ROLLRING® INDUSTRIES

PRODUCT CATALOGUE

22

MODELS OF TRAVERSE UNITS.
WIDE RANGE, ONE SOLUTION

Since 1988

CUSTOM BUILT TRAVERSE ASSEMBLIES, TAILORED FOR YOUR NEEDS

SMOOTH OPERATION

From low speeds up to 2000 RPM

From fiber optic cables to heavy ropes - one solution fits all.

Rollring Traverse Units are engineered for applications that demand precise linear reciprocating motion. These units are designed for variable speed, adjustable stroke lengths, and reciprocating motion with automatic and instantaneous reversal for constant speed shaft rotation in one direction.

We are pleased to introduce our enhanced Rollring Traverse Units, now available in a broad range of models to accommodate various shaft diameters, including 10mm, 15mm, 16mm, 20mm, 22mm, 25mm, 30mm, 40mm, 50mm, 60mm, and 80mm. Our selection includes models such as HT1, HT2, 4RR15, HT16, 4RR16, HT3, 4RR20, HT22, 4RR22,
HT25, 4RR25, HT3N, 4RR30, 3RR40, HT4, 4RR40, HT5, 4RR50, HT6, 4RR60, HT8, and 4RR80.

Series Overview

HT and 3RR Series: Feature 3 rolling rings.

Heavy-Duty 4RR Series: Equipped with 4 rolling rings for doubled load-bearing capacity in demanding applications.

Applications

Rollring Traverse Units are essential for applications requiring linear reciprocating motion with adjustable speed and stroke length, and automatic reversal for consistent unidirectional shaft rotation. These units are widely used across various industries to ensure efficient winding of materials, including:

- Delicate fiber optic wires
- Heavy-gauge cables
- Wires, ropes, flat materials, strips, straps, hoses, filaments, tapes, foils
- Solid materials such as steel, aluminum, copper, rubber, plastic, and fiber

TRAVERSE MECHANISM

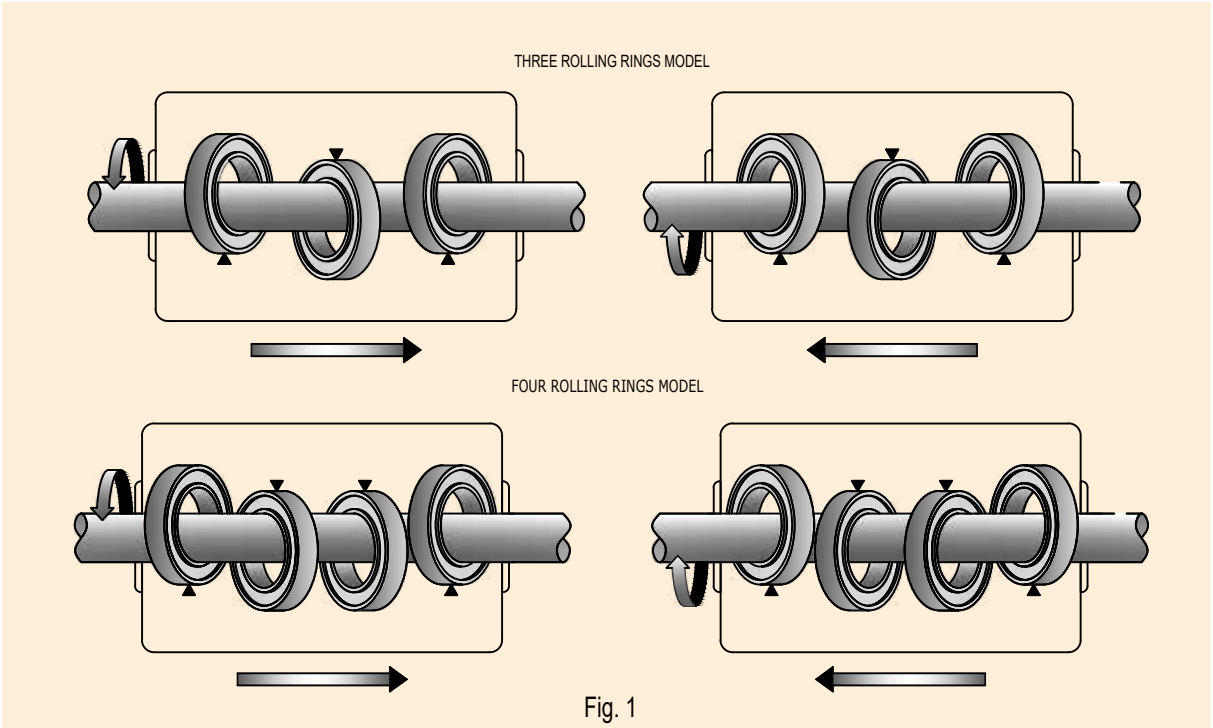


Fig. 1

Traverse Unit Models & Specifications

This table provides a summary of the key specifications for each Rollring Traverse unit model

Traverse Unit Model	Shaft Diameter (mm)	Number of Rolling Ring	Side Thrust (Kg)	Stroke Length	Maximum Pitch	Maximum Shaft Speed (RPM)	Maximum Linear Speed (Mtrs/minute)	Drive Torque (Kg Cm)	Weight (Kg)
HT1	10	3	5	Adjustable	5.6	2000	11.2	0.25	0.5
HT2	15	3	10	Adjustable	9.5	2000	19	0.3	1.1
4RR15	15	4	18	Adjustable	9.5	2000	19	0.5	1.31
HT16	16	3	10	Adjustable	9.9	2000	19.8	0.3	1.08
4RR16	16	4	18	Adjustable	9.9	2000	19.8	0.5	1.28
HT3	20	3	18	Adjustable	16	1500	27	0.3	2
4RR20	20	4	28	Adjustable	16	1500	27	0.6	2.5
HT22	22	3	18	Adjustable	16	1500	27	0.3	2
4RR22	22	4	28	Adjustable	16	1500	27	0.6	2.5
HT25	25	3	25	Adjustable	19	1500	28.5	0.3	2.65
4RR25	25	4	40	Adjustable	19	1500	28.5	0.6	3.18
HT3N	30	3	25	Adjustable	24	1000	24	1.2	3.2
4RR30	30	4	42	Adjustable	24	1000	24	2.5	4
3RR40	40	3	42	Adjustable	29	750	22.5	3.5	5.6
HT4	40	3	42	Adjustable	29	750	22.5	3.5	6.6
4RR40	40	4	76	Adjustable	29	750	22.5	4.5	7.5
HT5	50	3	62	Adjustable	36	500	18	7.5	9.9
4RR50	50	4	116	Adjustable	36	500	18	13	11.3
HT6	60	3	100	Adjustable	48	350	17.5	10	15.7
4RR60	60	4	200	Adjustable	58	350	17.5	16	18.5
HT8	80	3	150	Adjustable	64	300	19.8	32	32
4RR80	80	4	300	Adjustable	64	250	16.5	37	38.7

Side Thrust

This term refers to the maximum force that can be safely applied. If this force exceeds the specified limit, the traverse unit may slip on the shaft.

Pitch

Pitch refers to the linear movement of the traverse unit per one rotation of the shaft. The pitch is at its maximum when the dial is set to 10 and near zero when set to 0. To adjust the pitch, press the pointer lever down to disengage the pointer teeth from the dial, then shift the lever along the dial to the desired setting. For optimal accuracy and performance, it is recommended to operate the traverse unit at a dial setting above 1.

Maximum Pitch

The maximum pitch is the linear movement per one rotation of the shaft atsetting of 10 on the dial

Key Features

Precision Speed Control: Linear speed can be precisely adjusted for accurate and repeatable operations.

Variable Speed Adjustment: Speed is fine-tuned using a simple lever mechanism for optimized performance.

Adjustable Stroke Length: Stroke length can be easily modified to suit different length.

Smooth Motion on Shaft: Operates on a hardened, round, finely ground shaft to ensure friction-free, smooth movement.

Automatic Reversal Mechanism: Instantaneous and automatic reversal of motion for seamless operation.

Low Torque Requirement: Designed to operate efficiently with minimal torque input.

Unidirectional Shaft Rotation: Operates with constant-speed rotation of the shaft in a single direction.

Automatic Speed Synchronization: Ideal for winding systems; automatically synchronises speed between bobbin and traverse mechanism.

No Additional Motor Required: Functions without the need for drive motor and control systems.

Backlash-Free Motion: Provides highly accurate, smooth movement with zero backlash.

Heavy Load Capacity: Designed to support and move heavy loads with robust load-bearing components.

Horizontal & Vertical Mounting: Suitable for installation in both horizontal and vertical orientations.

Extended Shaft Lengths Available: Traverse assemblies offered with shaft lengths up to 4 meters.

Wide Model Range: Available in 22 models with 3- and 4-rolling ring configurations for shaft diameters from 10 mm to 80 mm.

Side Thrust Capacity: Capable of handling loads ranging from 5 kg to 300 kg.

Maintenance-Free Design: Engineered for long service life with virtually zero maintenance.

Readily Available Spare Parts: Ex-stock availability of spare parts ensures minimal downtime.

