

Roller cams

Code	Working punch stroke mm	Max. punching force daN
TPRC 2000	50	2000
TPRC 3000	50, 80	3000
TPRC 3000	50, 80	3000
TPRC 5000	50, 80, 100	5000
TPRCS 5000	50, 80, 100	5000
TPRCS 15000	50, 80, 100	15000



Sintered sliding elements

i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPR

TPB

TPHC

TPA

TPG

TPCT

TPSL

STOP
CYLINDER

STOP
CYLINDER

TPSR

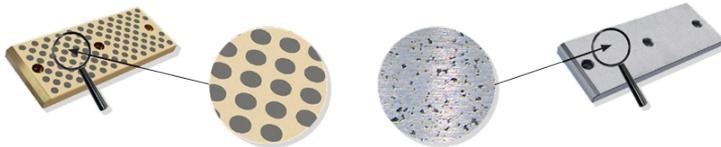
TPSRS

TPNS

TPHT

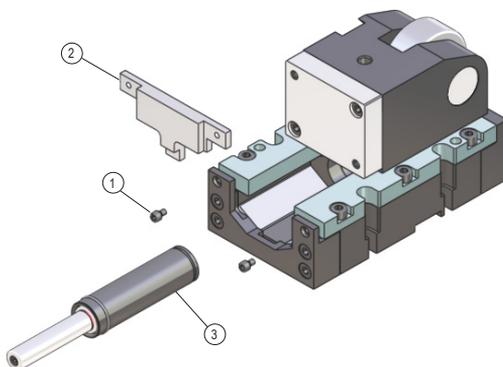
In order to satisfy demand for modern tools a new sintered steel material has been developed that combines lower rates of wear and tear in sliding plates with a long useful life and less maintenance.

This new generation of sliding elements is made of an iron-based porous sintered metal which provides a sliding element with a higher degree of solidity. This material is characterised by its solidity in medium-to-high speeds.



Characteristics	Bronze	Sintered metal
Maximum sliding speed	15 m/min	70 m/min
Frictional coefficient	0,05 - 0,15	0,05 - 0,15
Surface pressure normal	35 N/mm ²	70 N/mm ²
Brinell hardness HB 10	190 - 220 HB S10/3000	-
Hardness of the sliding film	-	HRB60 - HRC20
Hardness of the base material	-	HRB80 - HRC40
Operating temperature	< 150 °C	< 250 °C
Maximal unlubricated operating time	1000	3000
Integrated lubricant	Graphit	Fe + Cu + Graphit + MoS2
Portion of lubricant	20 - 35%	15 - 20%

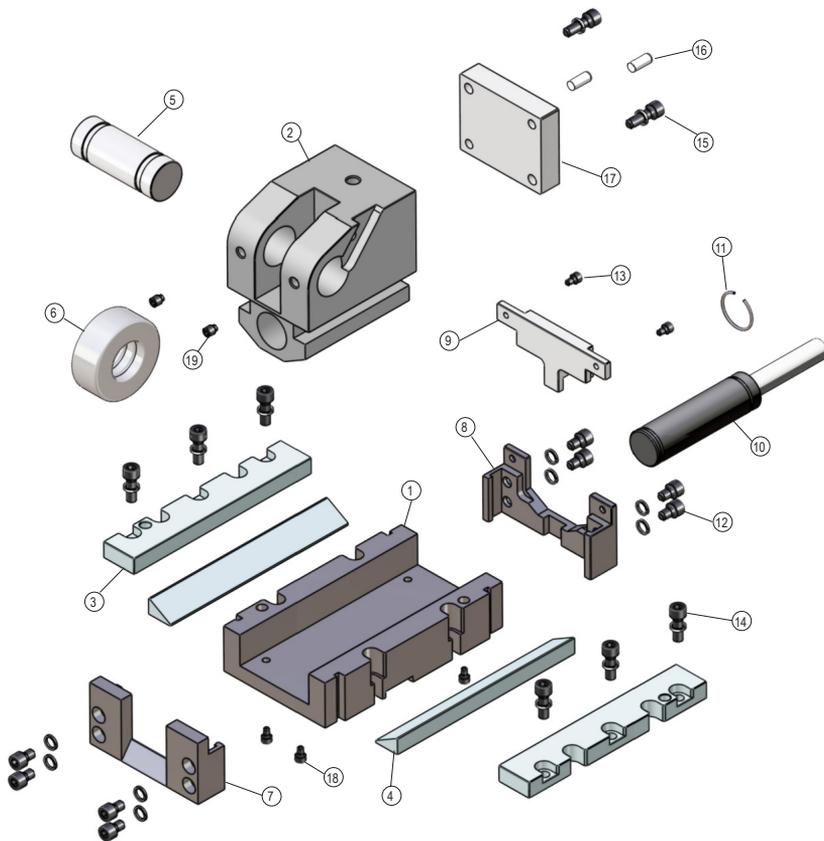
Cylinder extraction - Punch adjustment operation



