

Primerno: / Suitable for: PV A2, PV A4, NPV, NHC

## Uho Hinge eyes



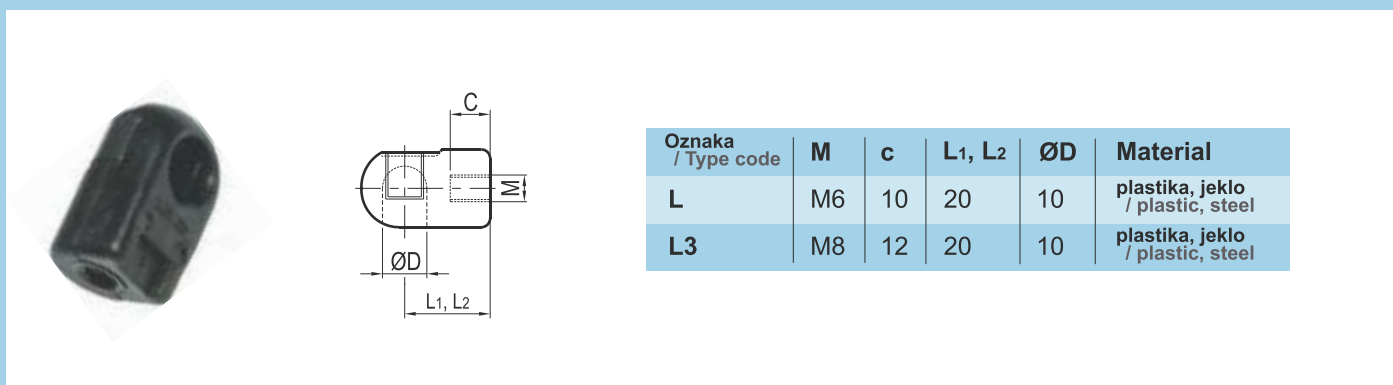
Oznaka / Type code	Ø	L1, L2	SW	Material
H61	8,1	16	8	zamak

Primerno: / Suitable for: PV A2, PV A4, NPV, NHC

# Priključki / End Fittings

## Krogelni sedež Ball seat

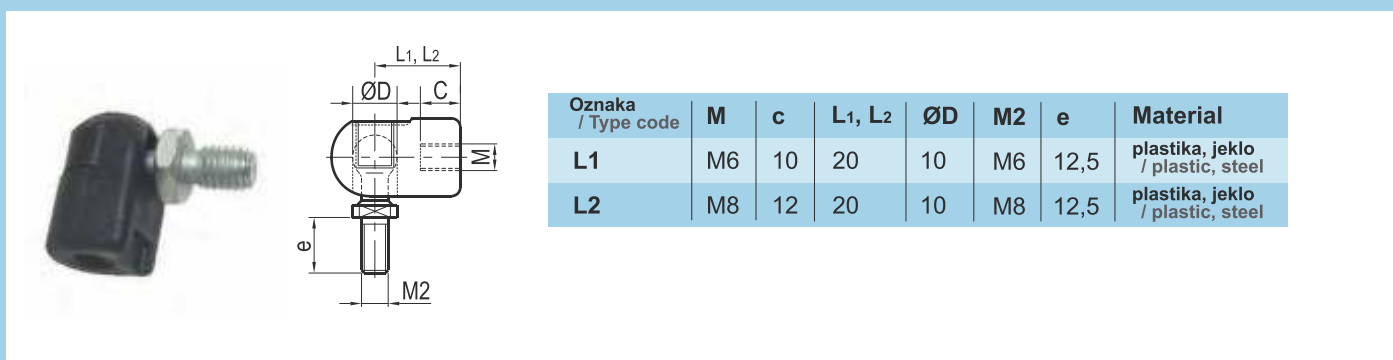
**METALIKA**  
COMPONENTS FOR INDUSTRY KACIN  
www.metalika-kacin.com



Oznaka / Type code	M	c	L1, L2	ØD	Material
L	M6	10	20	10	plastika, jeklo / plastic, steel
L3	M8	12	20	10	plastika, jeklo / plastic, steel

