READY

THE INNOVATOR OF OUR INDUSTRY®

Introducing Our New Line of

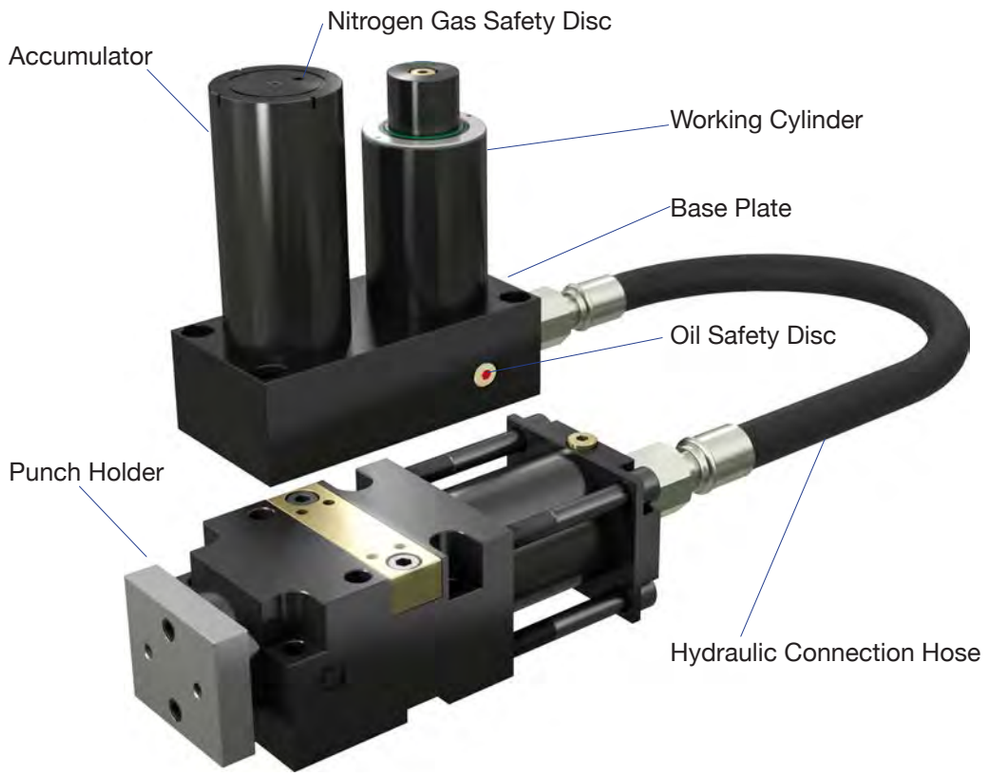
Hydraulic Cams® - The RTCH Series

Hydraulic Cams

Code	Working Punch Stroke mm	Max. Punching Force daN
RTCH 3000 - *page 6*	25, 50, 80	3000
RTCH 7500 - *page 8*	25, 50, 80	7500
RTCH 12000 - *page 10*	25, 50, 63	12000

Description

Hydraulic cams can freely operate in any position and at any angle in space for stamping, folding, punching operations, etc.. thanks to the flexible distribution of forces.



Drive Unit The drive unit supplies the working pressure by means of oil. It consists of the following elements:

- Working cylinder
- Pressure accumulator
- Manifold plate

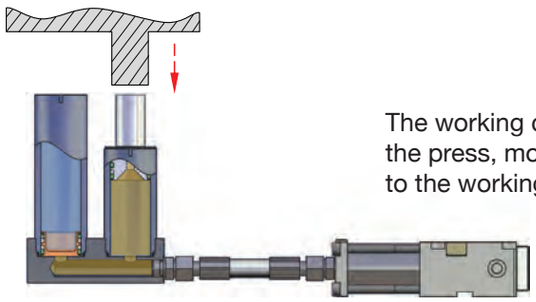
The accumulator is capable of absorbing all the volume displaced by the working cylinder if the cam stroke is blocked.

Working Cam The working cam is controlled through the drive unit. It has a gas spring that produces the recoil force.

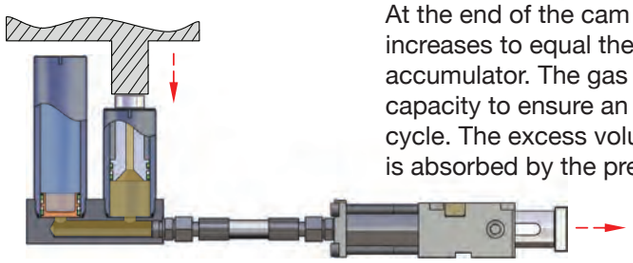
It is suitable for working applications with both round punches and punches with other shapes, thanks to its anti-turning device.

Hydraulic Connection Hose There is a high pressure hose that connects the drive unit with the working cam. Fittings with O-rings are used to guarantee a perfect fix of the elements to avoid leaking.

