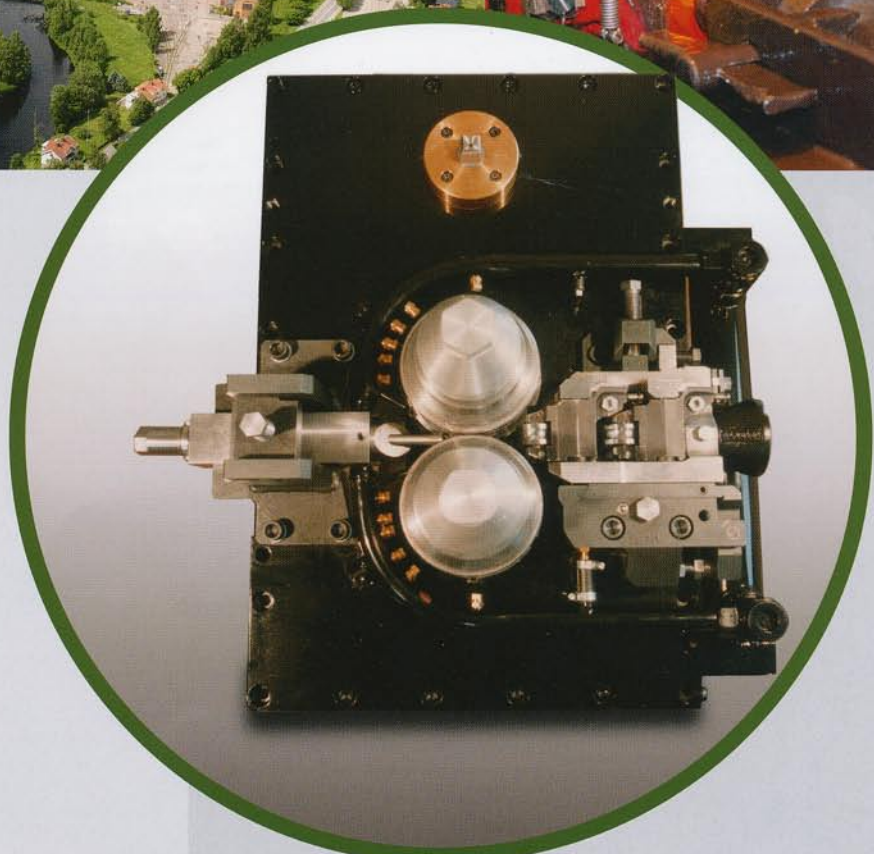




# Roller Guide for Wire Rod Block SRW/DRW and 800



**MORGÅRDHAMMAR**  
Guide systems

## Design feature of roller guides for wire rod block

The design of roller guides for high speed applications, such as in wire rod mills, requires certain characteristics in order to fulfil the high demands in high speed rolling.

This in respect of precise setting means close tolerance finish of all parts. Much attention has to be paid to the bearing arrangement in order to withstand the extreme high-speed requirements.