Primerno: / Suitable for: PV A1, PV A2, PV A5

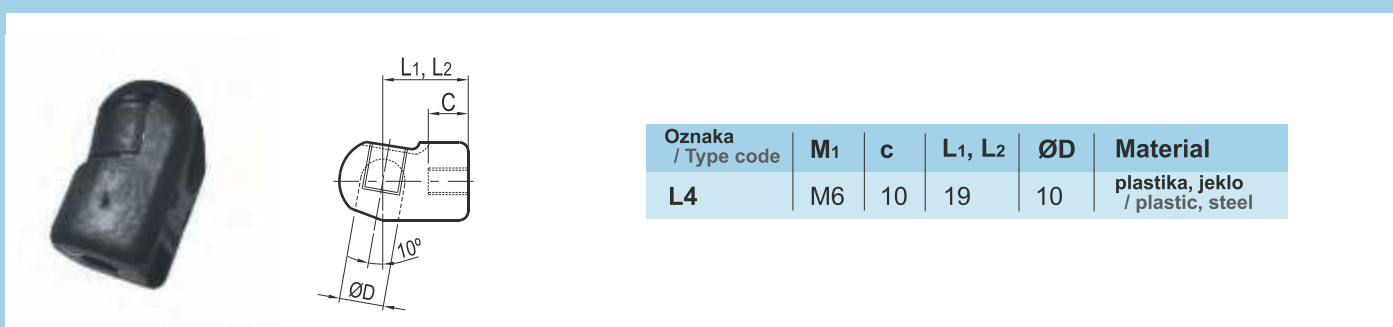
## Krogelni sedež Ball seat



Oznaka / Type code	M	c	L1, L2	ØD	M2	e	Material
L1	M6	10	20	10	M6	12,5	plastika, jeklo / plastic, steel
L2	M8	12	20	10	M8	12,5	plastika, jeklo / plastic, steel

Primerno: / Suitable for: PV A1, PV A2, PV A5

## Krogelni sedež Ball seat



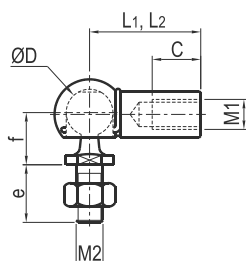
Oznaka / Type code	M1	c	L1, L2	ØD	Material
L4	M6	10	19	10	plastika, jeklo / plastic, steel

Primerno: / Suitable for: PV A1, PV A2, PV A5

# Priključki / End Fittings

## Krogelni zglob Elbow joint

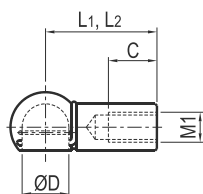
**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metalika-kacin.com



Oznaka / Type code	ØD	L1, L2	M1*c	M2*e	f
N11	8	22	M5*10	M5*10	9
N21	10	25	M6*10	M6*12,5	11
N22	10	25	M6*10	M8*12,5	11
N31	13	30	M8*14	M8*16,5	13
N41	16	35	M10*15	M10*20	16

Primerno: / Suitable for: PV A1, PV A2, PV A4, PV A5

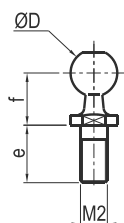
## Krogelni sedež Ball seat



Oznaka / Type code	ØD	L1, L2	M1*c
N1	8	22	M5*10
N2	10	25	M6*10
N2k	10	18	M6*11
N3	13	30	M8*14
N4	16	35	M10*15

Primerno: / Suitable for: PV A1, PV A2, PV A4, PV A5

## Krogelni vijak Ball screw



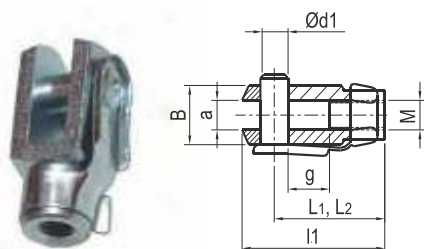
Oznaka / Type code	ØD	M2*e	f
V1	8	M5*10	9
V2	10	M6*12,5	11
V3	10	M8*12,5	11
V4	13	M8*16,5	13
V5	16	M10*20	16