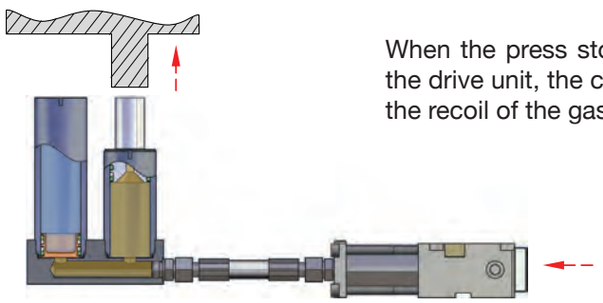
Operation



The working cylinder is made to work by the movement of the press, moving the hydraulic volume from the drive unit to the working cam through the hoses.

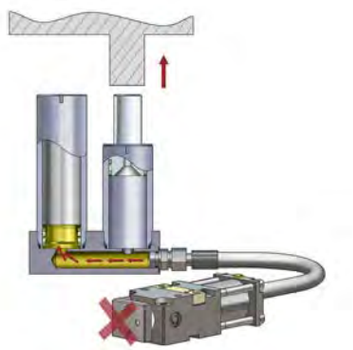


As soon as the hydraulic pressure exceeds the counterforce exerted by the gas spring, the cam starts its working stroke. At the end of the cam working stroke, the system pressure increases to equal the pressure of the nitrogen gas pressure accumulator. The gas spring has an extra 15mm overstroke capacity to ensure an identical pressure increase in each cycle. The excess volume of oil produced by the overstroke is absorbed by the pressure accumulator.



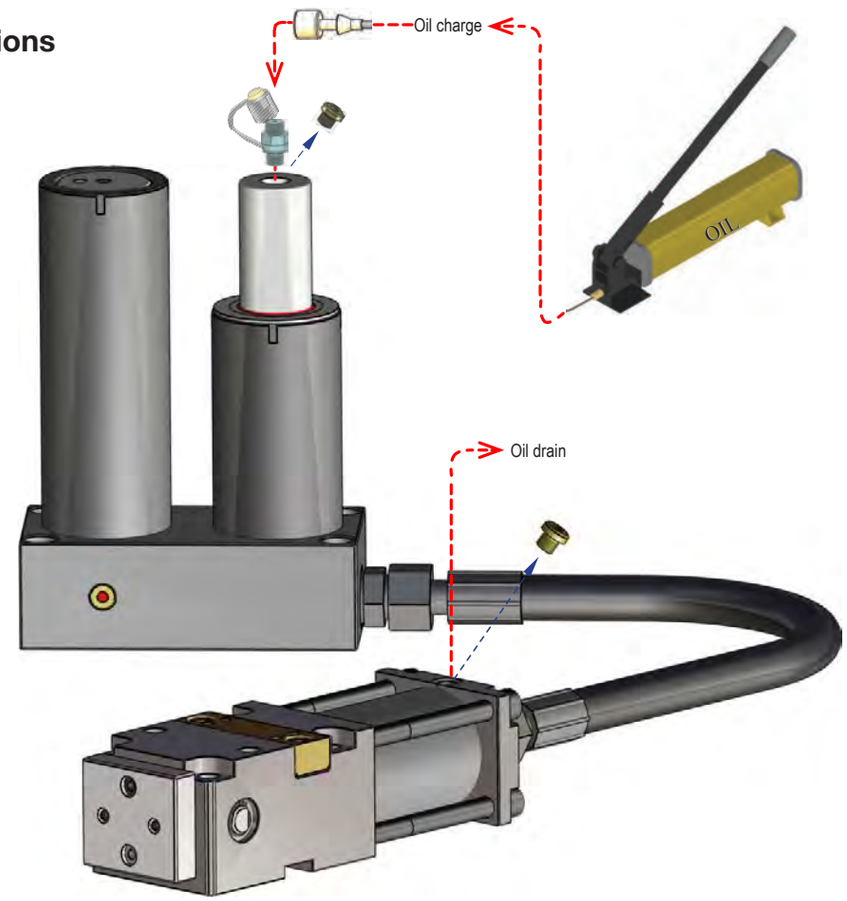
When the press stops acting on the working gas spring of the drive unit, the cam returns to its initial position thanks to the recoil of the gas spring.

Safety Function



In the event that the cam working stroke is partially or completely hindered, the accumulator can completely absorb the displaced oil thereby avoiding any risk of breakage or explosion.

Assembly Instructions



Installation Instructions

Once the assembly of all components has been completed, proceed as follows:

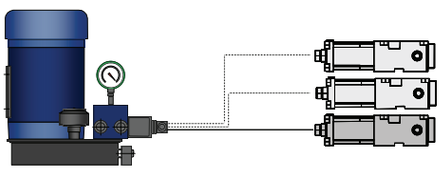
1. Remove the cap from the oil filler hole.
2. Remove the cap from the oil drain hole.
3. Connect the oil pump minimess hose terminal to the oil filling hole.
4. Charge with oil by making it circulate throughout the system, until it is free of air bubbles, by purging such air bubbles through the outlet.
5. Remove the oil filler items and close the oil charging and oil draining holes with the corresponding safety screws.
6. The system is now ready for operation.

How To Order

RTCH 3000 x **50**

Code	RTCH 3000 RTCH 7500 RTCH 12000	*Stroke*	25mm 50mm 63mm (only RTCH 12000) 80mm (only RTCH 3000 & RTCH 7500)

Alternative Drawer



As an alternative to normal operation in presses, working cams also can be made to work by means of a hydraulic group that sends pressurized oil to the cams.