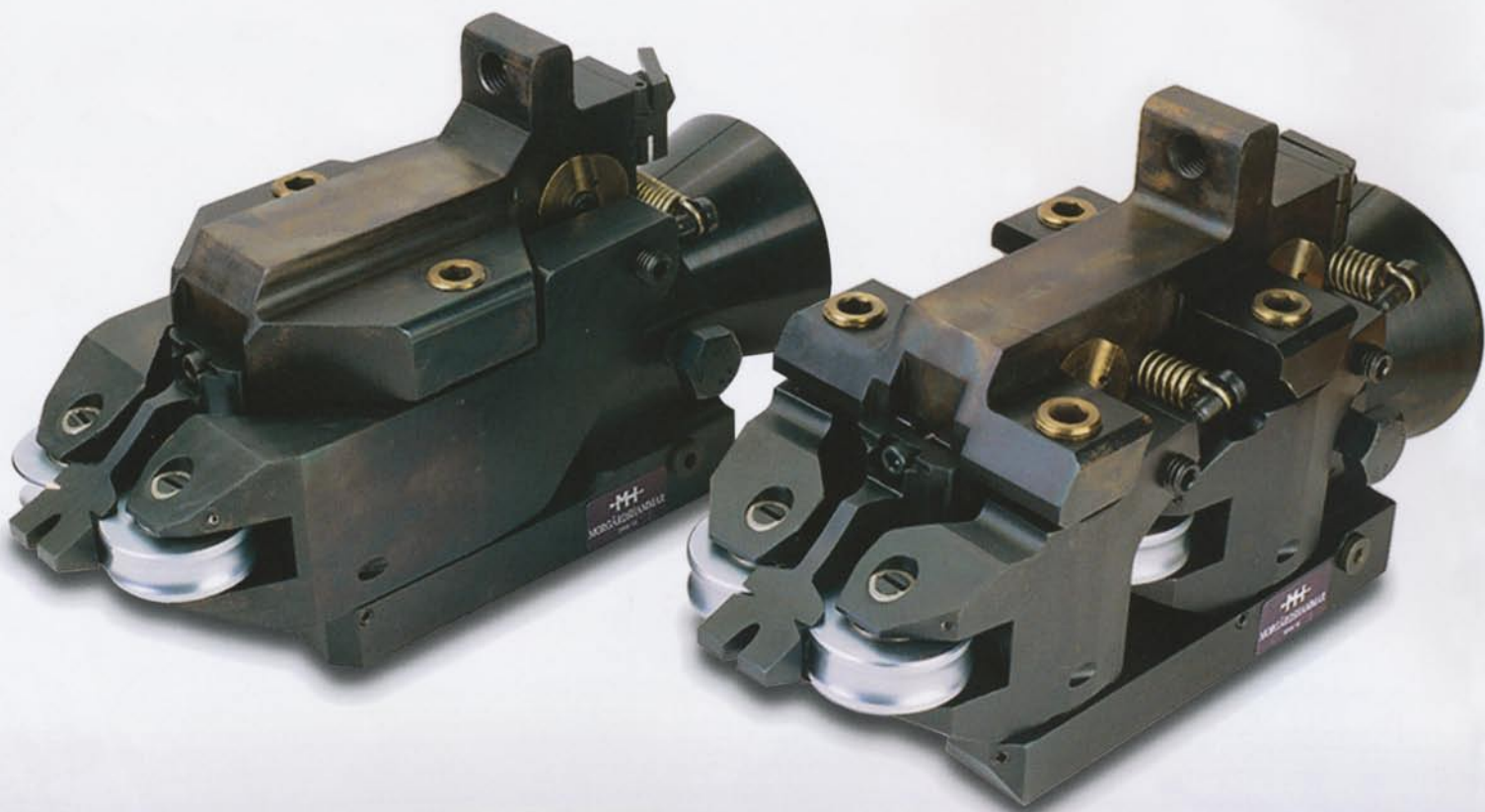
Morgårdshammar have two different lines of high-speed roller guides that stand up to these high demands. The since long time well proven 800-series and the new single point adjusted 1000-series type. The 1000-series is available both as two and four roller type.

The two different lines are both well balanced and stand up superb to the required specifications.

The Morgårdshammar roller guides are used today in applications up to 110 m/s continuous rolling finishing speed but are designed for speeds up to 140 m/s.

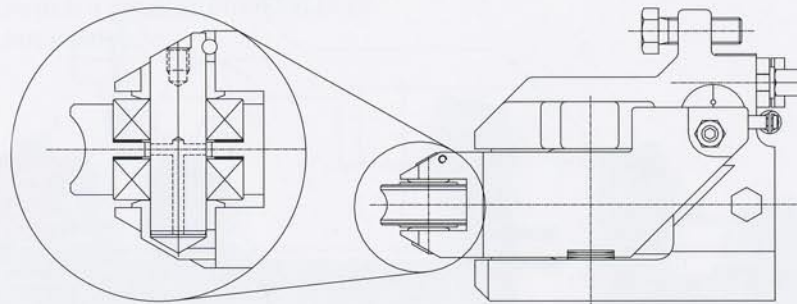
The design of the Morgårdshammar high speed roller guides where based on the following factors:

- Simple design and easy adjustment.
- Minimised and standardised components.
- Stainless steel material in order to withstand the severe environment in a WRB
- The roller bearings must permit quick acceleration to very high rolling speeds.
- The distance between guide roller and work rolls must be as short as possible (in cases where no nosepiece is used).
- The entry guide halves should be flushed with cooling water in order to keep them free of scale.



The roller assembly is specially made for high speed rolling, it has:

- Replaceable hardened bushings of tool steel are pressed into the front part of the roller holders for shaft location.
- The shafts are made of hardened chrome nickel material. Simple shaft design is important for low replacement cost.
- The cup springs in the bearing assembly have a special design to permit proper prestressing of the bearings. Prestressing guarantees contact between balls and bearing races at all time.
- The bearings are provided with ball cages of fibre-glass-reinforced plastic.