Remove the screws (1) of the front plate and remove the gas spring stopper plate (2). The gas spring (3) is now free and can be removed from the cam.

Once the gas spring has been extracted, the cam slide can be manually operated for adjustment operations. The slide will provide a sliding resistance on the baseplate of 20-40 daN.

NOTE: The dismounting of the gas spring allows an easier movement of the cam slide at the adjustment of the Roller cam units.



Part no.	Description	Quantity
1	Baseplate (no spare part)	1
2	Cam slide (no spare part)	1
3	Cover bar	2
4	Prismatic bar	2
5	Rod	1
6	Roll	1
7	Back limit plate	1
8	Limit plate in front	1
9	Insert pressure plate	1
10	Gas spring	1
11	Retainer ring	1
12	Screw ISO 4762	8
13	Screw ISO 7984	2
14	Screw ISO 4762	6
15	Screw ISO 4762	2
16	Dowel pin	2
17	Punch holder (C45)	1
18	Screw ISO 4762	4 / 6
19	Screw ISO 4028	2



Passive return device DRP

i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPR

TPB

TPHC

TPA

TPG

TPCT

TPSL

STOP

CYLINDER

STOP

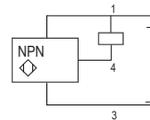
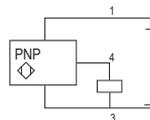
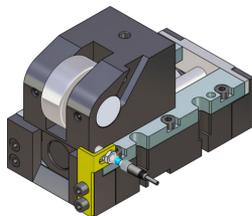
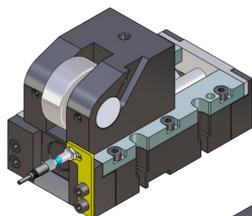
CYLINDER

TPSR

TPSRS

TPNS

TPHT

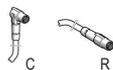


In order to better detect that the Roller Cam has returned to its initial position, TECAPRES recommends the use of a DRP inductive sensor as a passive return device. Thus, in case the slider does not return when the press goes back up due to gas spring failure, an alarm, or a press shutdown, can be activated.

How to order

DRP-1 - R

Code Connector

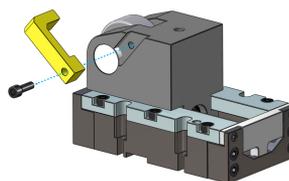
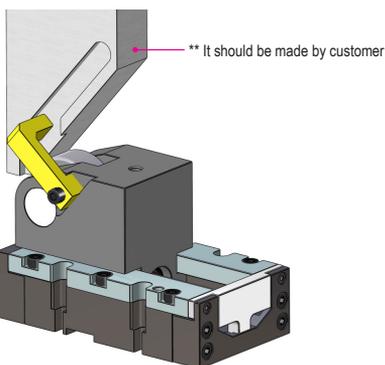


Connectors

Length of the cable 2m, 5m, 10m

Reference	Type	Function	Nominal sensing distance	Supply voltage	Switching capacity
DRP-1	PNP	NO	2 mm	12 ... 24 VDC	200 mA
DRP-2		NC			
DRP-3	NPN	NO			
DRP-4		NC			