Two-Year Warranty: Supplied with a standard two-year warranty against any manufacturing

defects for reliability and customer assurance.

10 mm Traverse unit for 10 mm diameter shaft
Model HT1

Specification

Description	HT 1
Number of Rolling Rings	3
Max. Side Thrust*	5 Kg
Max. Pitch* (At setting 10 on the dial)	5.6mm
Max. Shaft Speed	2000 RPM
Max. Linear Speed	11.2 m/min
Drive Torque requirement	0.25 Kg cm
Unit Weight	0.5 Kg
Free Movement Lever(FM)	Not Available

HT1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

HT1

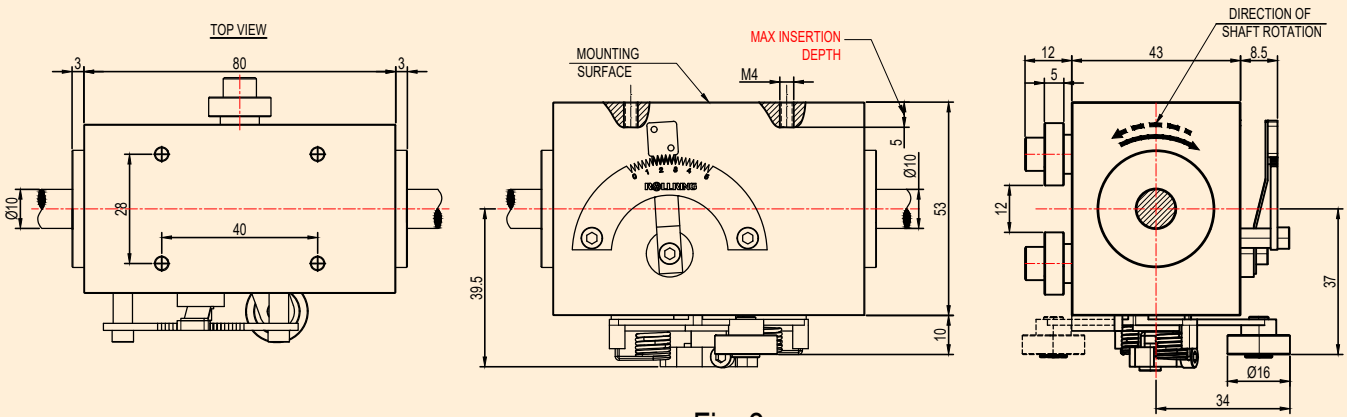


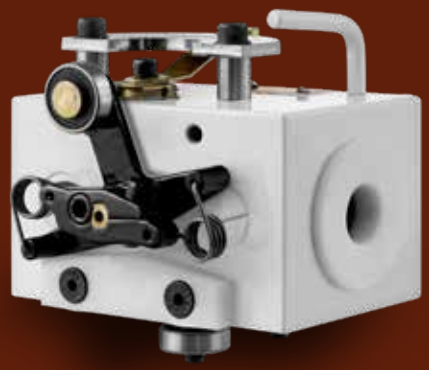
Fig. 2

15 mm

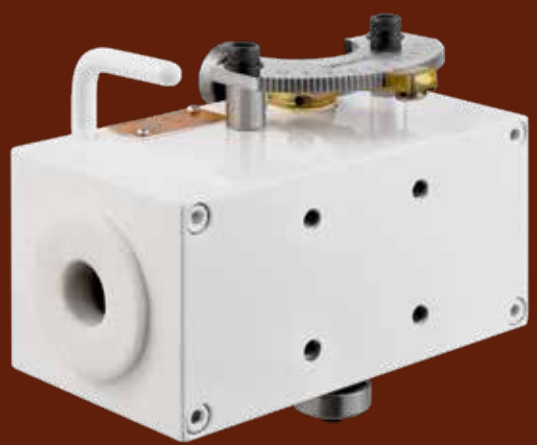
Traverse unit for 15 mm diameter shaft

Model HT2 & 4RR15

HT2



4RR15



Specification

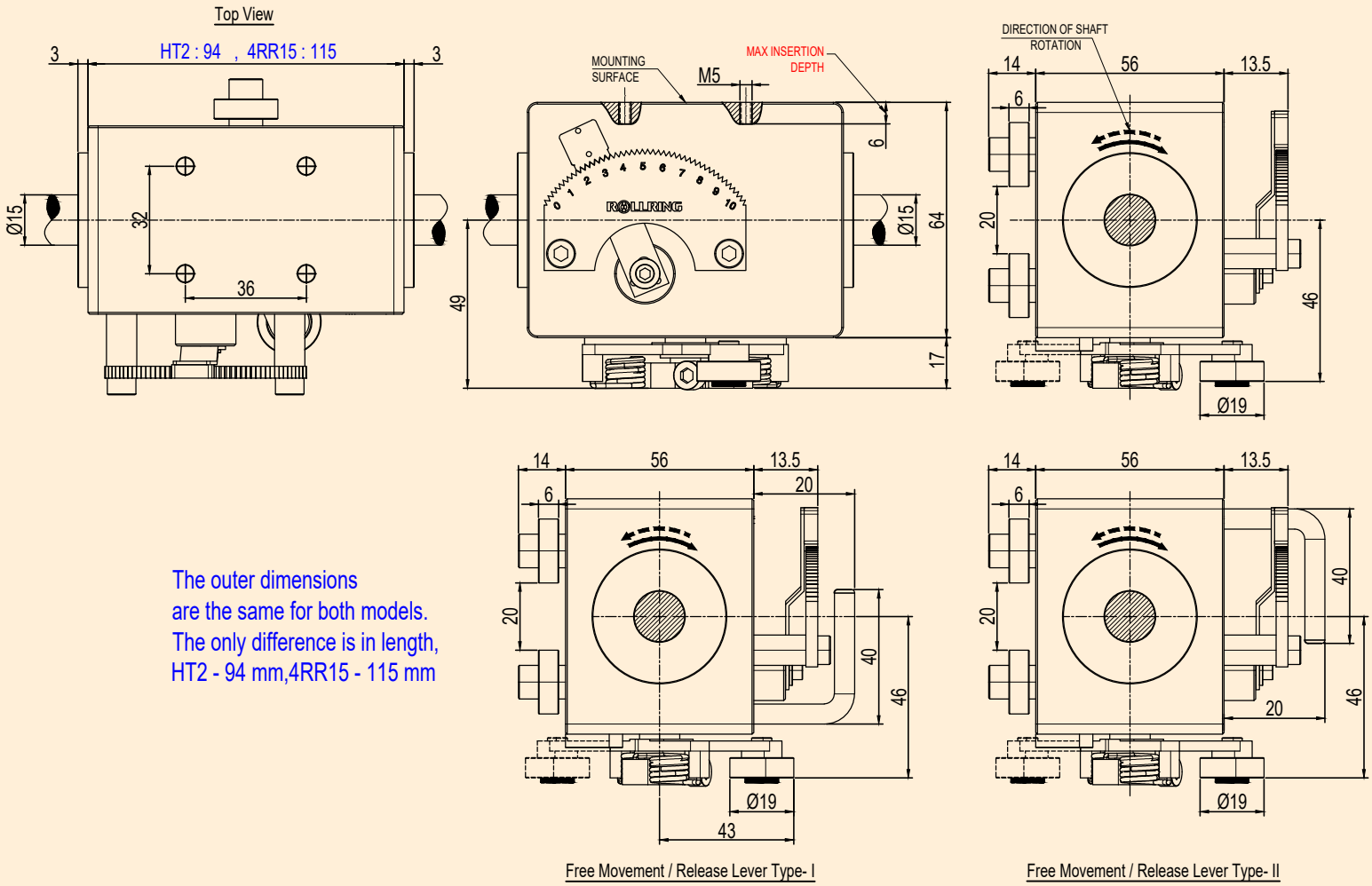
Description	HT2	4RR15
Number of Rolling Rings	3	4
Max. Side Thrust*	10 Kg	18 Kg
Max. Pitch* (At setting 10 on the dial)	9.5 mm	9.5 mm
Max Shaft Speed	2000 RPM	2000 RPM
Max. Linear Speed	19 m/min	19 m/min
Drive Torque Requirement	0.3 Kg cm	0.5 Kg cm
Weight	1.1 Kg	1.31 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT2 & 4RR15



The outer dimensions
are the same for both models.
The only difference is in length,
HT2 - 94 mm,4RR15 - 115 mm