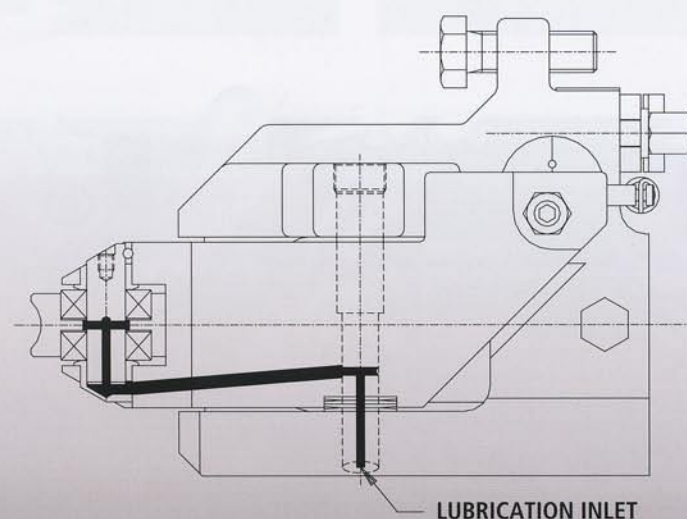


## Lubrication

When using roller guides in high-speed applications it is a must to use air-oil lubrication. In the Morgårdshamar compact design lubricant is supplied from the guide adapter through the bottom of the guide. However, in such cases where it will not be possible to direct lubrication supply from the bottom, the guides can easily be changed to common supply from hoses via quick release couplings.

The lubricant is supplied via the pivot shaft and further through internal drillings to the bearings.

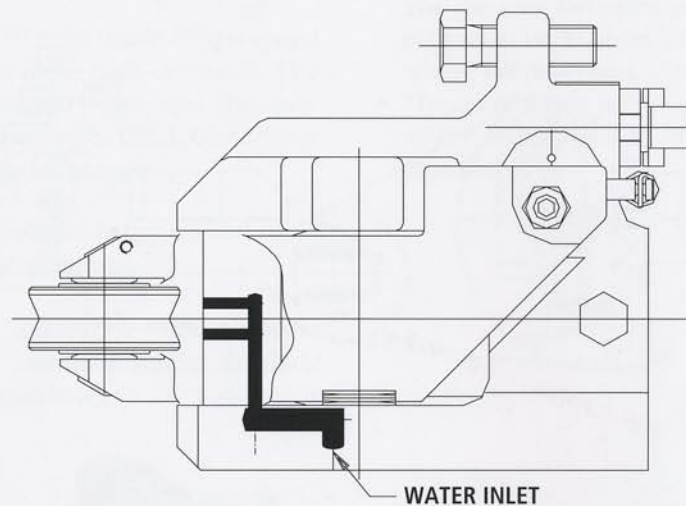
It is of highest importance that the bearings are shielded on the outside so that an overpressure is obtained inside the bearings to prevent water and residue from penetrating.



## Cooling of rollers

In Morgårdshammar high-speed roller guides, as well as in all Morgårdshammar roller guide designs, much care has been taken to sufficiently supply cooling water to the guide rollers. This will increase roller life considerably. In block roller guides the cooling water enters the guide through the bottom from the guide adapter. In cases where it is not possible the guides can easily be changed to common supply from hoses via quick release couplings.

In order to avoid pick-ups on the guide rollers, which can badly mark the rolled stock, cooling water is also flushed through the static entry guides to keep the entire guide channels free of scale and other particles.



## Anti-flutter roller guide

In situations where vibrations occur in the stock during rolling the anti-flutter roller guide is a reliable tool to decrease the flutter and increase the stock stability. The higher rolled stock stability leading to a superior product quality.

The anti-flutter guide is mounted in the exit holder on the exit side of the stand and is suitable for both round and oval stock.

The guide is designed with parts common with the entry roller guides, which means minimised inventory. The Morgårdshammar anti-flutter guides can be provided with or without central adjustment depending on the requirements of the customer. Due to the severe environment inside the block the guide are of stainless steel design.