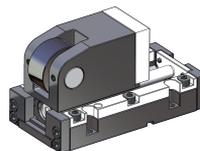
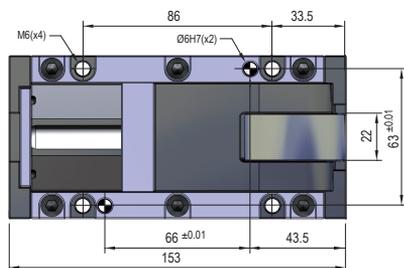
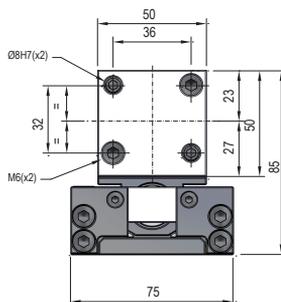
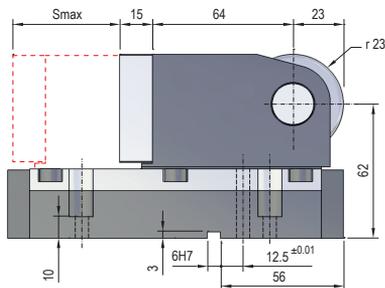
Active return device DRA



Reference	Type
DR-3-1	TPRC 3000 / TPRCS 3000
DR-5-1	TPRC 5000 / TPRCS 5000
DR-15-1	TPRC 15000

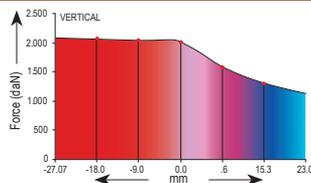
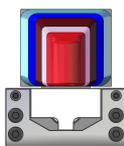
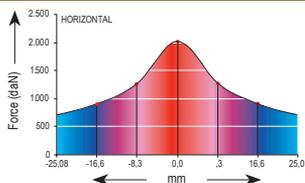
A gas spring is used to achieve cam retraction. The force is adjusted in such a way that it is sufficient to be able to slide the carriage back to its starting position. Depending on the operation, preparing an active return can contribute to a higher degree of safety. For this purpose, cams already have an opening in the slide, which has been introduced to accommodate an extractor hook for the active return, with which the cam slider is pulled backwards with higher separating forces, coming into operation in case of gas spring failure.

For this purpose, the extractor hook is fitted into its housing and secured with a screw, as shown. Active return execution is only a proposal which may be constructed differently. The customer is responsible for the construction of the pusher support. The extractor hook is available as an accessory at TECAPRES.



Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRC 2000x50	50	2000 daN	170	≈ 300	MICRO 19V1x50 YW	✓	0,5 m/s	35 spm	25 mm	3,95

Working force distribution



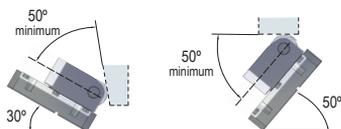
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

TPRC 2000 x 50

Code Stroke

Maximum inclination



i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPR

TPB

TPHC

TPA

TPG

TPCT

TPSL

STOP

CYLINDER

STOP

CYLINDER

TPSR

TPSR

TPNS

TPHT

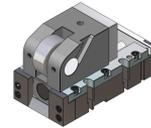
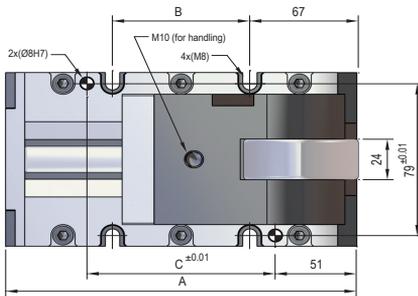
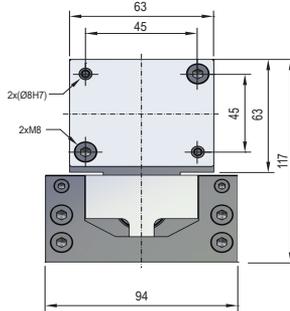
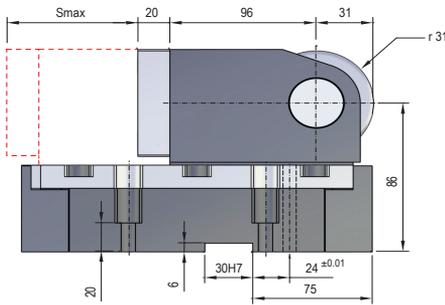
TPHT

TPHT

TPHT

TPHT

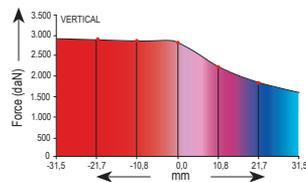
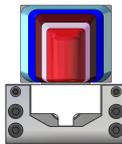
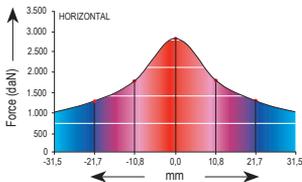
TPHT