Free Movement / Release Lever Type- I

Free Movement / Release Lever Type- II

Fig. 3

16 mm

Traverse unit for 16 mm diameter shaft

Model HT16 & 4RR16

HT16

4RR16

Specification

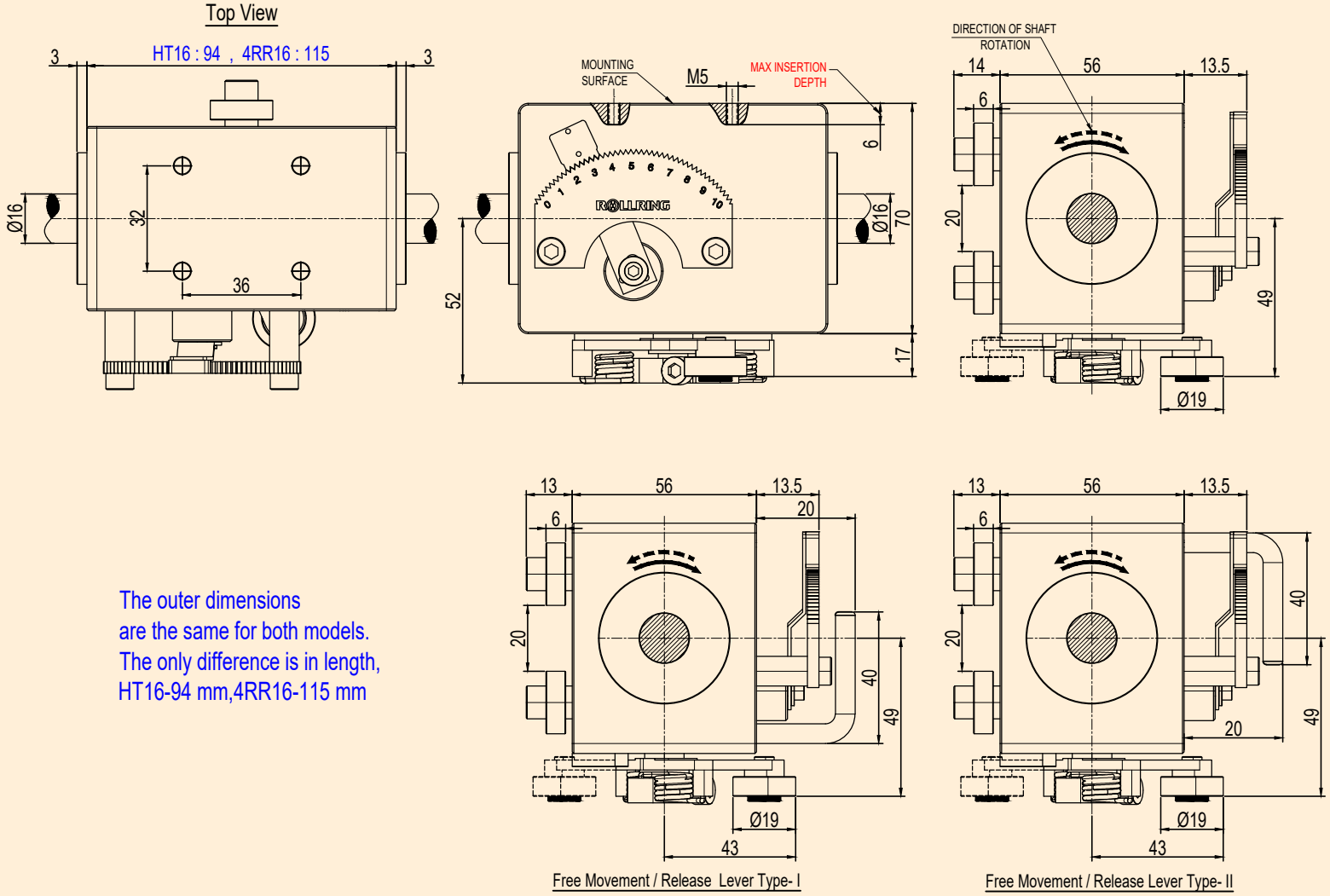
Description	HT16	4RR16
Number of Rolling Rings	3	4
Max. Side Thrust*	10 Kg	16 Kg
Max. Pitch* (At setting 10 on the dial)	9.9 mm	9.9 mm
Max Shaft Speed	2000 RPM	2000 RPM
Max. Linear Speed	19.8 m/min	19.8 m/min
Drive Torque Requirement	0.3 Kg cm	0.6 Kg cm
Weight	1.08 Kg	1.28 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT16 & 4RR16

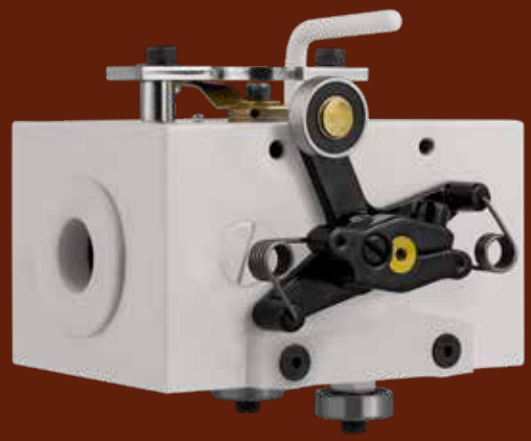


The outer dimensions
are the same for both models.
The only difference is in length,
HT16-94 mm,4RR16-115 mm

Fig. 4

20 mm Traverse unit for 20 mm diameter shaft
Model HT3 & 4RR20

HT3



4RR20

Specification

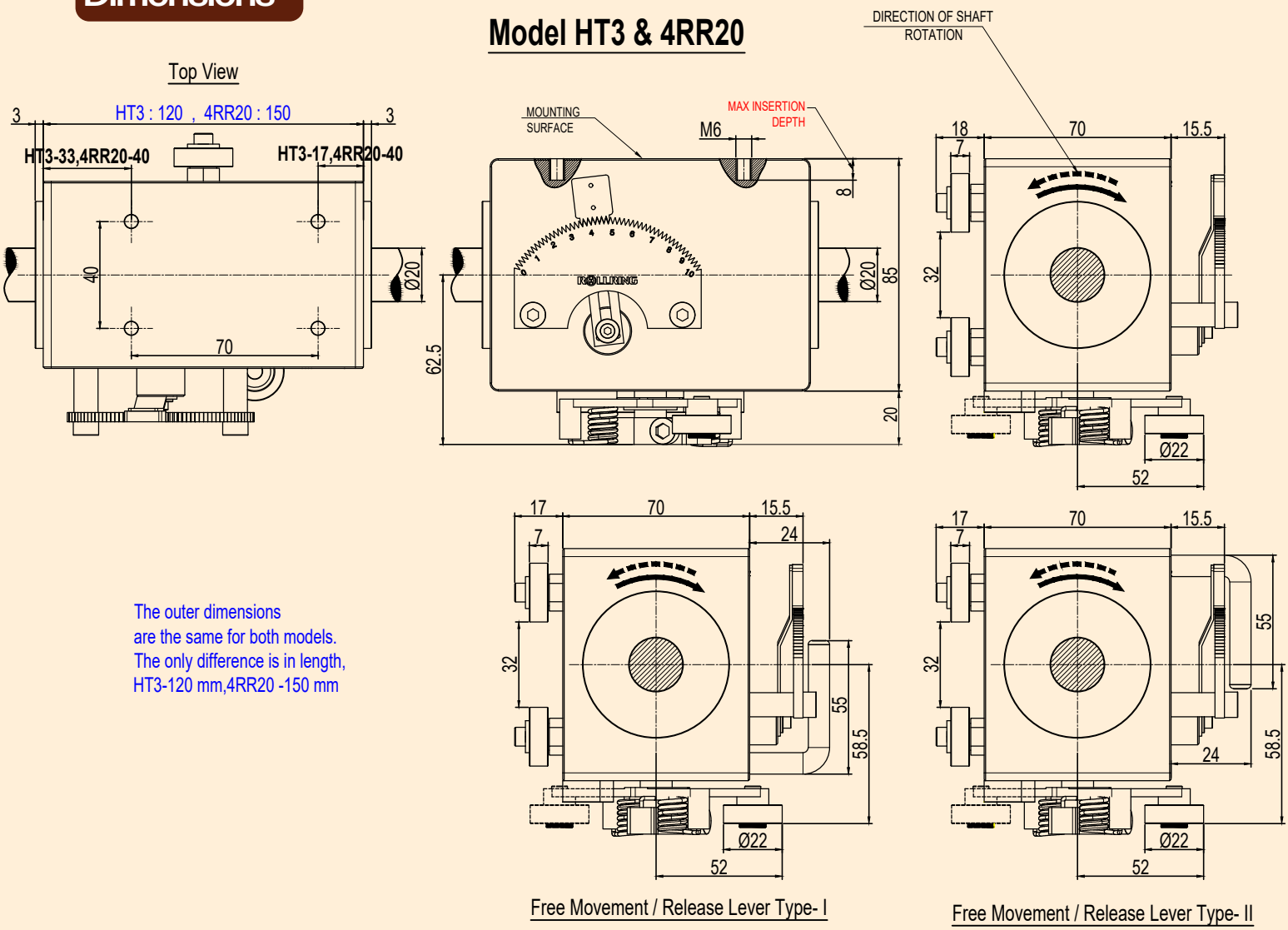
Description	HT3	4RR20
Number of Rolling Rings	3	4
Max. Side Thrust*	18 Kg	28 Kg
Max. Pitch* (At setting 10 on the dial)	16 mm	16 mm
Max Shaft Speed	1500 RPM	1500 RPM
Max. Linear Speed	27 m/min	27 m/min
Drive Torque Requirement	0.3 Kg cm	0.6 Kg cm
Weight	2 Kg	2.5 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT3 & 4RR20



The outer dimensions
are the same for both models.
The only difference is in length,
HT3-120 mm,4RR20 -150 mm

