



## PRO-CREEL®

Modern warping and sizing machines, working with increased accuracy and speed, require creels provided with the best quality components. Efficiency and the mix of special yarns used by high-end users, especially in the technical textile industry, require competent and tailor-made solutions. To meet this demand, starting from our basic designs suitable for any type of spool or bobbin, we can manufacture “tailor-made” creels to suit the customer's requirements and the space available.



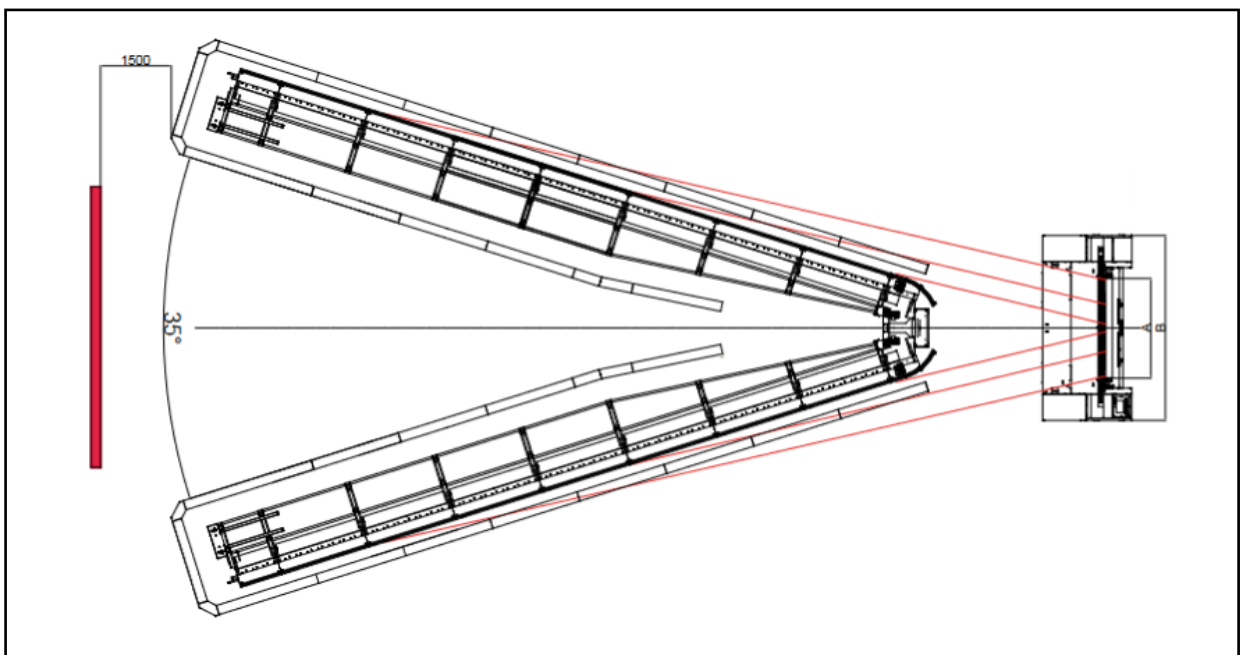
Our modular construction guarantees an easy erection of the creel and allows creel enlargements and displacements to other departments. To accommodate the limited space, we can also manufacture creels on two decks, equipped with access staircases and elevators. Movable creels are also available.

We can manufacture creels for weaving preparation as well as for other technical textiles production processes, such as non-woven fabric production lines and weaving.

## PRO-V-CREEL®



The **PRO-V-CREEL®** from PRO-SMH is highly suitable for processing all cotton, spun rayon and blended staple fiber yarns up to a speed of 1200 m/min.



The warping creel is normally arranged in the form of a 35° V, with freely running threadline from the optical sensor in the stop tension units to the zigzag comb of the warping machine.