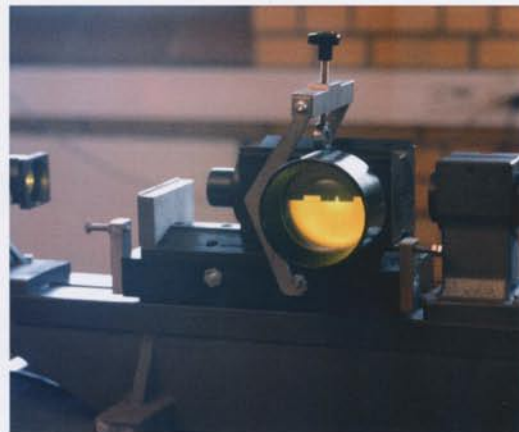
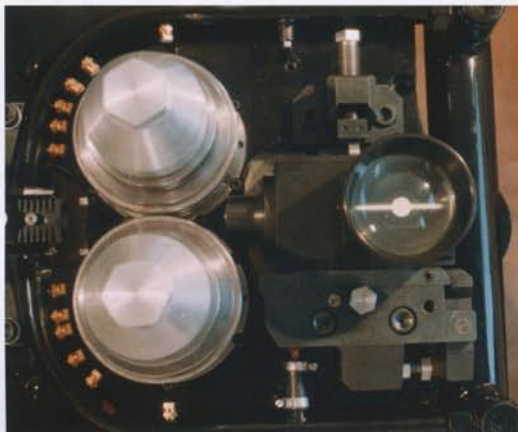
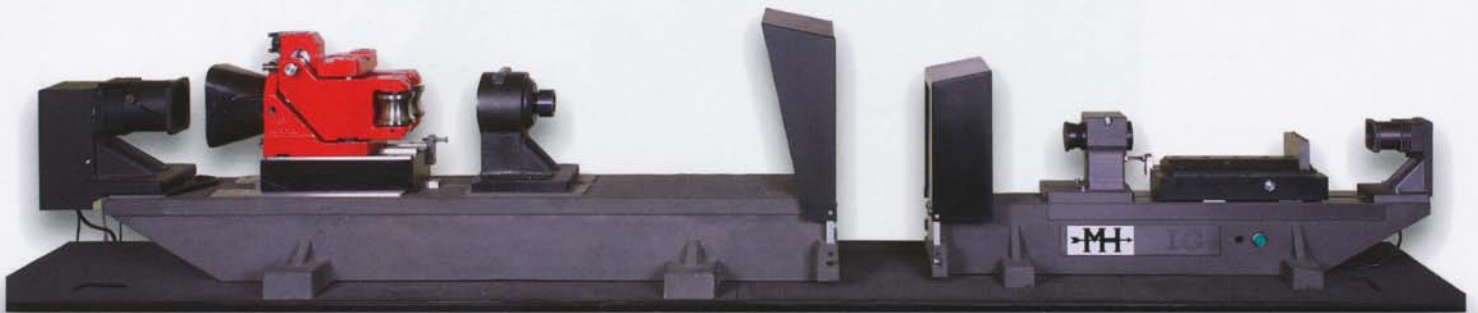


Precise setting of precise guides calls for precise setting tools. An accurate setting of a block roller guide is crucial. Morgårdshammar have developed and can provide the correct setting tool. There are two optical setting systems available.

The optical setting system, as shown, where the image of the rollers are projected, with magnification, on a template to compare the setting to the theoretical correct groove. The other optical system, the Hi-Line®, uses a camera and computer program instead of the template. The Hi-Line® optical system is a product provided in cooperation with Danieli Automation.

In addition to the optical bench shown above there is also the optical centring projector available. The centring projector with its lamp source is used to center the base plate on the guide mounting system on wire rod block stand. It is also used for setting the roll gap in the roll stand.

In order to avoid misalignment between the setting on the bench and the setting in the roll stand there is a calibrated adjusting piece, which can be seen on the picture below.