Free Movement / Release Lever Type- I

Free Movement / Release Lever Type- II

Fig. 5

22 mm

Traverse unit for 22 mm diameter shaft

Model HT22 & 4RR22

HT22

4RR22

Specification

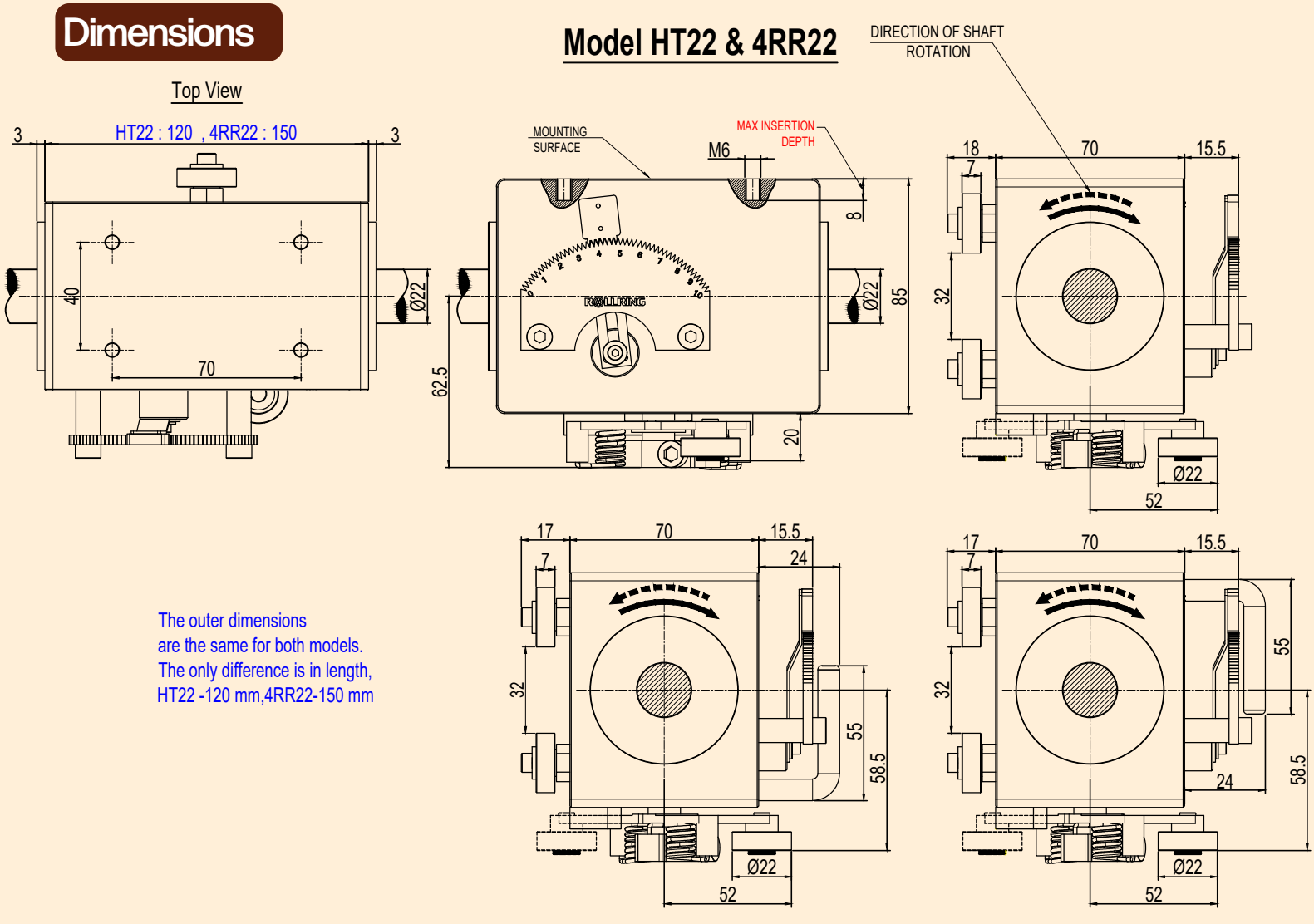
Description	HT22	4RR22
Number of Rolling Rings	3	4
Max. Side Thrust*	18 Kg	28 Kg
Max. Pitch* (At setting 10 on the dial)	16 mm	16 mm
Max Shaft Speed	1500 RPM	1500 RPM
Max. Linear Speed	27 m/min	27 m/min
Drive Torque Requirement	0.3 Kg cm	0.6 Kg cm
Weight	2 Kg	2.5 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT22 & 4RR22



The outer dimensions
are the same for both models.
The only difference is in length,
HT22 -120 mm,4RR22-150 mm

Free Movement / Release Lever Type- I

Free Movement / Release Lever Type- II

Fig. 6

25 mm

Traverse unit for 25 mm diameter shaft

Model HT25 & 4RR25

HT25

4RR25

Specification

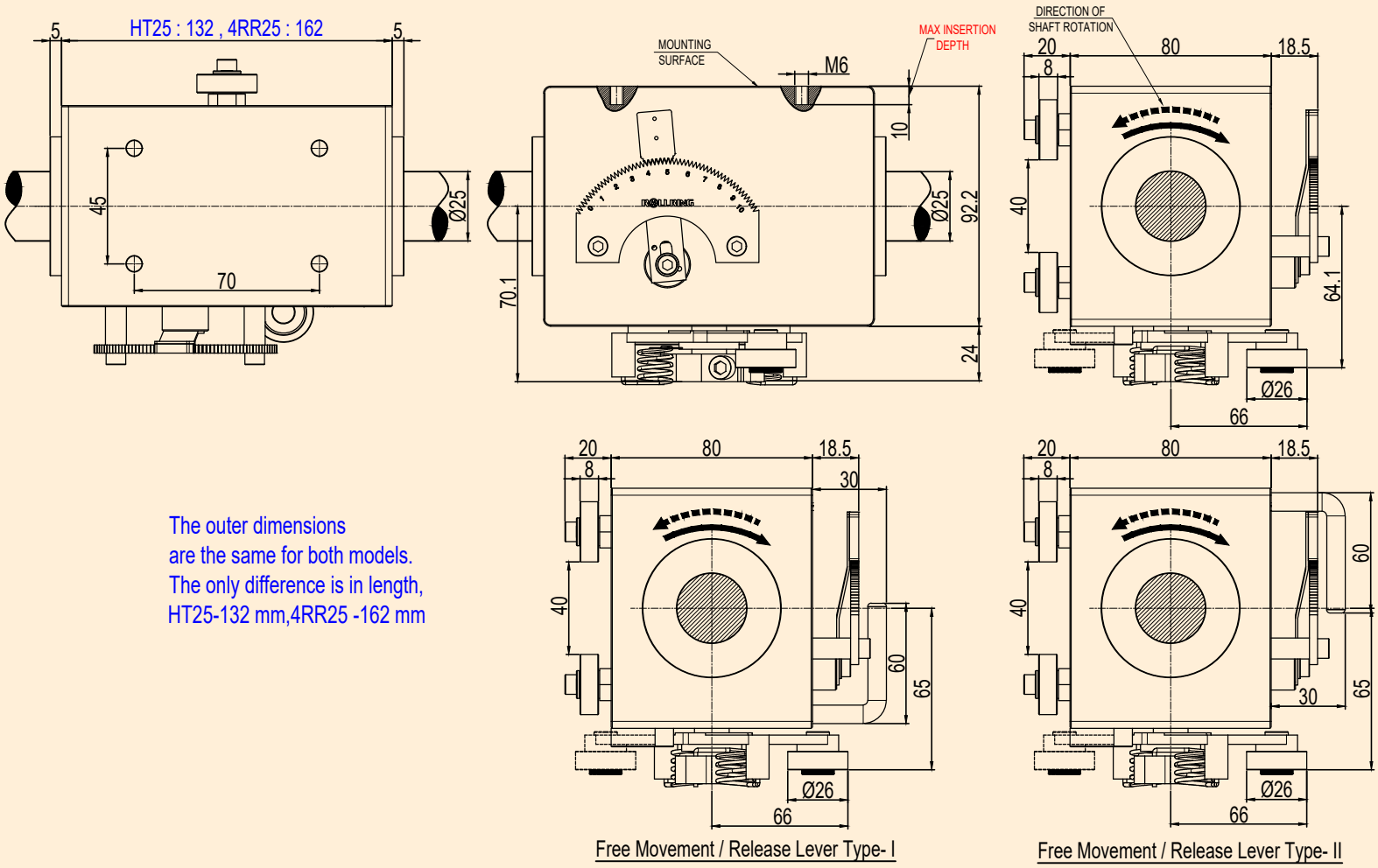
Description	HT25	4RR25
Number of Rolling Rings	3	4
Max. Side Thrust*	25 Kg	40 Kg
Max. Pitch* (At setting 10 on the dial)	19 mm	19 mm
Max Shaft Speed	1500 RPM	1500 RPM
Max. Linear Speed	28.5 m/min	28.5 m/min
Drive Torque Requirement	0.3 Kg cm	0.6 Kg cm
Weight	2.65 Kg	3.18 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT25 & 4RR25