# PRO-V-CREEL<sup>®</sup>

- warping speed up to 1200 m/min
- free drawing-in of threads, without guide rails
- low thread tension
- uniform thread from back to front
- no snarling
- no knotting when changing package or lot
- easy and reduced cleaning and maintenance requirement
- simple package loading
- automatic rotation of the package frames
- simple placing of the threads into the stop tensioner



**PRO-SMH HIGH PRODUCTIVITY**

horiz. pitch	vertical pitch	max. packages Ø	number of tiers	running threads											
	240	230	9	504	576	648	720	792	864	936	1008	1080	1152	1224	1296
	270	255	8	448	512	576	640	704	768	832	896	960	1024	1088	1152
240	305	265	7	392	448	504	560	616	672	728	784	840	896	952	1008
	350	278	6		384	432	480	528	576	624	672	720	768	816	864
	435	305	5		320	360	400	440	480	520	560	600	640	680	720
horiz. pitch	vertical pitch	max. packages Ø	number of tiers	running threads											
	240	230	9	378	432	486	540	594	648	702	756	810	864	918	972
	270	255	8	336	384	432	480	528	576	624	672	720	768	816	864
320	305	295	7		336	378	420	462	504	546	588	630	672	714	756
	350	340	6			324	360	396	432	468	504	540	576	612	648
	435	365	5				300	330	360	390	420	450	480	510	540

Special configurations are available upon request

**PRO-V-CREEL<sup>®</sup> PITCH PROGRAM WITH NUMBER OF RUNNING THREADS**

## PRO-OPTOSTOP®

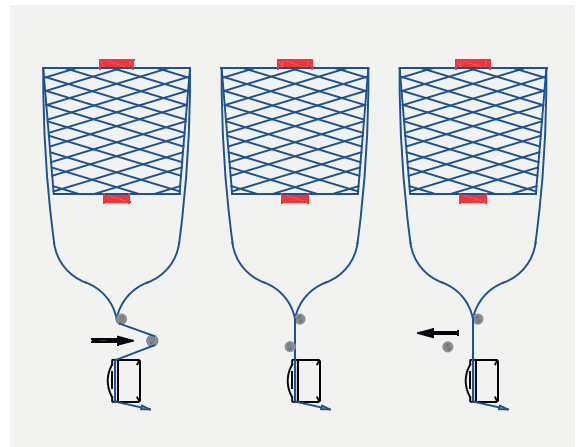
The OPTOSTOP is a powerful tool for the direct warping of threads at very high speed and suitable for a very wide range of yarn counts. The yarn surface is treated smoothly to avoid twisting and push-back which would result in snarling.

### NO SNARLING

An automatic pre-tensioner prevents snarling which can occur on stopping the machine. The pre-tensioner automatically takes up the correct position depending on the phase in the warping process.

### EQUALIZED THREAD TENSION

The pre-tensioners automatically compensate the differences in thread tension which are caused by the variation in length from the rearmost to the foremost package.



- no loose ends shooting forward at stop
- stop-motions are self-activated by push button
- warning display after repeated breaks on the same end
- continuous display of the number of running ends
- no threads lost at the end break
- wide range of applications
- low thread tension at high speeds
- end breaks are located rapidly

**PRO-SMH** PRO-OPTOSTOP® ADVANTAGES

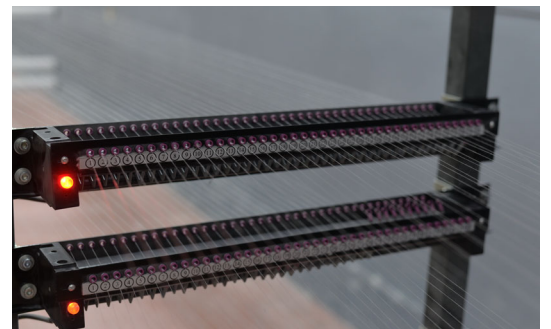


## PRO-H-CREEL®



The **PRO-H-CREEL®** portfolio of PRO-SMH is based on a modular design and offers different models, swivel creels for large and heavy packages, truck-trolley creels for highest productivity and magazine creels with thread transfer for continuous production. Both outside and inside threading is available in all types and layouts.