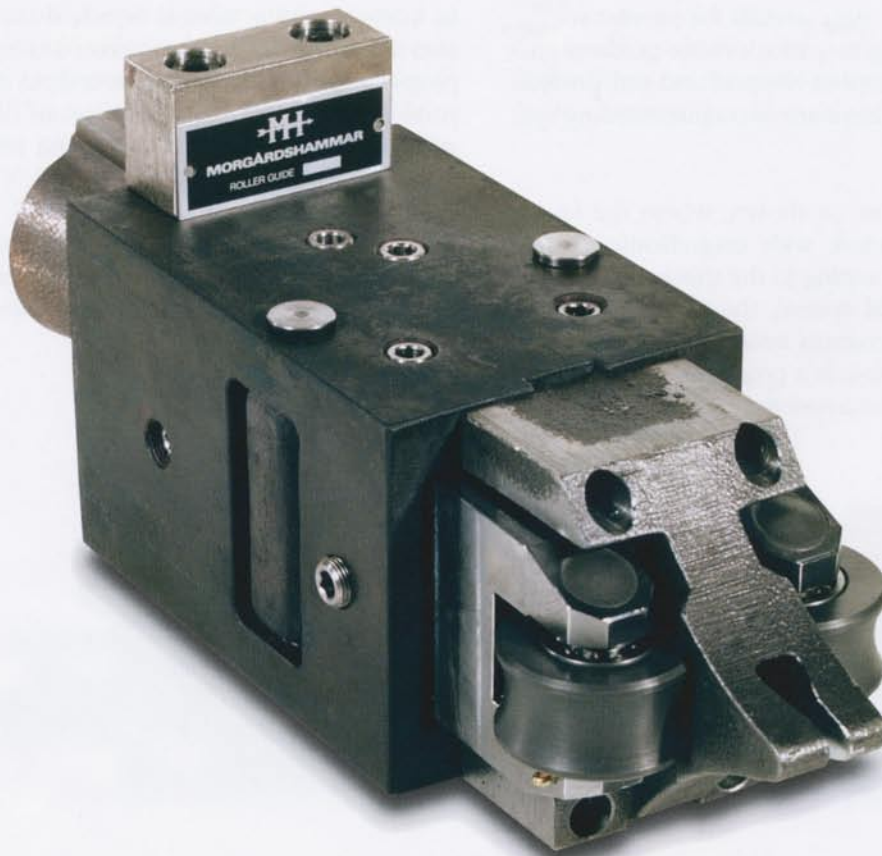


## Auxiliary equipment

Morgårdshammar can, except for roller guides, also fulfil other needs in our customers wire rod blocks such as:

- Guide Mounting systems
- Static entry and exit guides
- Interstand cooling systems
- Lubrication system





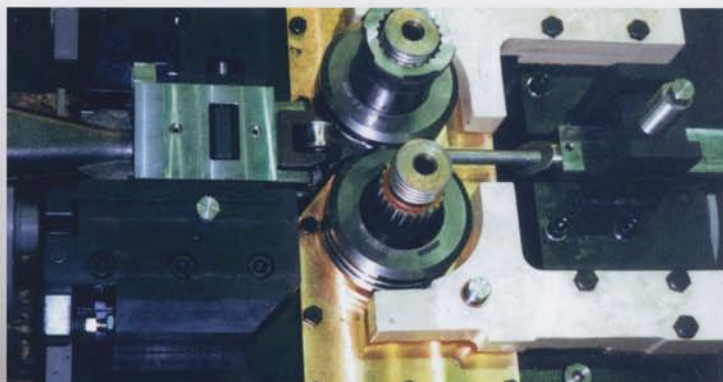
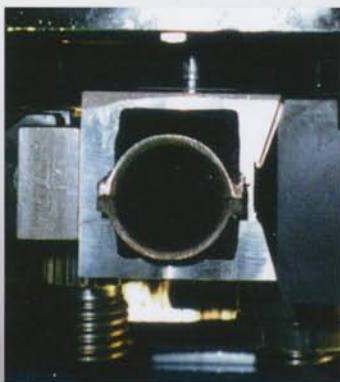
The design of Morgårdshammar block guides in 800-series was based on experience for many years of manufacturing roller guides. They were designed in the late 70's and still, with improvements over the years, meet the demand for easy handling and long life. The latest upgrade is the implementation of the v-shaped bottom for increased stability on mounting device.

The guide box is made of hardened stainless steel. The roller holders are kept in the roller guide box by pivot pins.

Lateral adjustment is made by set screws on the sides of the box and adjustment of height by set screws on the top and bottom side of the box.

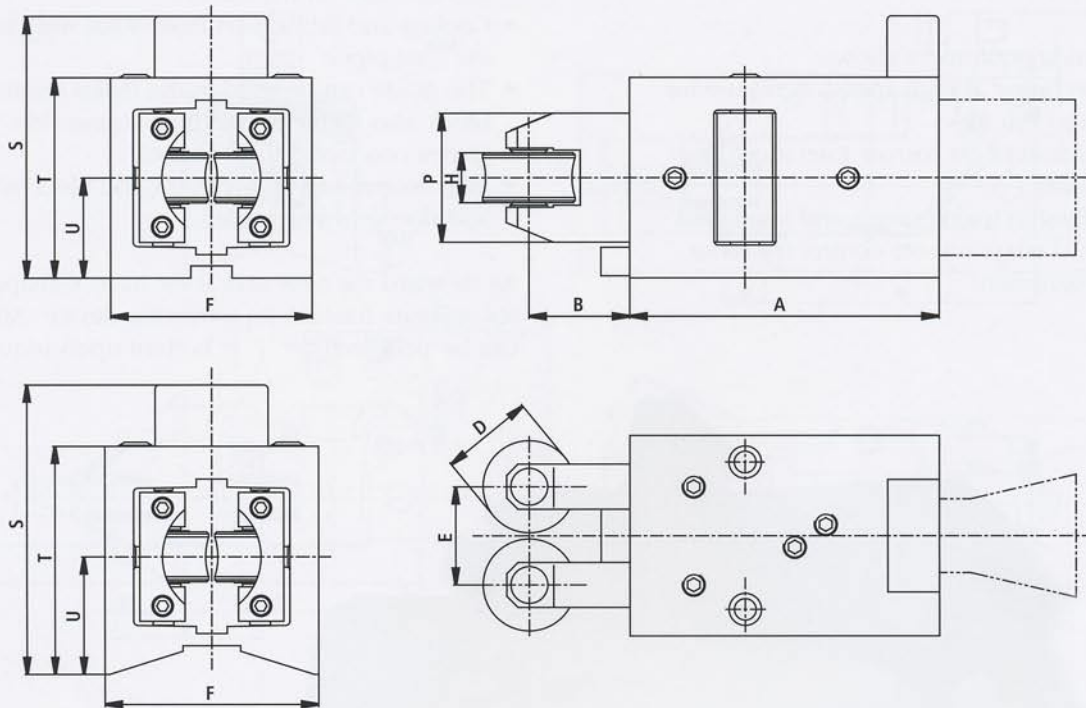
The 0820 are the standard guide with standard roller size. The 0820/1 have the same dimensions as the standard except for the front end of the roller holder who is slightly increased to adopt a larger roller. 0820/1 is equipped with larger rollers and is often used in the early passes in the block. As an alternative to the 0820/1 can also the 0830 be used.