The outer dimensions
are the same for both models.
The only difference is in length,
HT25-132 mm,4RR25 -162 mm

Free Movement / Release Lever Type- I

Free Movement / Release Lever Type- II

Fig. 7

30 mm

Traverse unit for 30 mm diameter shaft

Model HT3N & 4RR30

HT3N

4RR30

Specification

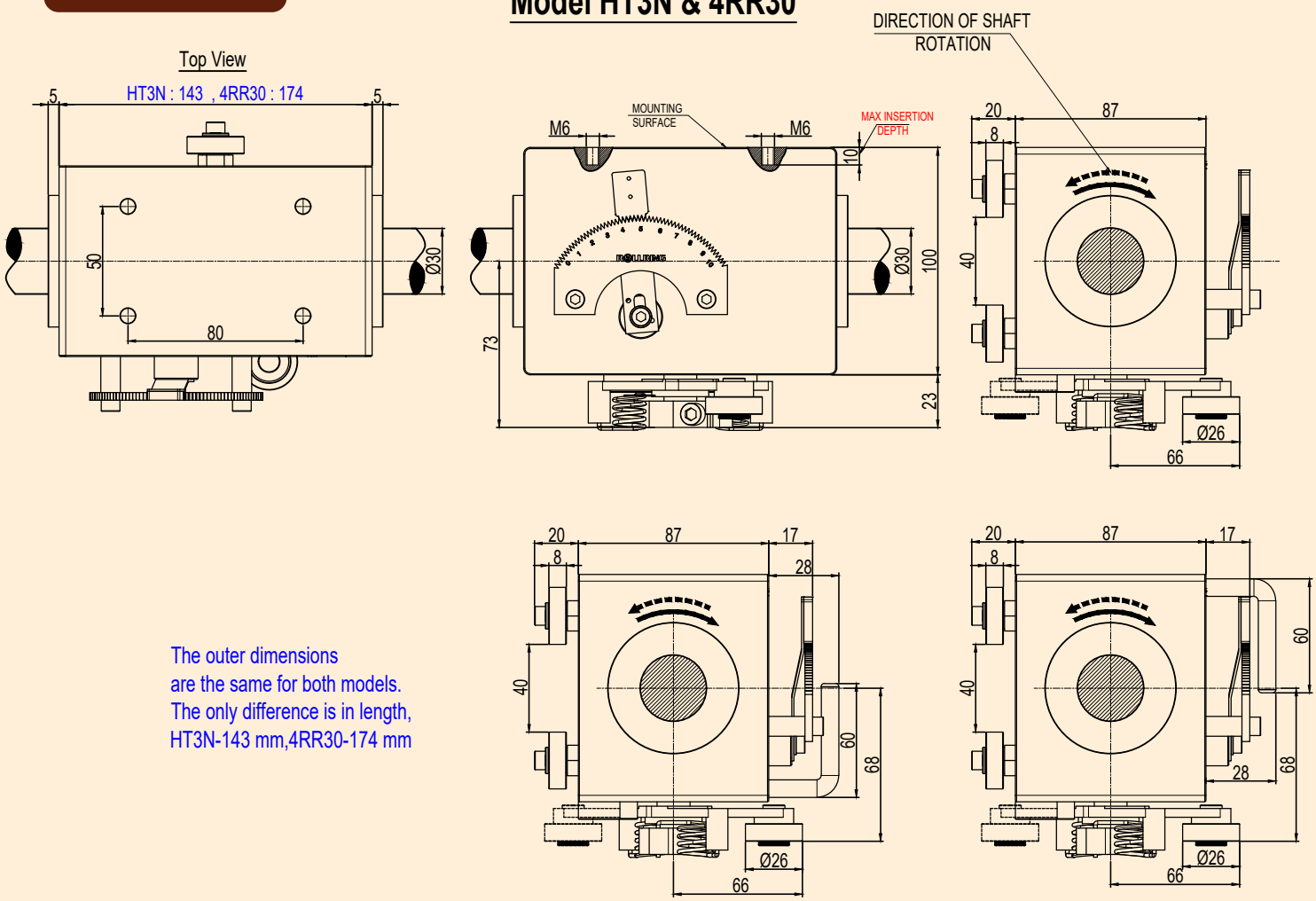
Description	HT3N	4RR30
Number of Rolling Rings	3	4
Max. Side Thrust*	25 Kg	42 Kg
Max. Pitch* (At setting 10 on the dial)	24 mm	24 mm
Max Shaft Speed	1000 RPM	1000 RPM
Max. Linear Speed	24 m/min	24 m/min
Drive Torque Requirement	1.2 Kg cm	2.5 Kg cm
Weight	3.2Kg	4 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT3N & 4RR30



The outer dimensions are the same for both models. The only difference is in length, HT3N-143 mm,4RR30-174 mm

Free Movement / Release Lever Type- I

Free Movement / Release Lever Type- II

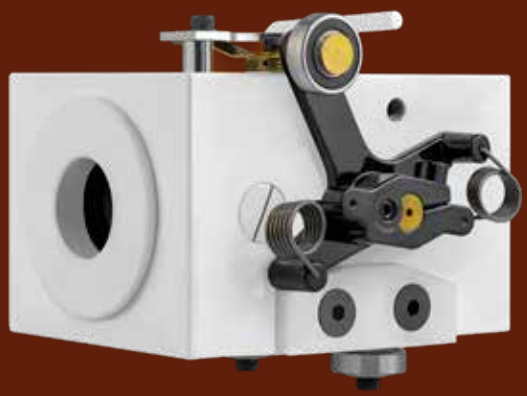
Fig. 8

40 mm Traverse unit for 40 mm diameter shaft

Model HT4 , 3RR40 & 4RR40

HT4

3RR40



4RR40

Specification

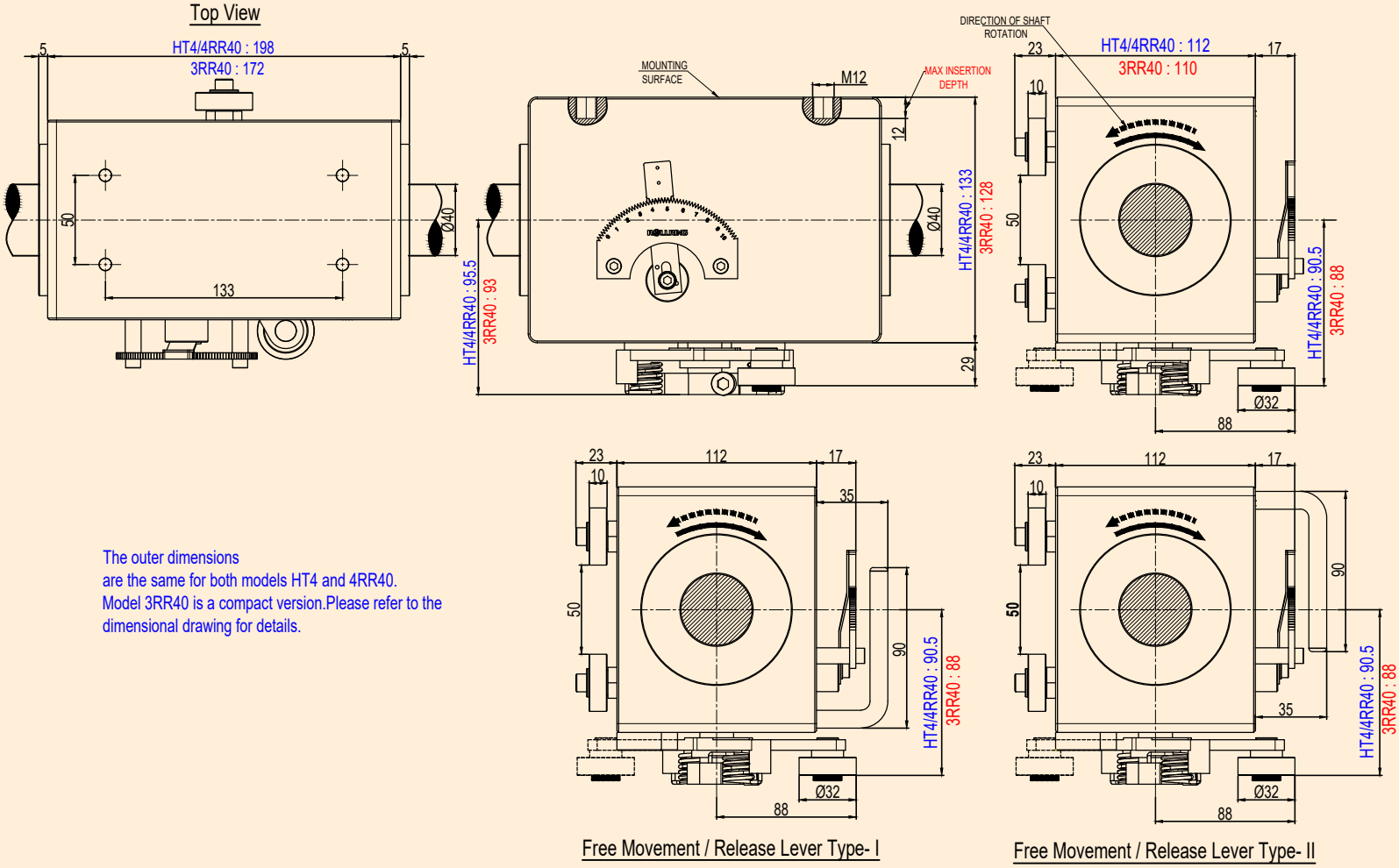
Description	HT4	3RR40	4RR40
Number of Rolling Rings	3	3	4
Max. Side Thrust*	42 Kg	42 Kg	76 Kg
Max. Pitch* (At setting 10 on the dial)	29 mm	29 mm	29 mm
Max Shaft Speed	750 RPM	750 RPM	750 RPM
Max. Linear Speed	22.5 m/min	22.5 m/min	22.5 m/min
Drive Torque Requirement	3.5 Kg cm	3.5 Kg cm	4.5 Kg cm
Weight	6.6 Kg	5.6 Kg	7.5 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1 or FM2	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT4 , 3RR40 & 4RR40



The outer dimensions
are the same for both models HT4 and 4RR40.
Model 3RR40 is a compact version.Please refer to the dimensional drawing for details.