Code	A mm	B mm	C mm
TPRC 3000x50	190	56	88
TPRC 3000x80	220	86	118

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRC 3000x50-1	50	3000 daN	400	≈ 600	TPK 32x50 YW	✓	0,5 m/s	40 spm	35 mm	9,2
TPRC 3000x50-2			200	≈ 270	TPS 32x50.2 YW					
TPRC 3000x50-3			350	≈ 520	MICRO32VSx50 YW					
TPRC 3000x80-1	80	3000 daN	400	≈ 600	TPK 32x80 YW	✓	0,5 m/s	35 spm	35 mm	10,0
TPRC 3000x80-2			200	≈ 270	TPS 32x80.2 YW					
TPRC 3000x80-3			350	≈ 520	MICRO32VSx80 YW					

Working force distribution

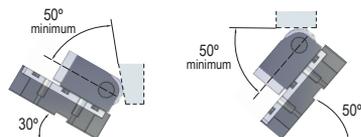


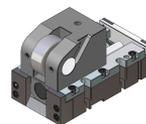
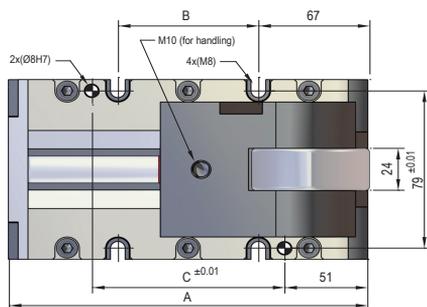
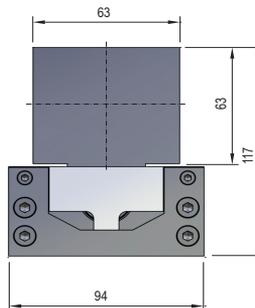
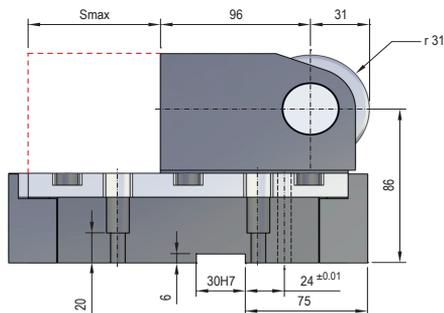
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

TPRC 3000	x	80	-	1
Code	Stroke	Gas spring model		
		TPK 32 TPS 32.2 MICRO 32VS	ISO	150

Maximum inclination

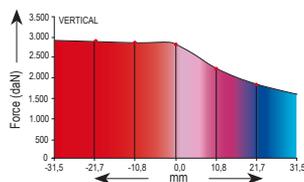
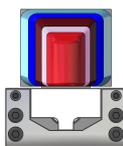
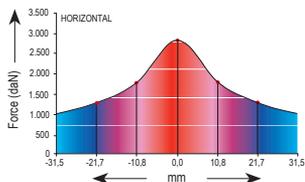




Code	A mm	B mm	C mm
TPRCS 3000x50	190	56	88
TPRCS 3000x80	220	86	118

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRCS 3000x50-1	50	3000 daN	400	≈ 600	TPK 32x50 YW		0,5 m/s	40 spm	35 mm	9,2
TPRCS 3000x50-2			200	≈ 270	TPS 32x50.2 YW	✓				
TPRCS 3000x50-3			350	≈ 520	MICRO32VSx50 YW	✓				
TPRCS 3000x80-1	80	3000 daN	400	≈ 600	TPK 32x80 YW		0,5 m/s	35 spm	35 mm	10,0
TPRCS 3000x80-2			200	≈ 270	TPS 32x80.2 YW	✓				
TPRCS 3000x80-3			350	≈ 520	MICRO32VSx80 YW	✓				