Primerno za: / Suitable for: krogelni sedež N /ball seat N

# Priključki / End Fittings

## Vilice z zatikom Clevises with clip bolts

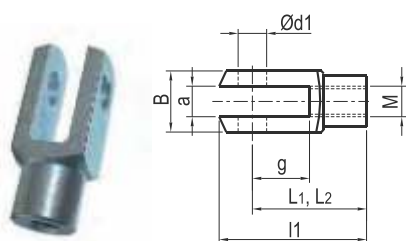
**METALIKA**  
COMPONENTS FOR INDUSTRY **KACIN**  
www.metatika-kacin.com



Oznaka / Type code	Ød1	g	L1, L2	l1	a	B	M	Material
J10	5	10	20	26	5	10	M5	jeklo-cinkano / steel – zinc plated
J20	6	12	24	31	6	12	M6	jeklo-cinkano / steel – zinc plated
J30	8	16	32	42	8	16	M8	jeklo-cinkano / steel – zinc plated
J40	10	20	40	52	10	20	M10	jeklo-cinkano / steel – zinc plated

Primerno: / Suitable for: PV A1, PV A2, PV A4, PV A5, NPV, NHC

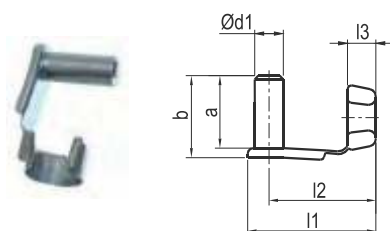
## Vilice brez zatika Clevises without clip bolts



Oznaka / Type code	Ød1	g	L1, L2	l1	a	B	M	Material
J1	5	10	20	26	5	10	M5	jeklo-cinkano / steel – zinc plated
J2	6	12	24	31	6	12	M6	jeklo-cinkano / steel – zinc plated
J3	8	16	32	42	8	16	M8	jeklo-cinkano / steel – zinc plated
J4	10	20	40	52	10	20	M10	jeklo-cinkano / steel – zinc plated

Primerno: / Suitable for: PV A1, PV A2, PV A4, PV A5, NPV, NHC

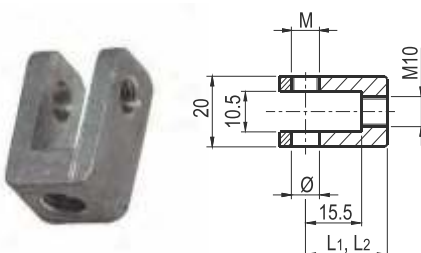
## Zaprti zatiki Clip bolts



Oznaka / Type code	Ød1	l1	l2	a	b	l3	Material
Z1	5	23	19	12	13,5	5,5	jeklo-cinkano / steel – zinc plated
Z2	6	28	23	14	16	6,5	jeklo-cinkano / steel – zinc plated
Z3	8	37	30	19	21,5	8	jeklo-cinkano / steel – zinc plated
Z4	10	46	38	23	26	10	jeklo-cinkano / steel – zinc plated

Primerno: / Suitable for: vilice brez zatika J / fork without stutters J

## Vilice zamak Clevises zamak



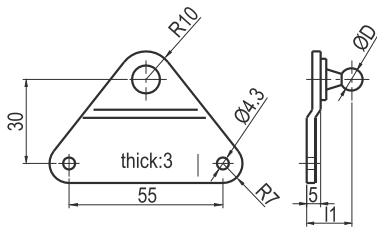
Oznaka / Type code	Ø	L1, L2	M	Material
J9	8,2	23	M8	zamak