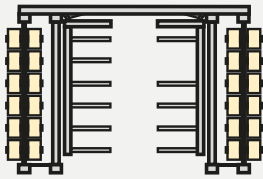
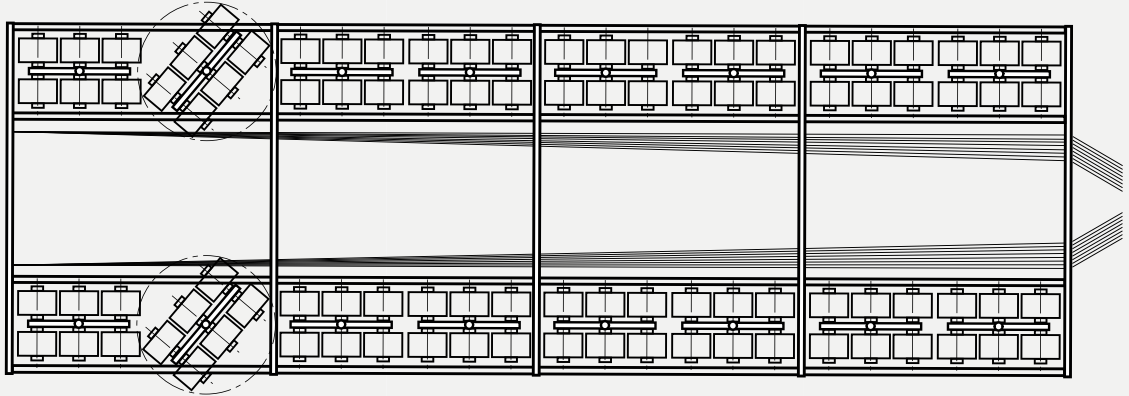
**PRO-H-CREELS®** are equipped with an optical warp stop-motion in front of the creel, with two rows for each row of cones to reduce the length of front thread guide strip. The system cuts the response time to 30% of other systems and guarantees a quick stop of the beam.



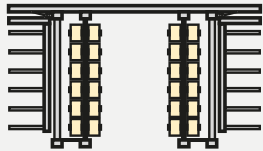
- movement of the drop wire is sensed with optical ray
- very quick response time
- not affected by fluff accumulation
- minimizes missing ends in the beam due to quick stop
- memory for broken end for easy location

# PRO-H-SWIVEL-CREEL®

This type of creel, also known as G5-N or RQG creel is normally used to draw off the yarn from the inside of the creel, in order to reduce the width and the angles of the yarn sheet and to facilitate the loading of the reserve bobbins from the outside.



Drawing-off of the yarn from the outside and loading of the reverse bobbins from the inside of the creel is also possible.

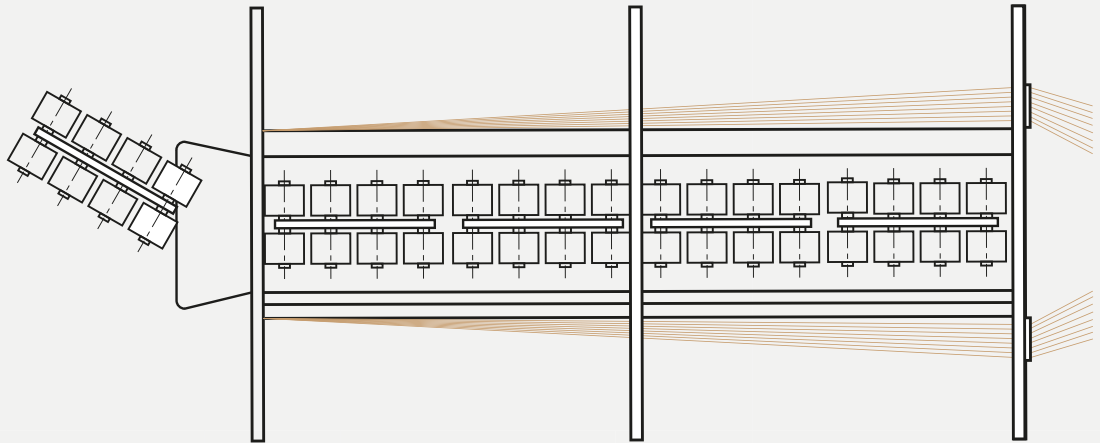


Auxiliary trucks for easy handling and transfer of the bobbins by the operator can be supplied in case of particularly high creels.