Fig. 9

50 mm

Traverse unit for 50 mm diameter shaft

Model HT5 & 4RR50

HT5

4RR50

Specification

Description	HT5	4RR50
Number of Rolling Rings	3	4
Max. Side Thrust*	62 Kg	116 Kg
Max. Pitch* (At setting 10 on the dial)	36 mm	36 mm
Max Shaft Speed	500 RPM	500 RPM
Max. Linear Speed	18 m/min	18 m/min
Drive Torque Requirement	7.5 Kg cm	13 Kg cm
Weight	9.9 Kg	11.3 Kg
Free Movement Lever(FM)	FM1 or FM2	FM1

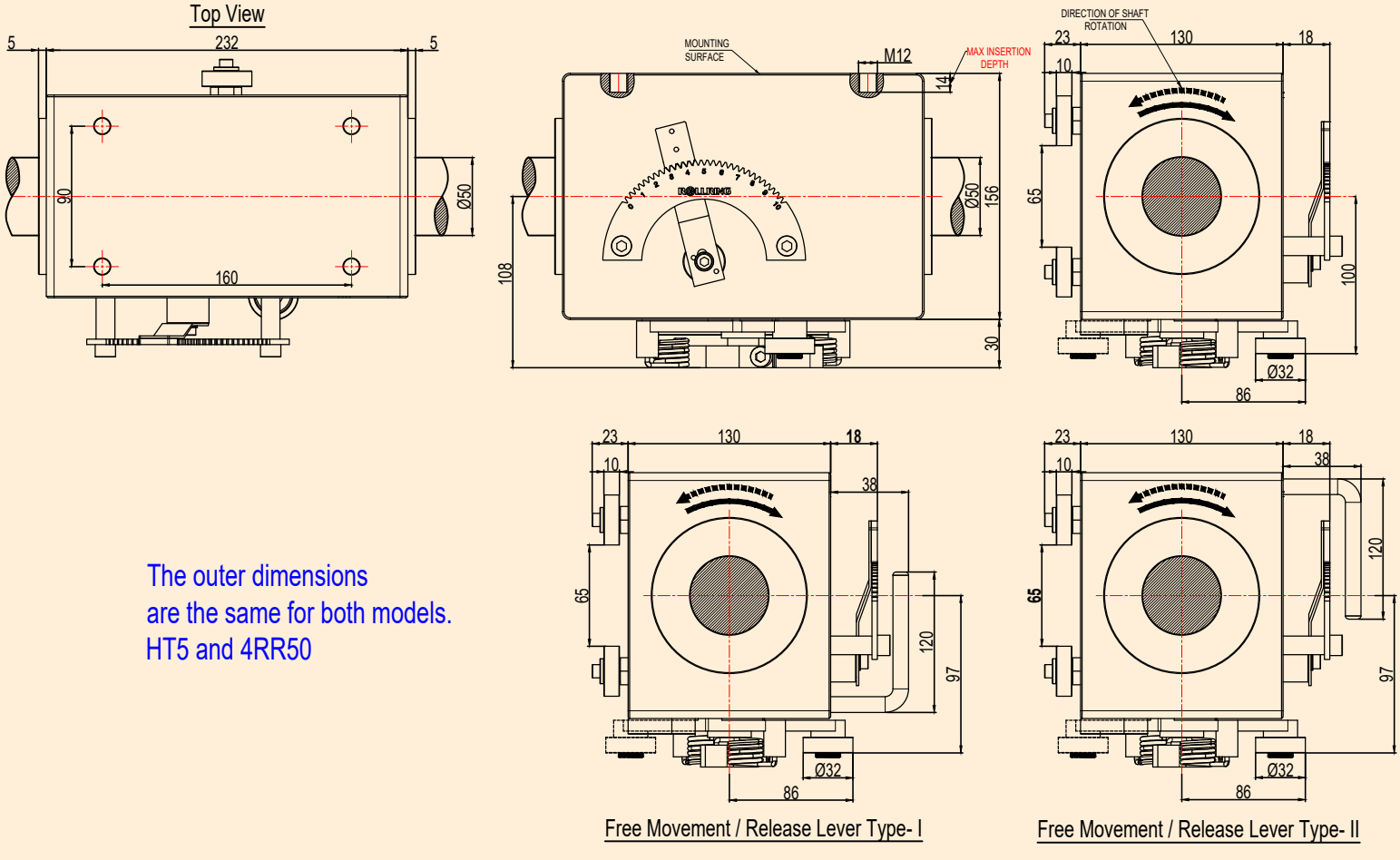
***Maximum Side Thrust:** This term refers to the maximum force that can be safely applied in a lateral direction.

***Maximum Pitch:** Pitch denotes the linear movement of the traverse unit per one full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