Primerno: / Suitable for: NPV, NHC

# Elementi za pritrditev Attachment elements



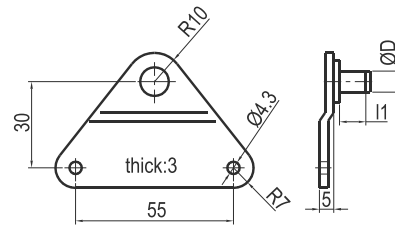
Oznaka / Type code	ØD	l1
<b>BR1</b>	8	16
<b>BR2</b>	10	17
<b>BR3</b>	13	17,5



Primerno: / Suitable for:  
PV s krogelnim sedežem / gas springs with ball seat



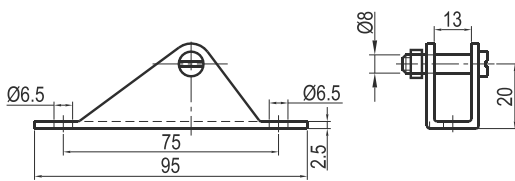
Oznaka / Type code	ØD	l1
<b>BR4</b>	6	7
<b>BR5</b>	8	11



Primerno: / Suitable for:  
PV z ušesi / gas springs with hinge eyes



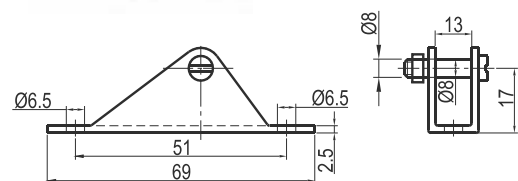
Oznaka / Type code
<b>BR6</b>



Primerno: / Suitable for:  
PV z ušesi / gas springs with hinge eyes



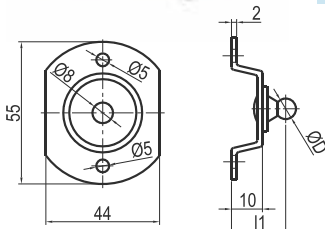
Oznaka / Type code
<b>BR7</b>



Primerno: / Suitable for:  
PV z ušesi / gas springs with hinge eyes



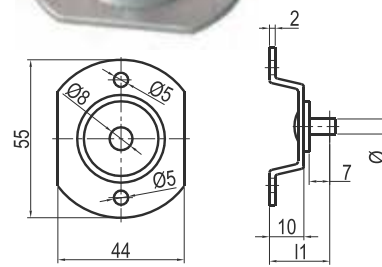
Oznaka / Type code	ØD	l1
<b>BR8</b>	8	21
<b>BR9</b>	10	22
<b>BR10</b>	13	22,5



Primerno za: / Suitable for:  
PV s krogelnim sedežem / gas springs with ball seat



Oznaka / Type code	ØD	l1
<b>BR11</b>	6	21
<b>BR12</b>	8	26



Primerno za: / Suitable for:  
PV z ušesi / gas springs with hinge eyes



# METALIKA

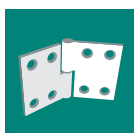
KOMPONENTE ZA INDUSTRIJU **KACIN**

## ZATVARAMO - OTVARAMO - NIVELIŠEMO - POVEZUJEMO

Široki izbor okova i pribora za proizvodnju prekidnih i upravljačkih ormarića, kućišta za elektroopremu, elektroniku, telekomunikacijsku, tehnološku, klimatsku i drugu tehniku, za ugradnju kod izrade mašinske opreme i vozila.



*Brave, zatvarači, sistemi zatvaranja*



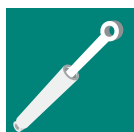
*Šarke, klavirski šarniri, spone*



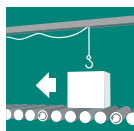
*Ručke, pribor, kopče*



*Zaptivni gumeni profili*



*Plinski amortizeri*



*Transportni valjci i transportna oprema*



*Točkovi - stabilni, okretni*



*Standardni elementi za stezanje*



*Adapteri za punjenje plinskih medija*



*Plastični čepovi, zavrtnji, elementi*



*Teleskopske kuglične vodilice, šine*



*Ostali okovi, INOX program, magneti, oprema za vatrogasna vozila*