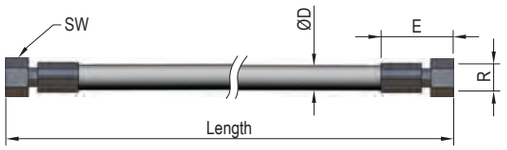
Hoses

Connection Hose - RTRR

How to Order

RTRR.01 - **500**

Code *Length*



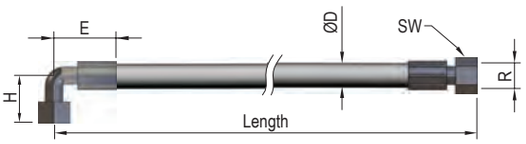
Code	RTCH Model	ØD mm	E mm	R	SW mm
RTRR.01	RTCH 3000	21.2	≈63.5	M24x1.5	30
RTRR.02	RTCH 7500	28.2	≈76.5	M30x2	36
RTRR.03	RTCH 12000	36.1	≈100.5	M42x2	50

Connection Hose - RTRC

How to Order

RTRC.03 - **750**

Code *Length*



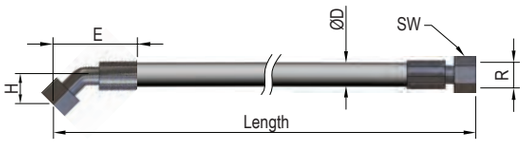
Code	RTCH Model	ØD mm	E mm	R	SW mm
RTRC.01	RTCH 3000	21.2	≈ 49	M24x1.5	30
RTRC.02	RTCH 7500	28.2	≈ 63	M30x2	36
RTRC.03	RTCH 12000	36.1	≈ 79.5	M42x2	50

Connection Hose - RTCC

How to Order

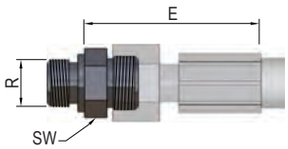
RTCC.02 - **325**

Code *Length*



Code	RTCH Model	ØD mm	E mm	R	SW mm
RTCC.01	RTCH 3000	21.2	≈ 24	M24x1.5	30
RTCC.02	RTCH 7500	28.2	≈ 31	M30x2	36
RTCC.03	RTCH 12000	36.1	≈ 35	M42x2	50