pitch	tiers	mid of highest bobbin	number of ends																		
			number of fields																		
			1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10
400	5	1915	60	90	120	150	180	210	240	270	300	330	360	390	420	450	480	510	540	570	600
360	6	2115	96	144	192	240	288	336	384	432	480	528	576	624	672	720	768	816	864	912	
337,5	6	2002	96	144	192	240	288	336	384	432	480	528	576	624	672	720	768	816	864	912	
300	6	1815	96	144	192	240	288	336	384	432	480	528	576	624	672	720	768	816	864	912	
270	7	1935	140	210	280	350	420	490	560	630	700	770	840	910							
240	8	1995	160	240	320	400	480	560	640	720	800	880	960								
225	8	1890	192	288	384	480	576	672	768	864	960										
200	9	1915	216	324	432	540	648	756	864	972											

## PRO-H-TRUCKS-CREEL®

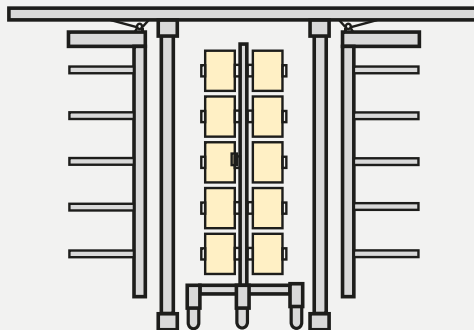
This creel is mainly used for bobbins of large size and weight and is the perfect match for high productivity. The bobbins are housed on both sides of the movable trucks. The trucks can be changed easily and conveniently and ensure short set-up times when using reserve carriages.



This type of creel is also well known under the designation G2 or RCS type creel.

The creel is available with one, two or more creel bodies, arranged on one level. A special design also makes it possible to arrange two or more bodies on two levels. In the later case, the movable trucks are transferred to the upper level by means of suitable lifting devices.

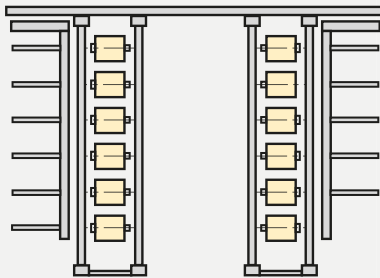
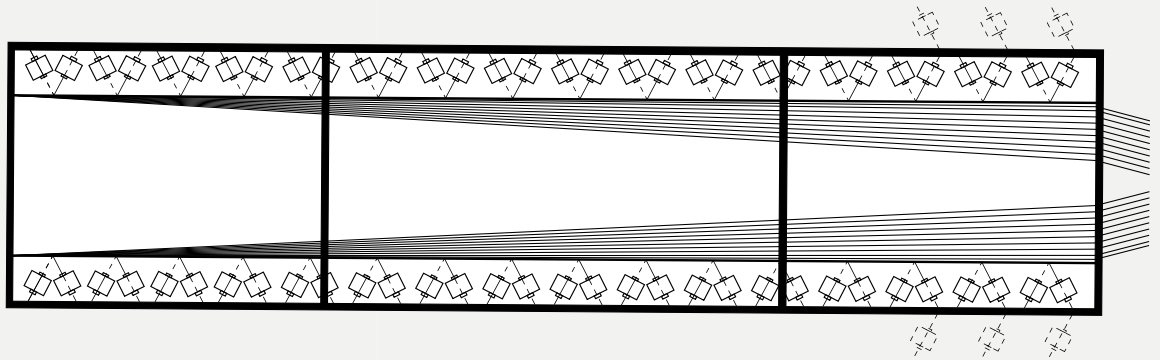
Please refer to the table listed in the swivel-creel section for possible creel sizes.





## PRO-H-MAGAZINE-CREEL®

This type of creel is exactly the right thing for large batch lengths and endless processing of the packages. The thread is continuously drawn from package to reserve package. The swivelling arms allow easy handling and removal of the empty bobbins. The working principle of this creel is also known as G4-N or RFG type.