Working force distribution



Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

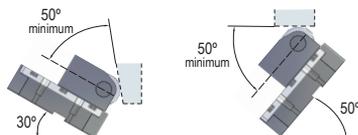
How to order

TPRCS **3000** x **50** - **1**

Code Stroke Gas spring model

TPK 32 TPS 32.2 MICRO 32VS

Maximum inclination



i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPR

TPB

TPHC

TPA

TPG

TPCT

TPSL

STOP

CYLINDER

TPSR

TPNS

TPHT

TPSL

TPSL

TPSL

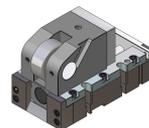
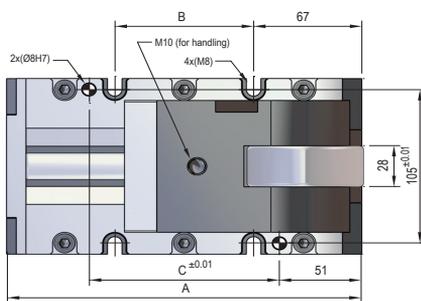
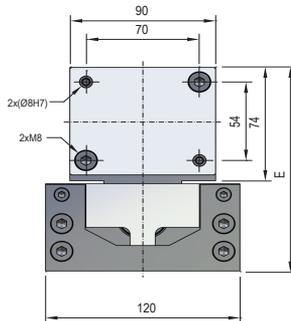
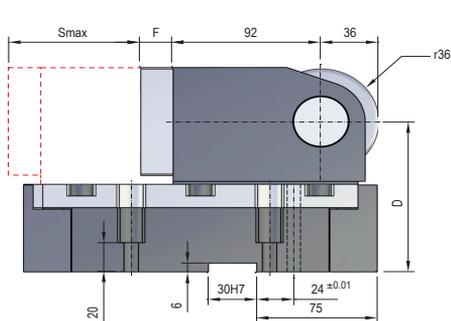
TPSL

TPSL

TPSL

TPSL

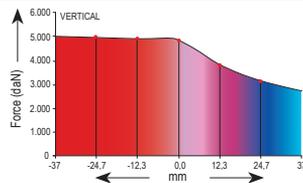
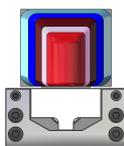
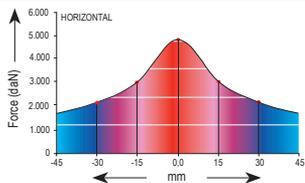
TPSL



Code	A mm	B mm	C mm	D mm	E mm	F mm
TPRC 5000x50	190	56	88	103	140	20
TPRC 5000x80	220	86	118	103	140	20
TPRC 5000x100	260	126	158	120	157	30

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRC 5000x50-1	50	5000 daN	400	≈ 600	TPK 32x50 YW	✓	0,5 m/s	35 spm	40 mm	14,2
TPRC 5000x50-2			200	≈ 270	TPS 32x50.2 YW					
TPRC 5000x50-3			350	≈ 520	MICRO32VSx50 YW					
TPRC 5000x80-1	80	5000 daN	400	≈ 600	TPK 32x80 YW	✓	0,5 m/s	35 spm	40 mm	15,0
TPRC 5000x80-2			200	≈ 270	TPS 32x80.2 YW					
TPRC 5000x80-3			350	≈ 520	MICRO32VSx80 YW					
TPRC 5000x100-1	100	5000 daN	400	≈ 600	TPK 32x100 YW	✓	0,5 m/s	25 spm	40 mm	21,0
TPRC 5000x100-2			200	≈ 270	TPS 32x100.2 YW					
TPRC 5000x100-3			350	≈ 520	MICRO32VSx100 YW					

Working force distribution

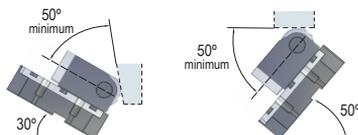


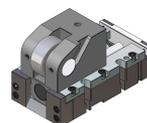
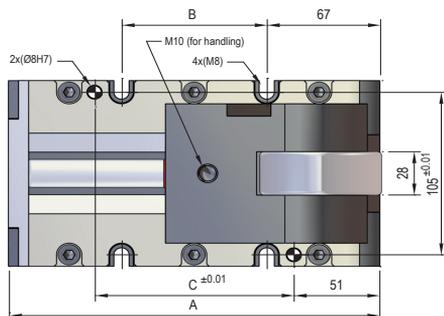
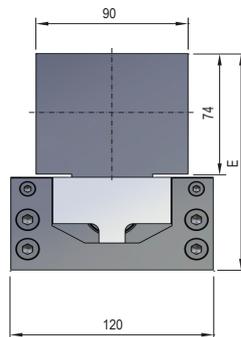
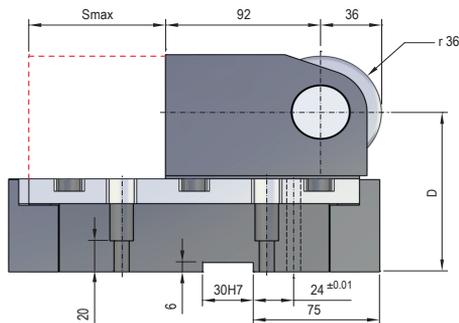
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