Connection Record - RTTF

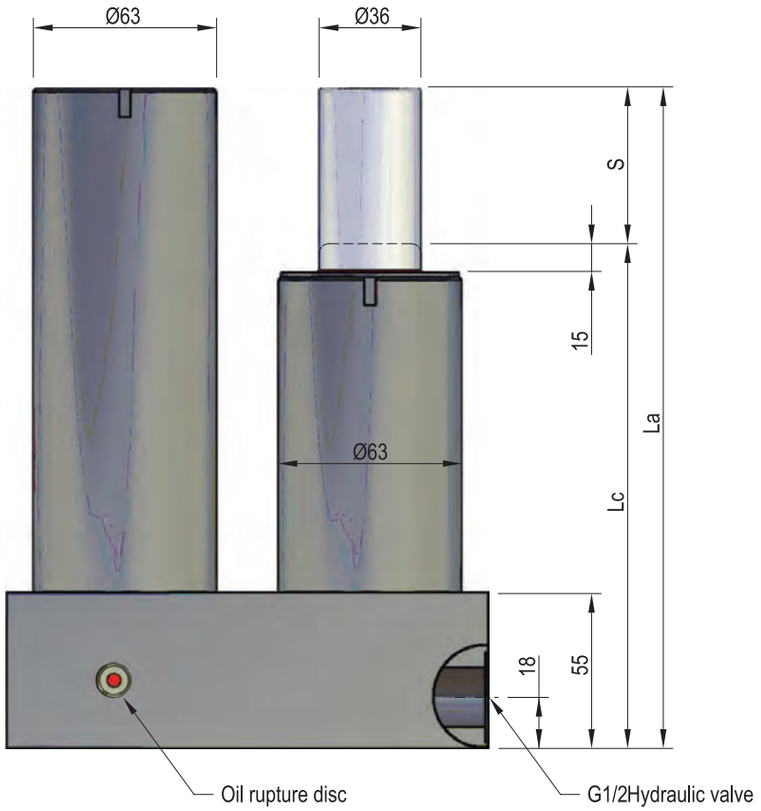


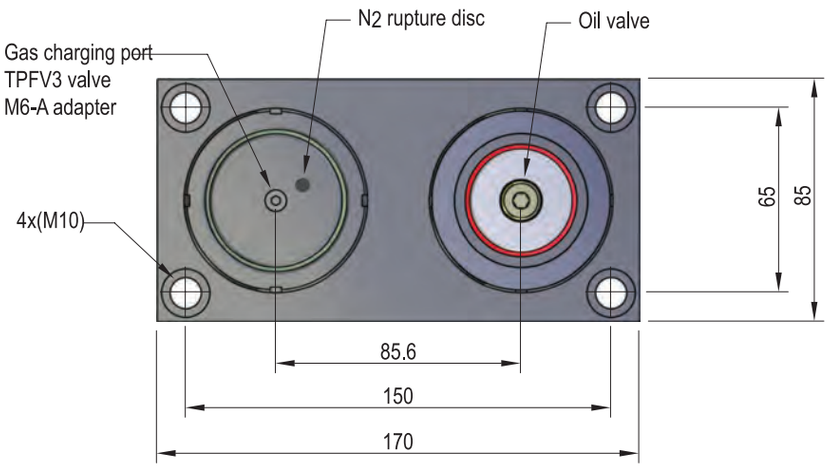
Code	RTCH Model	E mm	R	SW mm
RTTF.01	RTCH 3000	≈ 37	1/2"	27
RTTF.02	RTCH 7500	≈ 42	3/4"	32
RTTF.03	RTCH 12000	≈ 46	1"	46

RTTF Hose

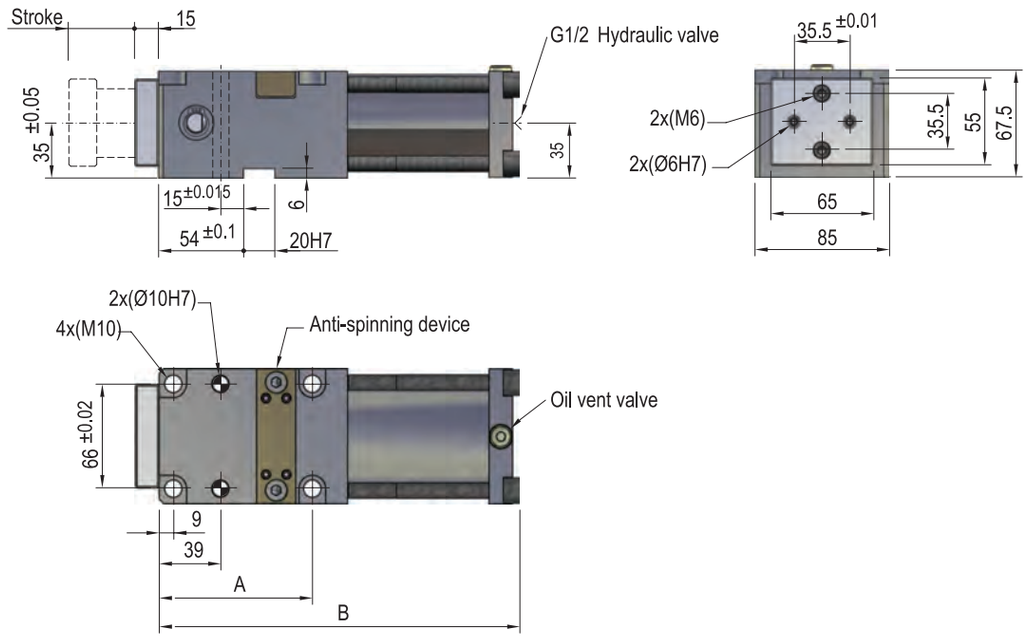
Code	RTCH Model	ØD mm	Min. Curvature Radius mm	Working Pressure Bar	Breakage Pressure Bar
RT...01	RTCH 3000	21.2	90	345	1380
RT...02	RTCH 7500	28.2	160	280	1120
RT...03	RTCH 12000	36.1	210	200	950

RTCH 3000



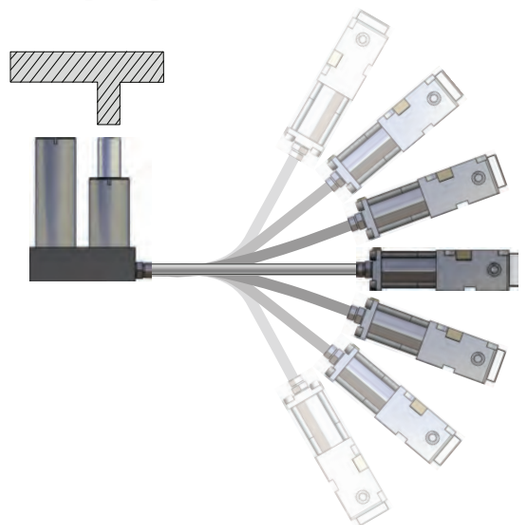


Code	Smax mm	La mm	Lc mm	Max. Operation Force	Charging N_2 Pressure MIN	Charging N_2 Pressure MAX	Max. Working Specs. Velocity	Max. Working Specs. Strokes/mm MAX	Max. Working Temperature
RTCH 3000x25	25	183	158	3000 daN	50 Bar	150 Bar	20m/mm	40 spm	60 °C
RTCH 3000x50	50	233	183					30 spm	
RTCH 3000x80	80	293	213					20 spm	