Possible non-stop process by knotting the ends of the two bobbins together, both coupled to the same tensioner. The yarn remnants on the bobbin are thus eliminated, which is very useful when processing wool, for example.

vertical pitch	decks	horizontal pitch up to..... Bobbin lengths:							
		520	600	650	700	750	800	850	
400	5						200	230	
360	6					220	260	290	
337,5	6				150	235	275	320	
300	6			175	240	295	305	370	
270	7		160	215	270	330	365	400	
240	8	140	230	280	325	370	420	450	
225	8	155	245	300	360	390	435	460	
200	9	215	295	340	375				

## PRO-ROLLING-CREEL®

Rolling creels allow bobbins to be unwound without twisting, while twisting is a very common occurrence when warping with normal creels. The rolling creel is the perfect way to process flat yarns and any yarn that does not tolerate variations in the number of twists.

With the rolling creel, the warping system is gentler on the yarn thanks to its path with reduced angles and friction. The rolling creel controls yarn tension by acting on spindles and not directly on the yarns (by disc tension devices or similar).

In the motorized version, it is the only creel with fully automatic tension regulation for each individual bobbin, whatever its diameter. This makes it the ideal solution for: monofilament, flat yarns, carbon, aramid, raffia, metal yarns, polypropylene and polyethylene.



Our range of rolling creels consists of multiple machines and processes: direct warpers and beamers; looms with tension rollers; yarn treatment lines. We offer an optimal and tailor-made solution for every machine:

Rolling creels for the tyre industry, for monofilaments used in the filter and net industry or in the paper towel industry; rolling creels for two-heads bobbins (PP) as well as for the carpet and flooring industry and more.

## PRO-TT-DISC®

The basic requirement for an excellent warp quality is a low and even tension and a free thread flow. The correct design of the tension leads to a gentle yarn draw-off and minimal end break frequency, which has a positive effect on the subsequent sizing and weaving processes.



The **PRO-TT-DISC®** achieves perfect warps by ensuring absolutely constant thread tensions regardless of the package diameter or the speed. The tension is achieved by applying pressure on the upper disc of the second set of discs. The first set of braking discs ensures stable movement of yarns and makes it possible to apply proper tensions afterwards.

The yarn tensioner comes with a central table for adjusting / regulating and the pressure parts of tensioners on one side or the entire creel are moved to the right place. The value is shown on a display. The tensioner has a dust-proof design for pressure-applying parts and disc-driving units which ensures its perfect function even when processing staple yarns.

- suitable for all types of yarns and a wide range of yarn counts
- central and automatic adjustment of the yarn tension
- high speed yarn drawing
- clean disc surface by electrical disc drive and internal individual blowing device
- simple and convenient operation

**PRO-SMH** PRO-TT-DISC® ADVANTAGES

## PRO-TENSOR®

The **PRO-TENSOR®** tension unit for warping creels, which works with normal pressure, also meets the highest work requirements. In fact, it can be used with all yarns of any count, whether continuous or discontinuous. Thanks to the special construction system this tension unit can also be easily fitted on already existing creels for modernisation.



The warping tension is obtained by the „normal pressure“ made in the centre of the caps by means of a particular levers system, activated by a draw spring with independent adjustment. Pressure changes are obtained by means of a centralized system with hand wheel. The **PRO-TENSOR®** keeps constant yarn tension even when changing the work speed.