TPRC 5000 x 100	-	1	TPK 32 TPS 32.2 MICRO 32VS
Code	Stroke	Gas spring model	

Maximum inclination

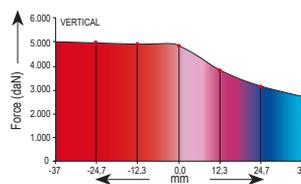
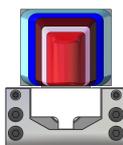
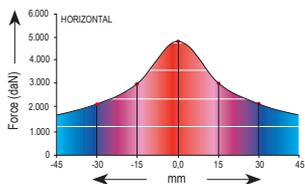




Code	A mm	B mm	C mm	D mm	E mm	F mm
TPRCS 5000x50	190	56	88	103	140	20
TPRCS 5000x80	220	86	118	103	140	20
TPRCS 5000x100	260	126	158	120	157	30

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRCS 5000x50-1	50	5000 daN	400	≈ 600	TPK 32x50 YW	✓	40 spm	40 mm	14,2	
TPRCS 5000x50-2			200	≈ 270	TPS 32x50.2 YW					
TPRCS 5000x50-3			350	≈ 520	MICRO32VSx50 YW					
TPRCS 5000x80-1	80	5000 daN	400	≈ 600	TPK 32x80 YW	✓	0,5 m/s	35 spm	15,0	
TPRCS 5000x80-2			200	≈ 270	TPS 32x80.2 YW					
TPRCS 5000x80-3			350	≈ 520	MICRO32VSx80 YW					
TPRCS 5000x100-1	100	5000 daN	400	≈ 600	TPK 32x100 YW	✓	25 spm	40 mm	21,0	
TPRCS 5000x100-2			200	≈ 270	TPS 32x100.2 YW					
TPRCS 5000x100-3			350	≈ 520	MICRO32VSx100 YW					

Working force distribution



Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

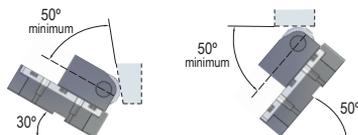
How to order

TPRCS **5000** x **80** - **2**

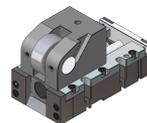
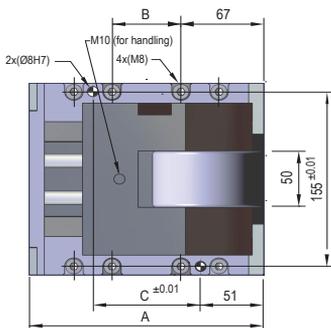
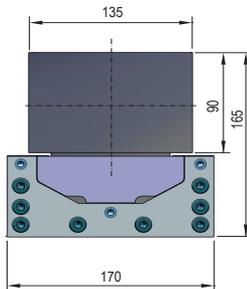
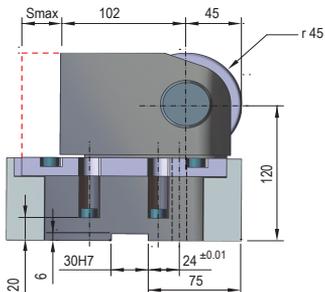
Code Stroke Gas spring model

TPK 32 TPS 32.2 MICRO 32VS

Maximum inclination



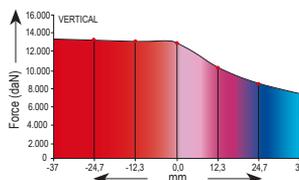
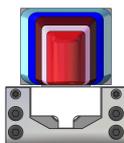
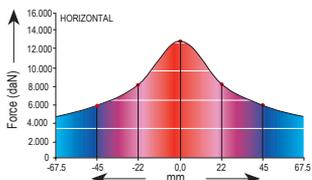
- i**
- MICRO
- TITAN
- TPH
- TPS
- TPSP
- TPF
- TPK
- TPC
- TPR
- TPB
- TPHC
- TPA
- TPG
- TPCT
- TPSL
- STOP CYLINDER
- STOP CYLINDER
- TPSR
- TPSRS
- TPNS
- TPHT
- 
- 
- 
- 
- 
- 
- 