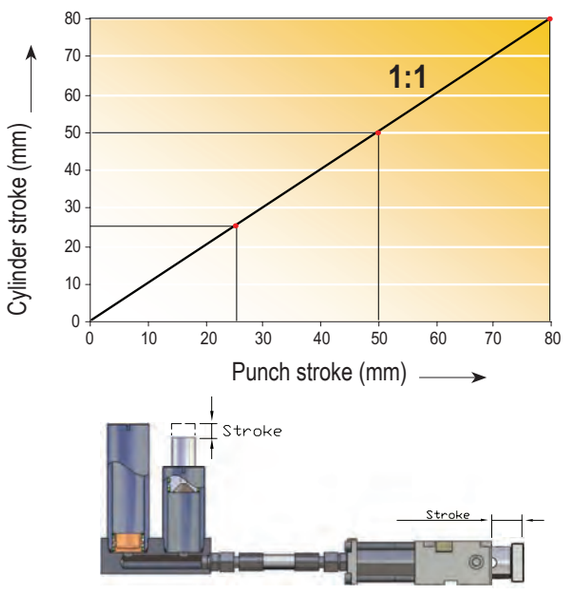
Code	Smax mm	A mm	B mm	Max. Punching Force	Gas Spring Force Initial	Gas Spring Force Final	Gas Spring Model	Max. Working Specs. Velocity	Max. Working Specs. Strokes/mm MAX	Application
RTCH 3000x25	25	83.5	187	3000 daN	200 daN	≈270daN	TPK 25x25 YW	20m/mm	40 spm	Round and Shaped
RTCH 3000x50	50	97.5	225				TPK 25x50 YW		30 spm	
RTCH 3000x80	80	125.5	285				TPK 25x80 YW		20 spm	

Working Angle

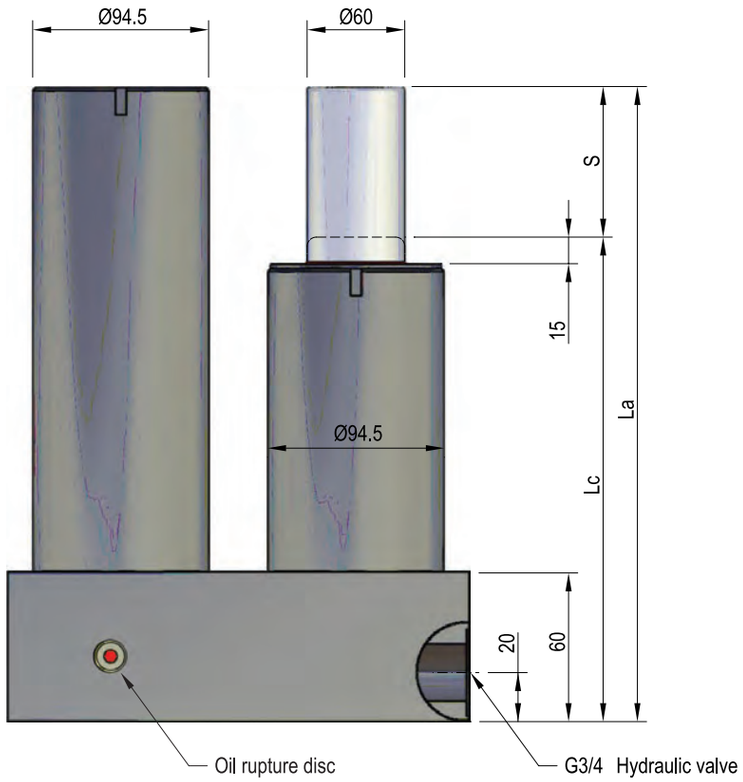


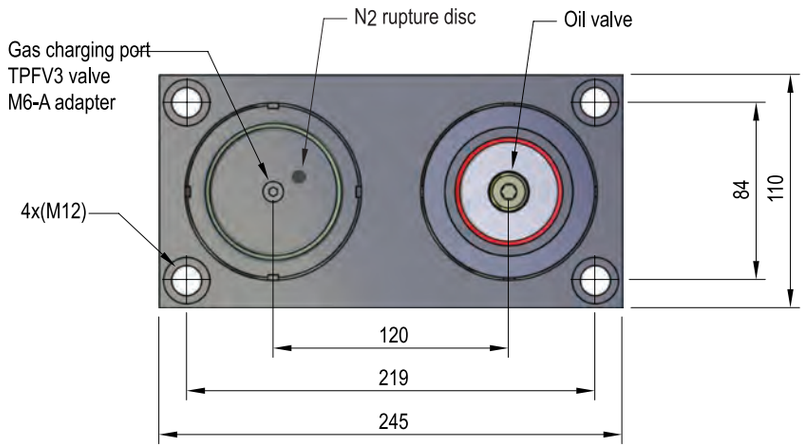
The working cam can work freely in space, at any angle and in any position.