All three different sizes can be delivered in versions of A and AK. The letter "A" indicates that cooling water is supplied through the bottom of the guide. The combination "AK" stands for both cooling water and lubrication from the bottom.



## Main dimensions for 800-series block guides

Roller guide	0820	0820/1	0830	0820V	0820/1V	0830V
Finishing Size	Ø 15-18	Ø 5-20	Ø 10-30	Ø 15-18	Ø 5-20	Ø 10-30
Maximum oval	25x14	30x14	42x22	25x14	30x14	42x22



Roller guide	0820	0820/1	0830	0820V	0820/1V	0830V
A	150	150	180	150	150	180
B	49	49	54	49	49	54
D max	45	52	60	45	52	60
E max	50	56	71	50	56	71
E min	40	45	54	40	45	54
F	98	98	120	104	104	126
H	24,4	30	39,4	24,4	30	39,4
P	63	67	88	63	67	88
S	128	128	168	146,5	146,5	185
T	98	98	133	111,5	111,5	150
U	49	49	66,5	57,5	57,5	78,5
Weight (kg)*	10	10	20	10	10	20

All dimensions are in mm.

Contact Morgårdshammar for information, other versions and dimensions.

\* Excluding rollers and entry guides.

## 1000-series block guides

The new type of block guides from Morgårdshammar is designed with the long experience from wire rod block guide applications.

They are produced in two categories; SRW and DRW. SRW stands for "Single pair Rollers for Wire rod block" and DRW stands for "Double pair Rollers for Wire rod block".