4RR50

Model HT5 & 4RR50



The outer dimensions are the same for both models. HT5 and 4RR50

Free Movement / Release Lever Type- I

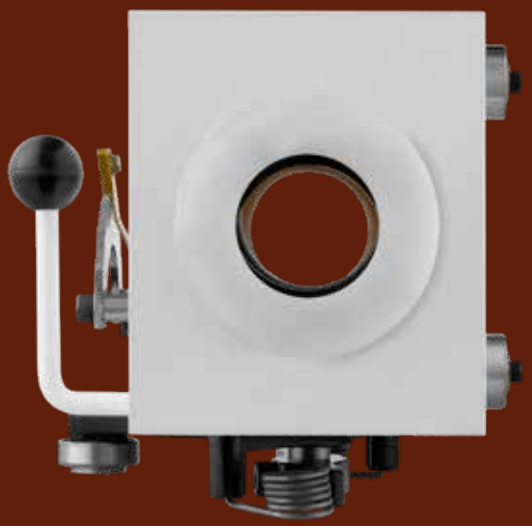
Free Movement / Release Lever Type- II

Fig. 10

60 mm Traverse unit for 60 mm diameter shaft

Model HT6 & 4RR60

HT6



4RR60

Specification

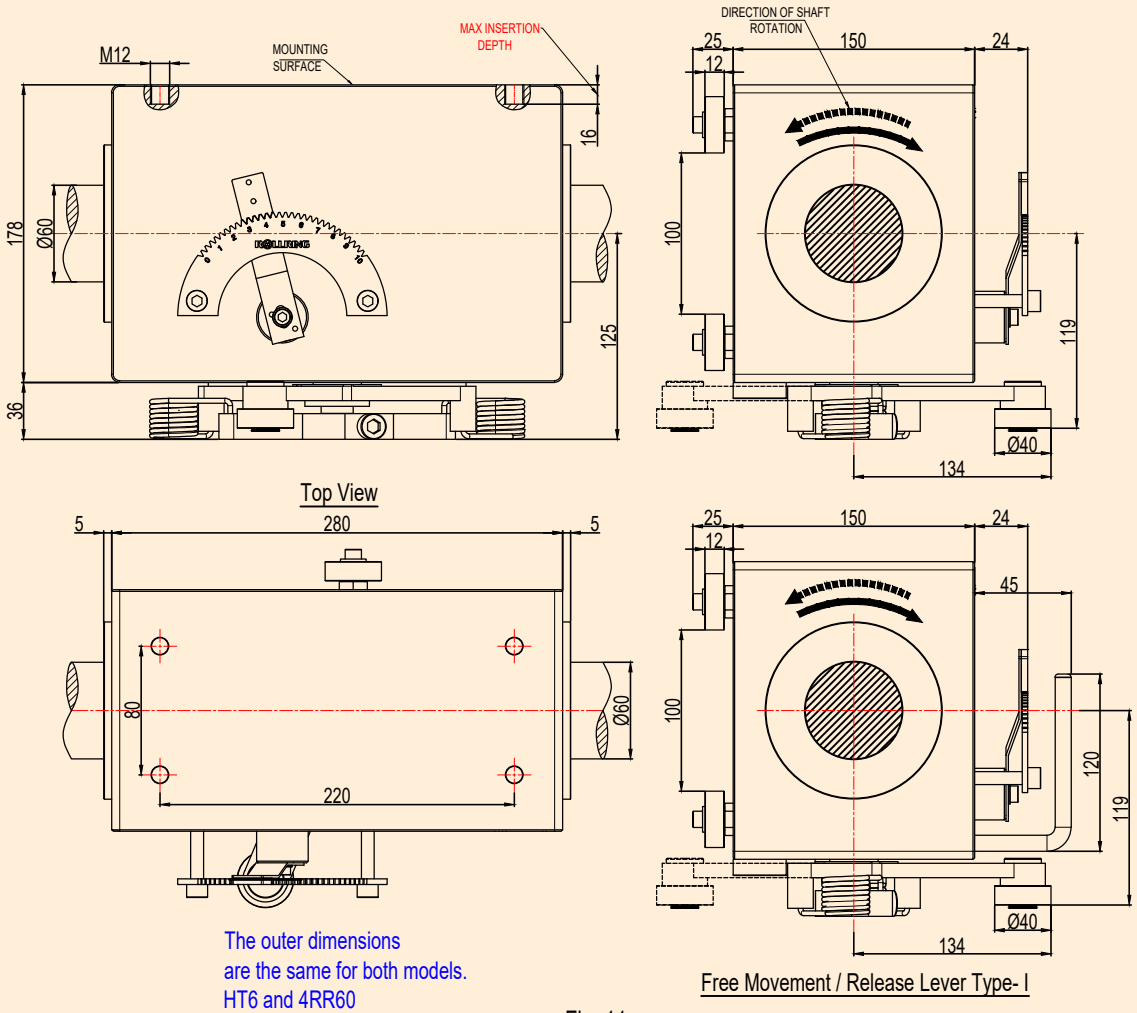
Description	HT6	4RR60
Number of Rolling Rings	3	4
Max. Side Thrust*	100 Kg	200 Kg
Max. Pitch* (At setting 10 on the dial)	48 mm	48 mm
Max Shaft Speed	350 RPM	350 RPM
Max. Linear Speed	17.5 m/min	17.5 m/min
Drive Torque Requirement	10 Kg cm	16 Kg cm
Weight	15.7 Kg	18.5 Kg
Free Movement Lever(FM)	FM1	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT6 & 4RR60



The outer dimensions are the same for both models. HT6 and 4RR60

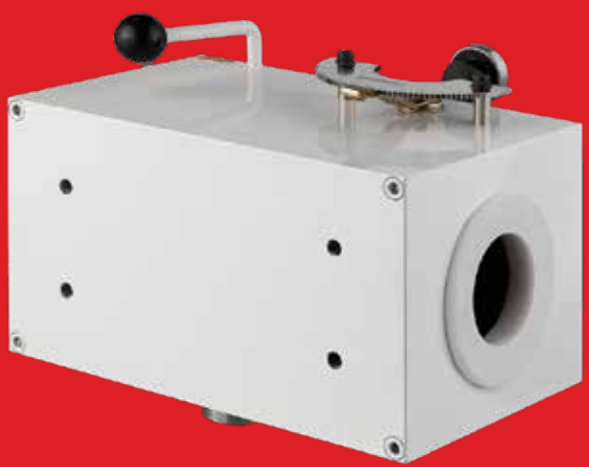
Free Movement / Release Lever Type- I

Fig. 11

80 mm Traverse unit for 80 mm diameter shaft
Model HT8 & 4RR80

HT8

4RR80



Specification

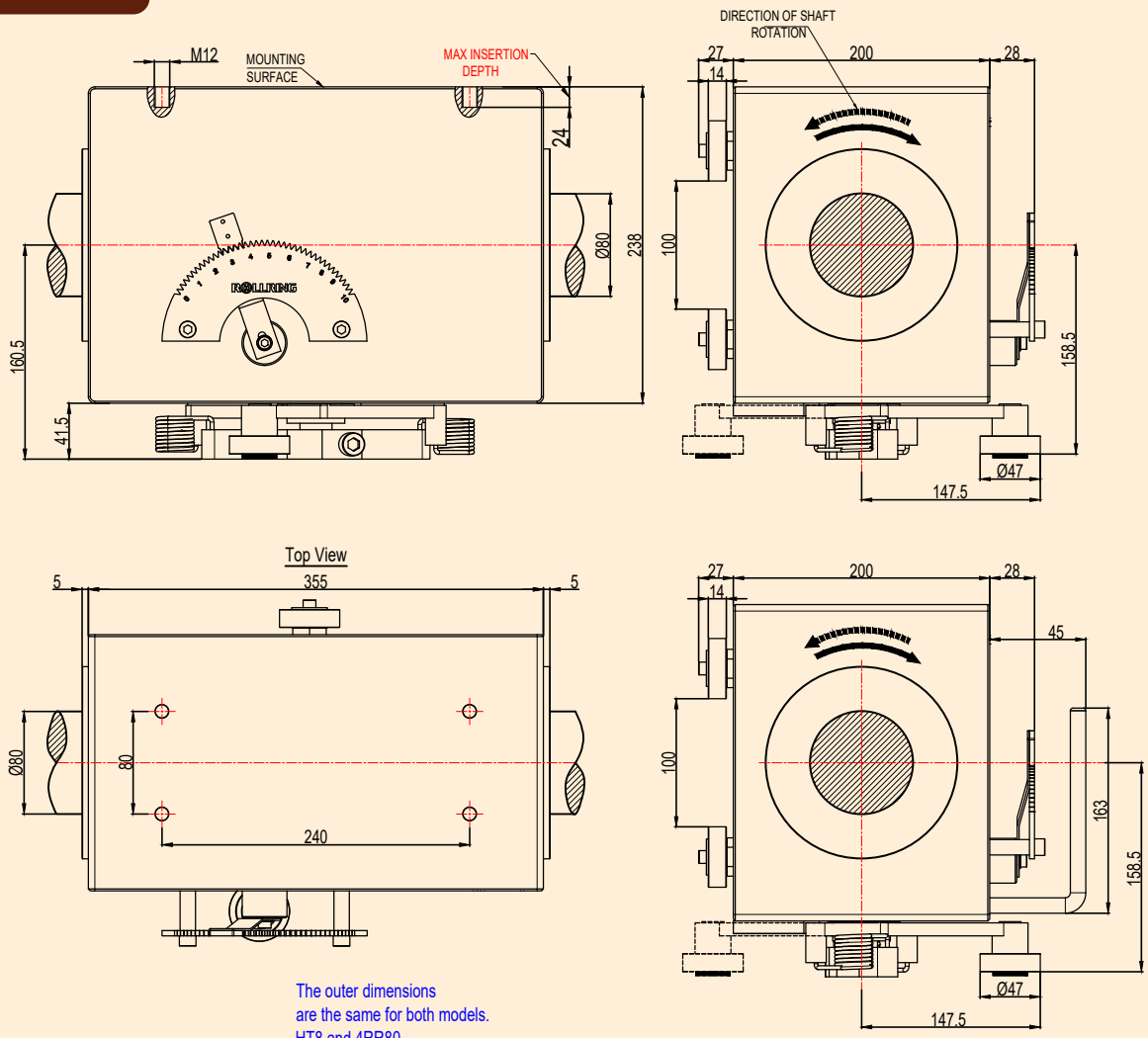
Description	HT8	4RR80
Number of Rolling Rings	3	4
Max. Side Thrust*	150 Kg	300 Kg
Max. Pitch* (At setting 10 on the dial)	64 mm	64 mm
Max Shaft Speed	300 RPM	250 RPM
Max. Linear Speed	19.8 m/min	16.5 m/min
Drive Torque Requirement	32 Kg cm	37 Kg cm
Weight	32 Kg	38.7 Kg
Free Movement Lever(FM)	FM1	FM1

Maximum Side Thrust: This term refers to the maximum lateral force that can be safely applied.

Maximum Pitch: Pitch denotes the linear movement of the traverse unit per full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10.