Working Cam / Drive Unit Cylinder Stroke Ratio

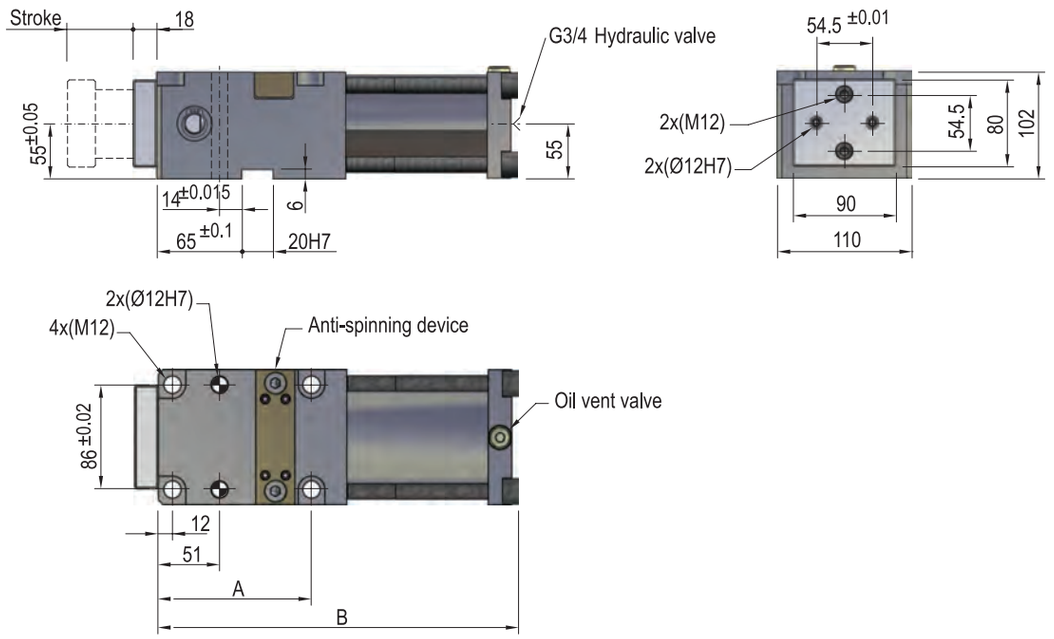


RTCH 7500



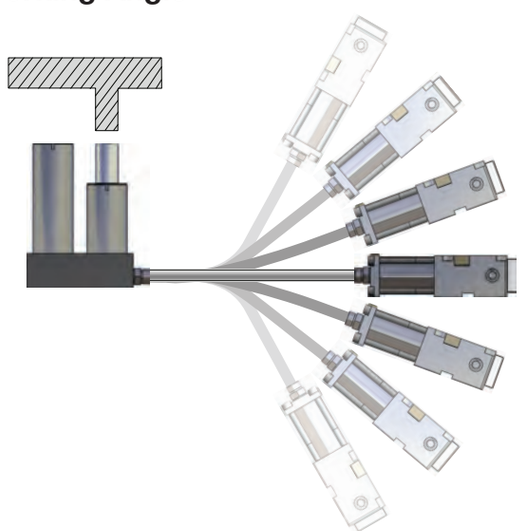


Code	Smax mm	La mm	Lc mm	Max. Operation Force	Charging N_2 Pressure MIN	MAX	Max. Working Specs. Velocity	Strokes/mm MAX	Max. Working Temperature
RTCH 7500x20	25	205	180	7500 daN	50 Bar	150 Bar	20m/mm	40 spm	60 °C
RTCH 7500x50	50	255	205					30 spm	
RTCH 7500x80	80	315	235					20 spm	



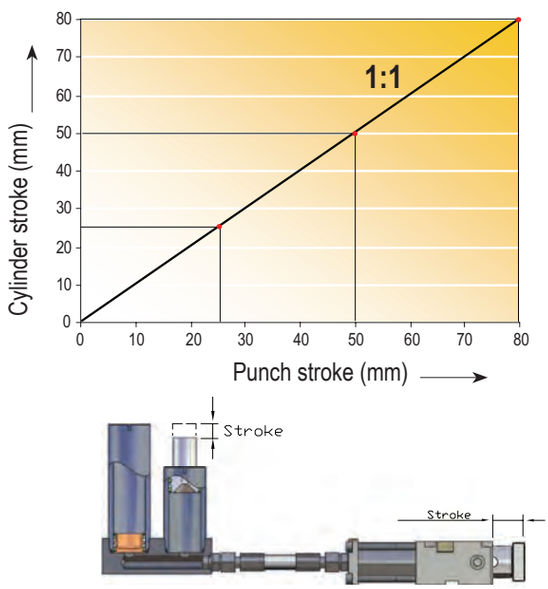
Code	Smax mm	A mm	B mm	Max. Punching Force	Gas Spring Force Initial	Gas Spring Force Final	Gas Spring Model	Max. Working Specs. Velocity	Max. Working Specs. Strokes/mm MAX	Application
RTCH 7500x25	25	110	230	7500 daN	600 daN	≈860daN	TPK 600x25	20m/mm	40 spm	Round and Shaped
RTCH 7500x50	50	110	255				TPK 600x50		30 spm	
RTCH 7500x80	80	140	315				TPK 600x80		20 spm	