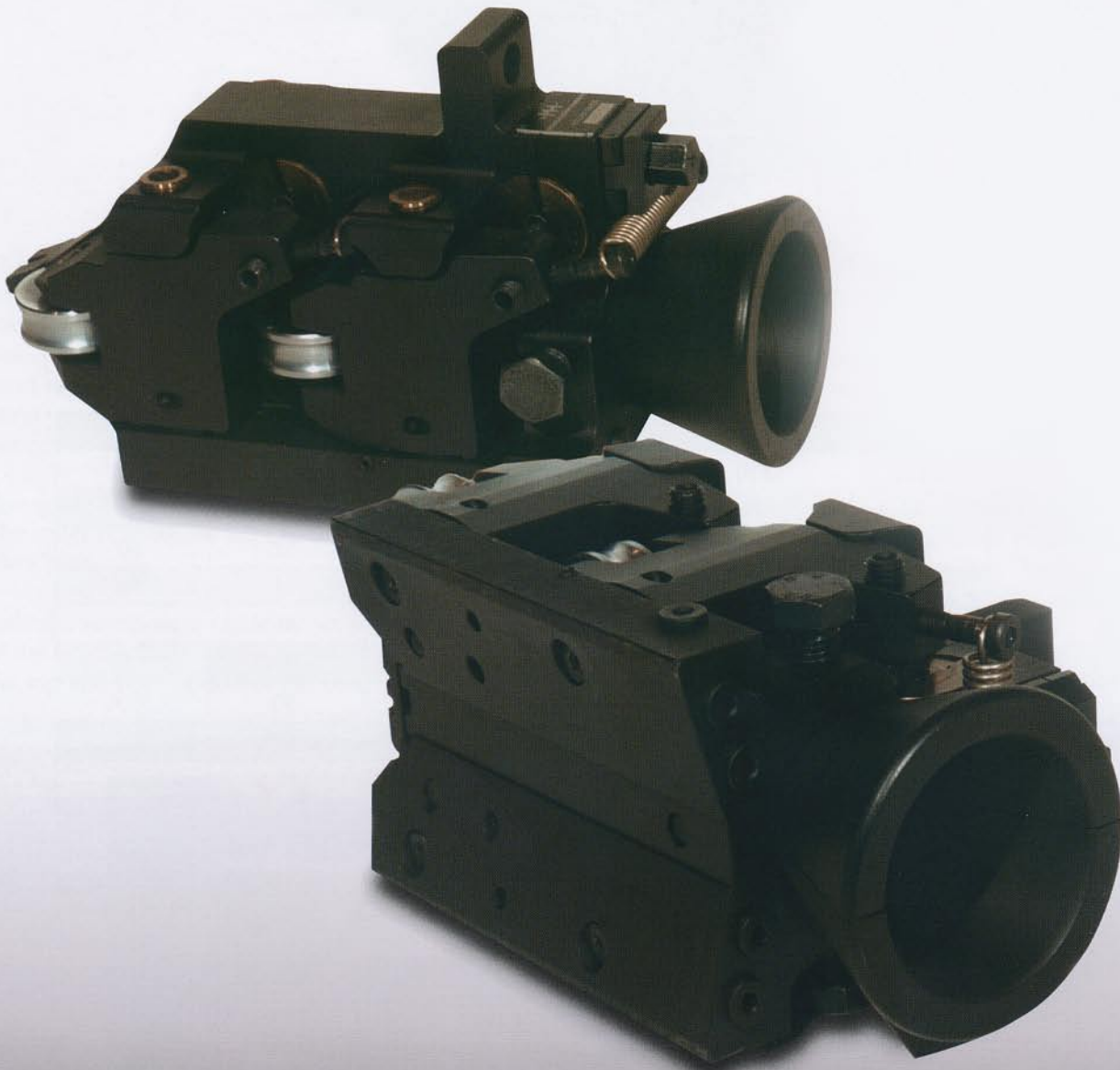
The roller guide equipment allows:

- Guiding precision at high speed, designed for speeds up to 140 m/s
- Higher guarantees on narrow tolerances and surface quality
- Easy handling in maintenance and alignment
- Possibility to adapt remote control for roller distance adjustment

### The characteristics are:

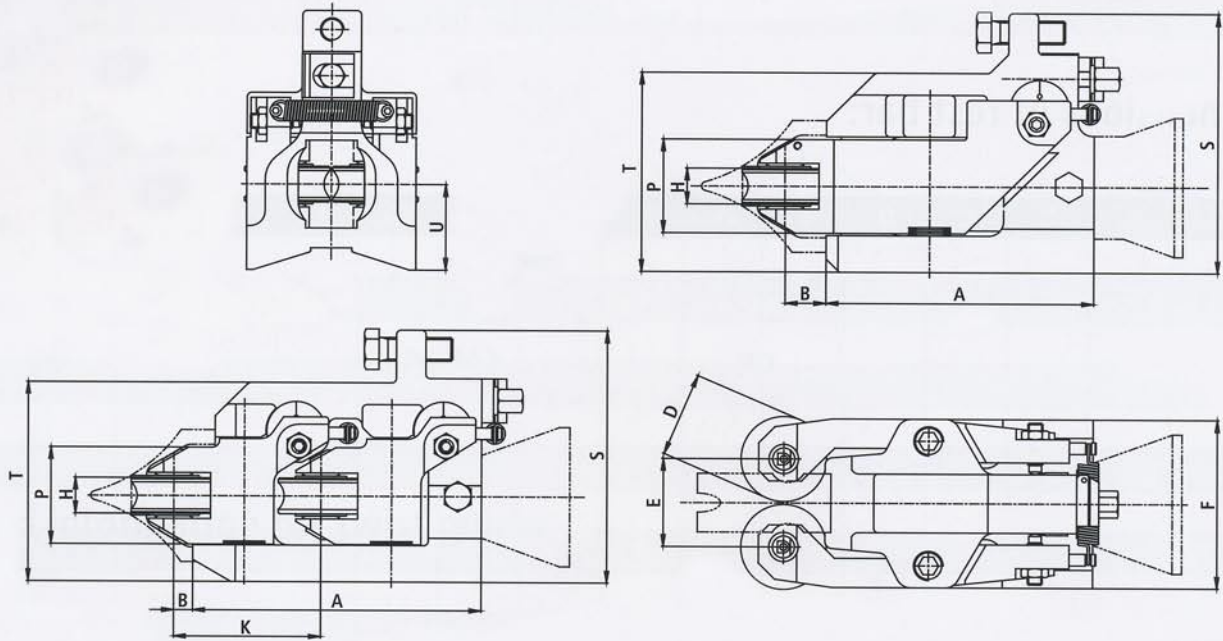
- Fully stainless steel
- Central point adjustment for simultaneous adjustment of all rollers on both SRW- and DRW-type
- Possibility to adjust independent roller
- Vertical roller adjustment
- Suitable for all different rollers and bearing arrangement on the market
- Cooling and lubrication from WRB without external pipes
- The guide can be used in the major existing rod block also with external pipe connections (pipes connected to sub-base)
- Fully interchangeability in the rod block within single and double roller guides