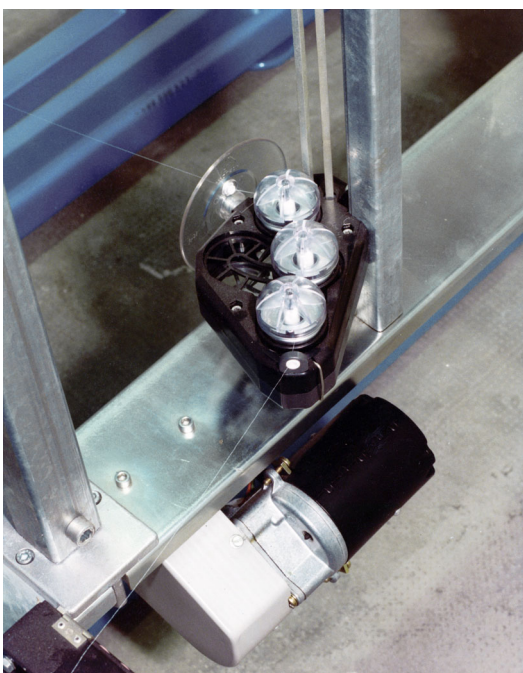
Caps rotation: The rotary movement, centralized for each side of the warping creel, is transmitted to the caps by means of a through-shaft and by gears and pulley transmission. The controlled rotation of the caps ensures their perfect cleaning and exceptional durability.

Yarn passage: The pair of tension caps are arranged vertically to enable easy evacuation of the yarn residues and the perfect cleaning of the tension area. The yarn guides of sintered ceramic, incorporated into the cover of the tension unit, ensure the correct yarn position between the caps.



## PRO-ORBITER®

The **PRO-ORBITER®** tension unit is used for continuous, synthetic and artificial yarn of fine and medium count, whether parallel, twisted or undrawn (POY) with very low tension values. The work principle of this tension unit is based on the combined action of the deviations given by variable yarn paths and the normal pressure given by three tension caps. This can avoid significant normal pressure crushing the most delicate yarns. The angle formed by the yarn when coming out of the tension unit is lower than 40 degrees.



Caps rotation: The rotational movement, centralized for each side of the warping creel, is transmitted to the caps by means of particular gearing. The controlled rotation of the caps ensures their perfect cleaning and exceptional durability.

The construction system of the tension unit **PRO-ORBITER®** enables a wide range of yarn paths and working tensions to be achieved steplessly. The yarn path can be changed by centralized hand-wheel control with reference counter, tension unit cover, ensuring the correct yarn position between the caps.



## PRO-MTS®

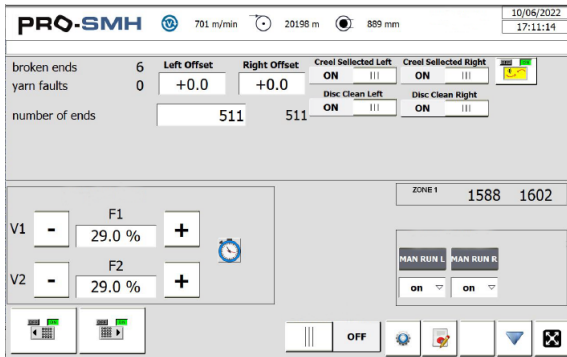
The newly developed **PRO-MTS®** is the most sophisticated tension unit for filament and spun yarns. This vertical electro-magnetic disc yarn tensioner has an integrated opto-electronic stop motion and allows instant changes from a central controller.



- touch screen control for easy profiling of up to 128 different yarn styles
- 32 single unit and 128 post tension pattern records
- front to back (rear) tension increment or decrement function
- very precise tension adjustment at each tension point
- each tension unit has its own micro-controller
- big post signal lamp for quick action: yellow for warning, red for yarn break
- adjusting range of yarn tension 5- 80 cN, max. warping speed 1000 m/min
- working with cotton, polyester, acrylic, nylon, cotton-poly blends, 4-70 Ne and 1500 to 80 dtex

**PRO-SMH** PRO-MTS® FEATURES

## MACHINE CONTROL



Our creels are integrated into the machine control of our warpers as standard, so that a consistent and simple operation is guaranteed. When retrofitting our gates to existing systems, a separate user interface with HMI is provided.



Our machines are Industry 4.0 ready and enable full connection to the digital future. Of course, all our machines comply with the applicable CE regulations and the high standards of other European machine directives.

## PRO-UP<sup>®</sup>

Our creels can be used in a variety of ways in existing systems, also from other manufacturers, and thus make a decisive contribution to the modernization of these machines. Our team of highly qualified specialists will be happy to advise you in order to find a tailor-made and optimal solution for you.

# PRO-SMH

IN COOPERATION WITH



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