Working Angle

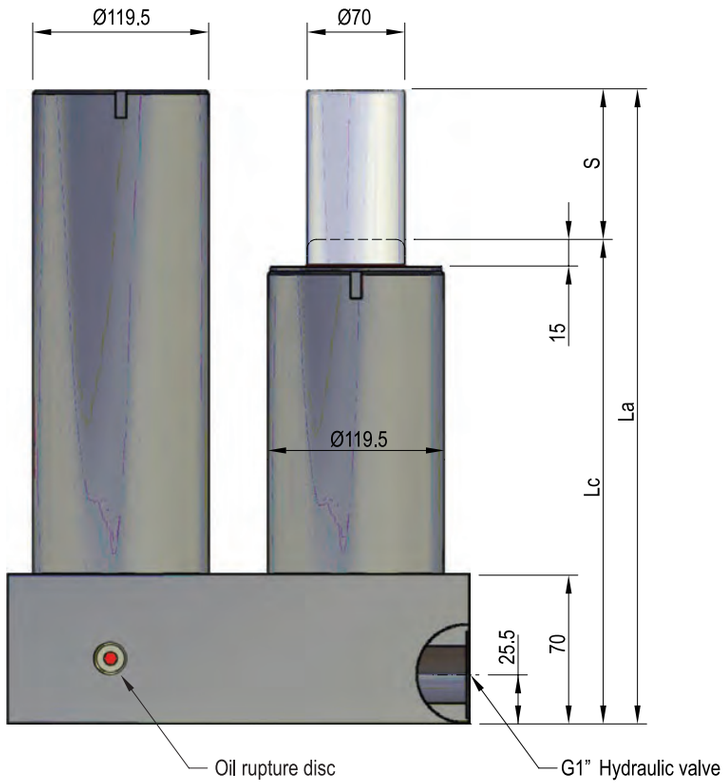


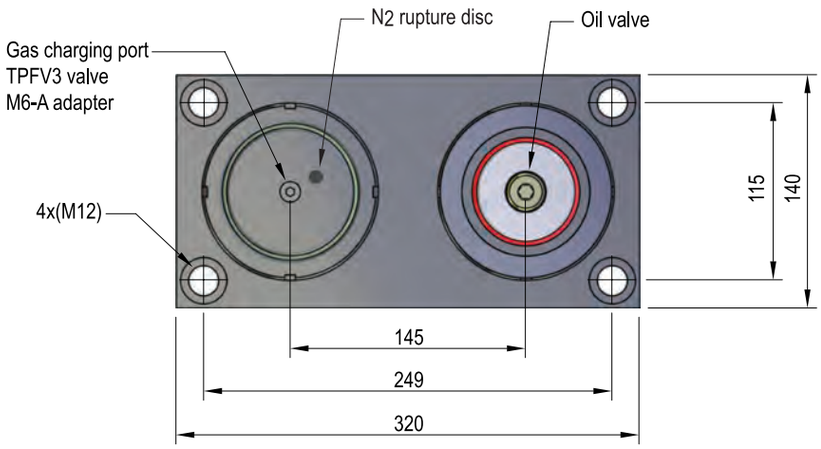
The working cam can work freely in space, at any angle and in any position.