Code	A mm	B mm	C mm
TPRCS 15000x50	190	56	88
TPRCS 15000x80	220	86	118
TPRCS 15000x100	260	126	158

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRCS 15000x50-1	50	15000 daN	400	≈ 580	2x TPC 25x50.1 YW	✓	0,5 m/s	25 spm	65 mm	26,3
TPRCS 15000x50-2			640	≈ 1050	2x MICRO25V1x50 YW					
TPRCS 15000x80-1	80	15000 daN	400	≈ 580	2x TPC 25x80.1 YW	✓	0,5 m/s	25 spm	65 mm	27,6
TPRCS 15000x80-2			640	≈ 1050	2x MICRO25V1x80 YW					
TPRCS 15000x100-1	100	15000 daN	400	≈ 580	2x TPC 25x100.1 YW	✓	0,5 m/s	20 spm	65 mm	30,8
TPRCS 15000x100-2			640	≈ 1050	2x MICRO25V1x100 YW					

Working force distribution

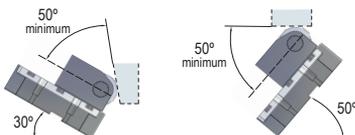


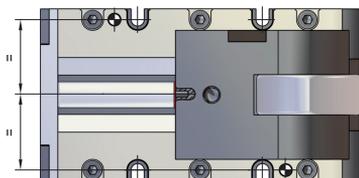
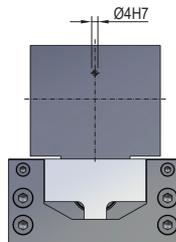
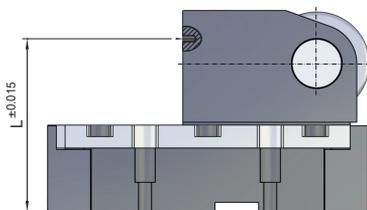
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

TPRCS 15000	x	50	-	1
Code		Stroke		Gas spring model
				TPC 25.1 MICRO 25V1

Maximum inclination



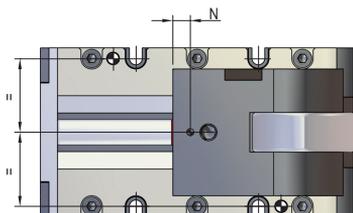
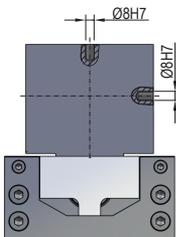
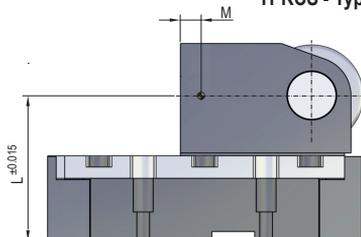
Program zero
TPRCS - Type P1


How to order

TPRCS 3000 x 50 - P1

Code	Stroke	Type
------	--------	------

Reference	L mm
TPRCS 3000x50	107
TPRCS 3000x80	107
TPRCS 5000x50	130
TPRCS 5000x80	130
TPRCS 5000x100	147
TPRCS 15000x50	155
TPRCS 15000x80	155
TPRCS 15000x100	155

 Program zero
TPRCS - Type P2


How to order

TPRCS 5000 x 80 - P2

Code	Stroke	Type
------	--------	------

Reference	L mm	M mm	N mm
TPRCS 3000x50	86	15	15
TPRCS 3000x80	86	15	15
TPRCS 5000x50	103	10	10
TPRCS 5000x80	103	10	10
TPRCS 5000x100	120	10	10
TPRCS 15000x50	120	15	15
TPRCS 15000x80	120	15	15
TPRCS 15000x100	120	15	15



i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPR

TPB

TPHC

TPA

TPG

TPCT

TPSL

STOP
CYLINDER

STOP
CYLINDER

TPSR

TPSRS

TPNS

TPHT