As standard the SRW and DRW have V-shaped bottom for accurate fixation on mounting device. All versions can be delivered with flat bottom upon request.



## Main dimensions for 1000-series block guides

Roller guide	DRW18	DRW24	DRW24N	DRW30	SRW18	SRW24	SRW24N	SRW30
Finishing Size	Ø 5-10,5	Ø 5,5-14	Ø 5,5-14	Ø 10,5-21,5	Ø 5-10,5	Ø 5,5-14	Ø 5,5-14	Ø 10,5-21,5
Maximum oval	7x8,5	23,5x11,5	23,5x11,5	34,5x17	17x8,5	23,5x11,5	23,5x11,5	34,5x17



Roller Guide	DRW18	DRW24	DRW24N	DRW30	SRW18	SRW24	SRW24N	SRW30
A	196	196	196	196	181	181	181	181
B	18	13	13	13	18	13	28	10
D max	50	58	45	58	50	58	45	58
E max	55	60	50	70	55	60	54	70
E min	36	40	40	50	36	40	40	50
F	115	115	105	115	115	115	105	115
H	18	24.4	24.4	30	18	24.4	24.4	30
K	100	100	100	100	-	-	-	-
P	64	64	64	64	64	64	64	64
S	172	172	171	172	177	177	176	177
T	136	136	135	136	136	136	135	136
U	58.5	58.5	57.5	58.5	58.5	58.5	57.5	58.5
Weight (kg)*	11	11	10.5	11	12.5	12.5	12	12.5

All dimensions are in mm.

Contact Morgårdshammar for information, other versions and dimensions.

\* Excluding rollers and entry guides.



## Shape, dimensions of bar to be guided:

Stand	Fig.	W	H	S	T	R

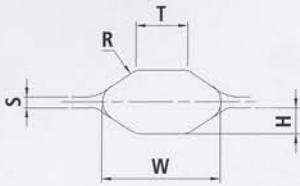


FIGURE 1

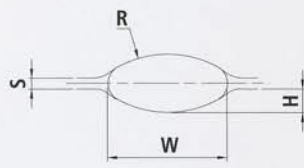


FIGURE 2

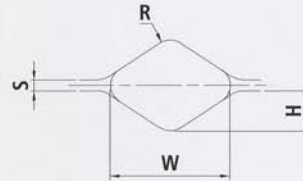
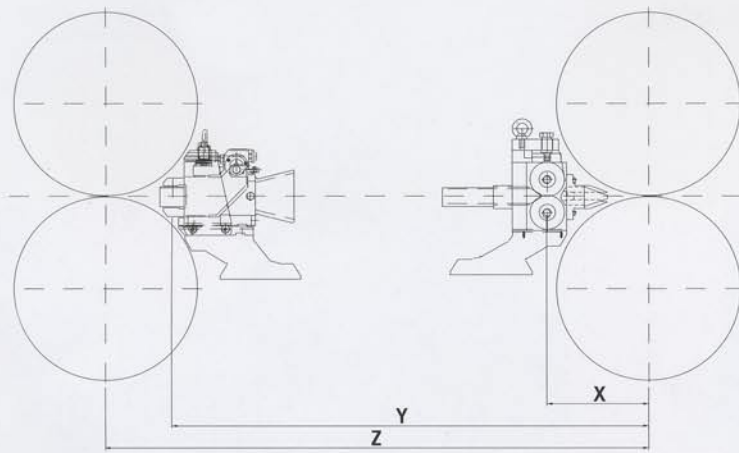


FIGURE 3



FIGURE 4

## Stand information for twist guide:



X = MH selection

Y = \_\_\_\_\_

Z = \_\_\_\_\_

## Notes:

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Guide systems