Working Cam / Drive Unit Cylinder Stroke Ratio

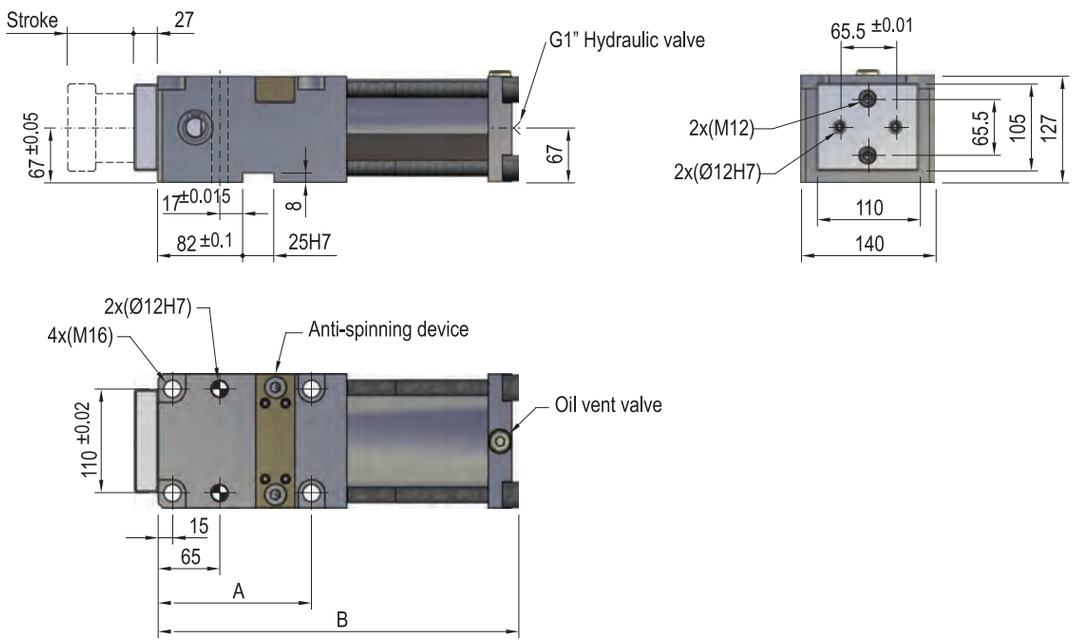


RTCH 1200



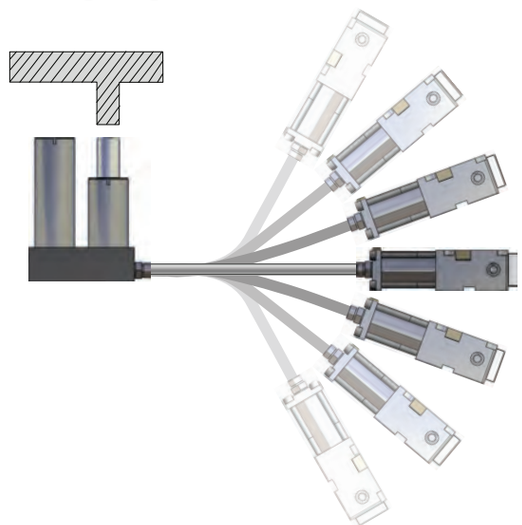


Code	Smax mm	La mm	Lc mm	Max. Operation Force	Charging N_2 Pressure MIN	MAX	Max. Working Specs. Velocity	Strokes/mm MAX	Max. Working Temperature
RTCH 12000x25	25	216	191	1200 daN	50 Bar	150 Bar	20m/mm	40 spm	60 °C
RTCH 12000x50	50	266	216					30 spm	
RTCH 12000x63	63	292	229					20 spm	



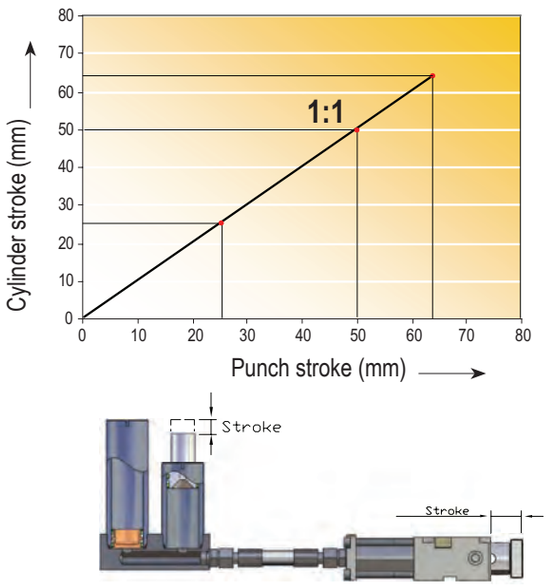
Code	Smax mm	A mm	B mm	Max. Punching Force	Gas Spring Force Initial	Gas Spring Force Final	Gas Spring Model	Max. Working Specs. Velocity	Max. Working Specs. Strokes/mm MAX	Application
RTCH 12000x25	25	132	263	12000 daN	750 daN	≈1190daN	TPK 750x25	20m/mm	40 spm	Round and Shaped
RTCH 12000x50	50	132	288				TPK 750x50		30 spm	
RTCH 12000x63	63	132	314				TPK 750x63		20 spm	

Working Angle



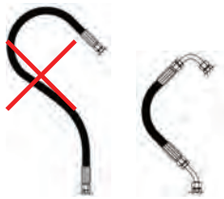
The working cam can work freely in space, at any angle and in any position.

Working Cam / Drive Unit Cylinder Stroke Ratio

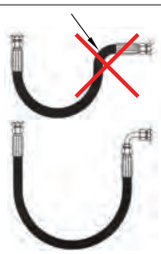


The length of the hose should have a certain amount of slack (10 or 20% excess)

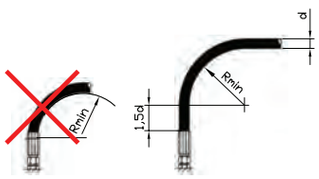
Make sure the hose is not twisted during the installation process.



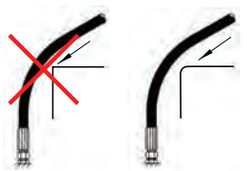
Select the appropriate fittings so that the hoses are not forced. A proper use of fittings prevents excessive hose length



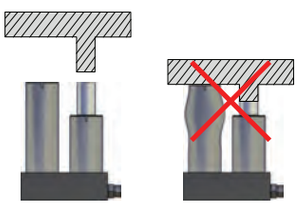
The installation process must comply with the minimum hose curvature radius.



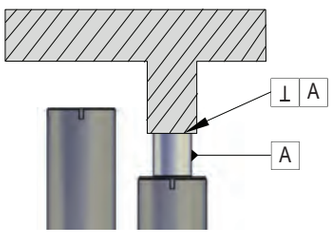
Before starting a curvature, a minimum straight length must be respected to avoid damage to the joint.



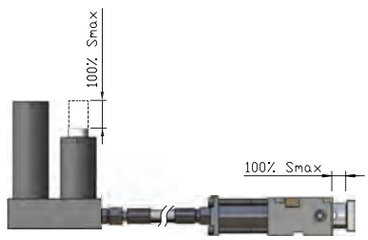
External mechanical influence on the hose should be avoided, even the rubbing against a nearby element. It is recommendable to use clamps for this process.

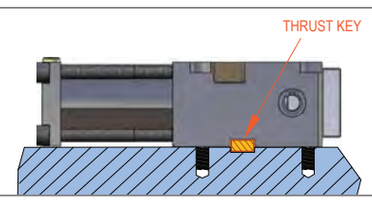


To avoid accidents or serious damage to the pressure accumulator, the press ram should have the necessary adequate dimensions.



The working gas spring should be completely perpendicular to the working surface





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