Dimensions

Model HT8 & 4RR80

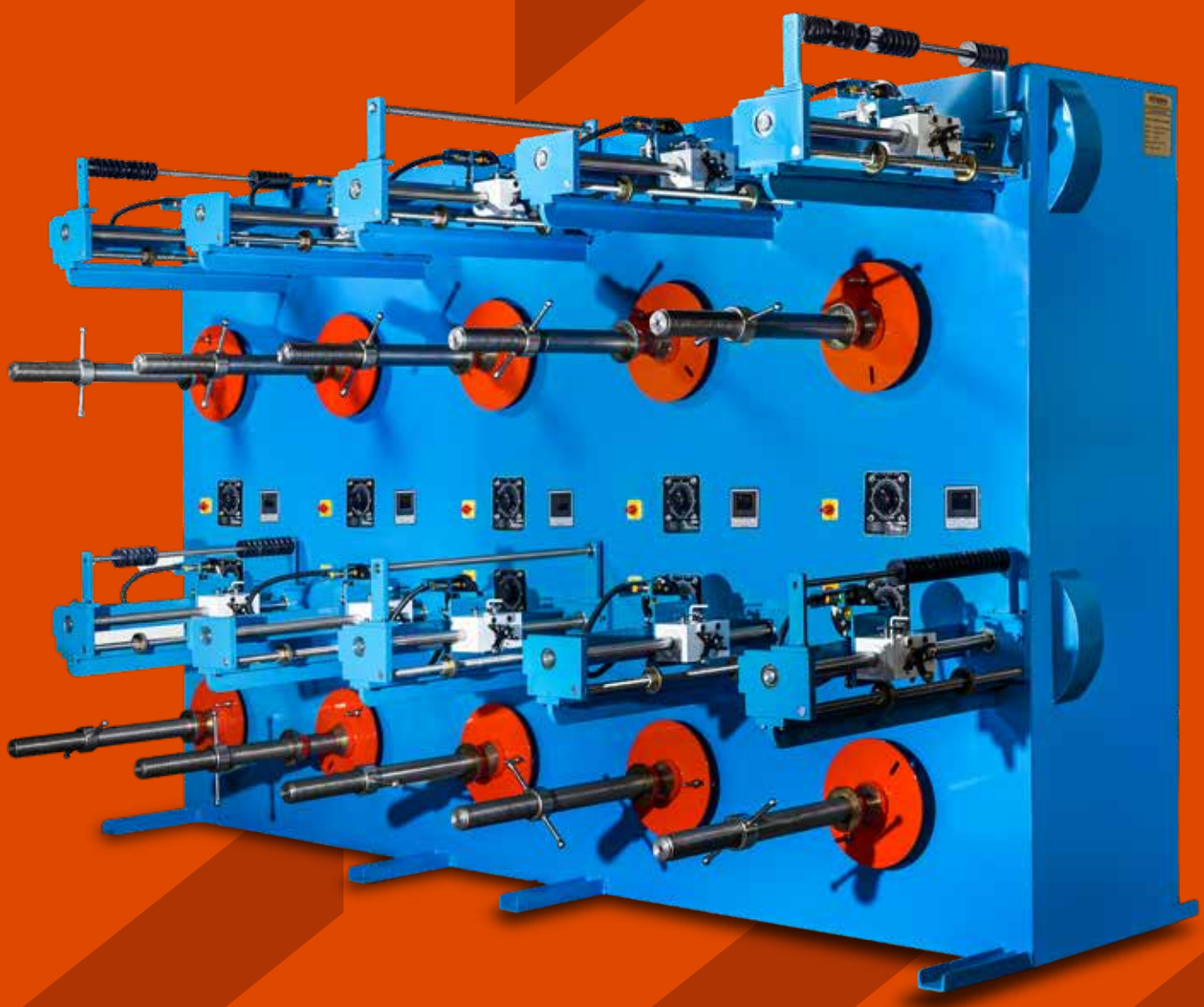


The outer dimensions are the same for both models. HT8 and 4RR80

Fig. 12

Free Movement / Release Lever Type- I

Experience our cutting-edge innovations



Optional Accessories

Free Movement Lever (Release Lever)

Designed to meet customer requirements, this lever facilitates the disengagement of the traverse unit from the shaft. By manually rotating the lever 90 degrees, you can easily disengage and reposition the traverse unit.

Types of Release Levers

Type FM1: Positioned on the bottom side. Compatible with all models except the HT1.

Type FM2: Positioned on the top side. Available exclusively for the three rolling ring models.

Shaft

Shafts are induction hardened and ground with hard chrome plating, available up to a length of 4000 mm. Custom end machining, circlip grooves, and keyways can be provided based on customer requirements.

Pneumatically Operated Reversal Mechanism

This mechanism facilitates both clockwise and counterclockwise operation of the traverse unit without requiring modifications. It includes an air cylinder with a solenoid valve, actuated by proximity sensors at the end limits.

Bi-directional Reversal Mechanism

Designed for applications requiring both clockwise and counterclockwise shaft rotation.

Remote Control of Linear Speed

A small motor integrated into the traverse unit allows for remote adjustment of the linear speed.

Selection of Traverse Unit

When selecting a traverse unit model, it is essential to consider the various forces and factors that impact its performance. The selection process should account for the cumulative effects of the following:

- The weight of the traverse unit itself
- Associated assemblies being traversed
- Frictional load
- Linear speed
- Other relevant parameters

For spooling applications, it is also important to consider the tension in the material being traversed and the distance between the final capstan/support point and the traverse unit.
To calculate the side thrust (F) exerted on the traverse unit, use the following equation:

Side Thrust (F) [Kg] = 0.25 × (M × V / T) + Fr + Fz + 0.12 × (M × G) + Fw

Where:

- M = Total weight to be traversed (Kg)
- V = Maximum linear speed (meters per second)
- T = Reversal time (seconds)
- Fr = Friction load (Kg)
- G = Gravitational force (approximately 9.8 m/s²)
- Fz = Additional applicable force (Kg) if any.
- Fw = Additional force specific to the winding tension (Kg

Ensure that all these factors are thoroughly evaluated to select the appropriate traverse unit for your application.

Reversal Time

- Reversal time depends on linear speed.
- For details on reversal time at various dial settings(Linear speed) refer to Figure 19.

Graph depicting Reversal Time at various dial position.

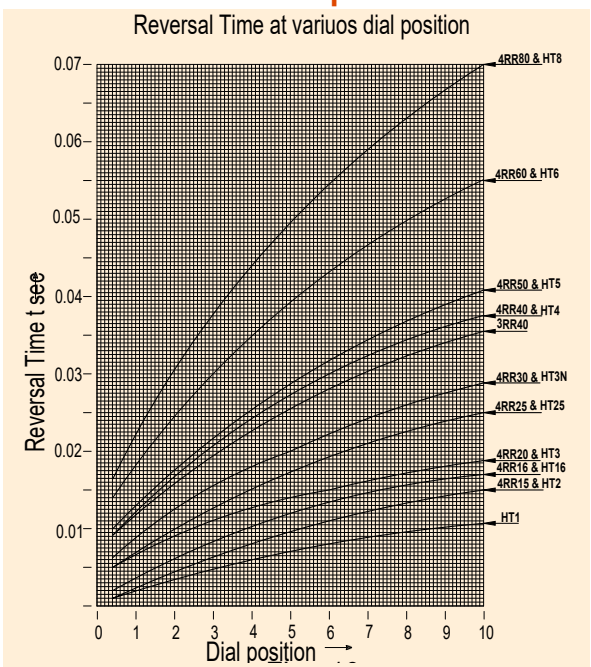


Fig. 13

Force related to winding tension (Fw)

$$F_w = \frac{C \times T}{\sqrt{\left(\frac{C^2}{4} + B^2\right)}}$$

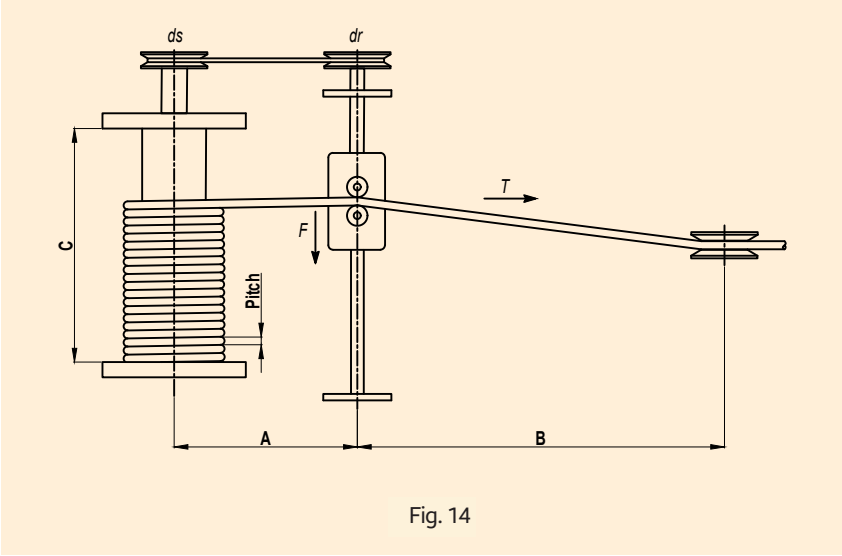


Fig. 14

Refer to Figure 14 for a visual representation

- C = Traverse length (millimetres)
- T = Winding tension (kilograms, usually around 5 to 10% of the maximum tensile strength of the material being wound)
- B = Distance between the traverse and the let-off point (millimetres)

For ease of selection, you can pre-select a model by roughly estimating the required force using the above calculations. This preliminary estimation will help guide you in choosing a traverse unit model that can handle the expected forces and perform optimally for your specific application.

Operation Guide

Side Thrust

This term refers to the maximum force that can be safely applied in a lateral direction. If this force exceeds the specified maximum value, the traverse unit may slip on the shaft.

Pitch

Pitch denotes the linear movement of the traverse unit per one full rotation of the shaft. The pitch reaches its maximum value at a dial setting of 10. For precise adjustments, shift the pointer lever along the dial. For optimal accuracy and performance, it is recommended to operate the traverse unit at a setting above 1 on the dial.

Maximum Pitch

The maximum pitch is the linear movement per one rotation of the shaft at setting of 10 on the dial

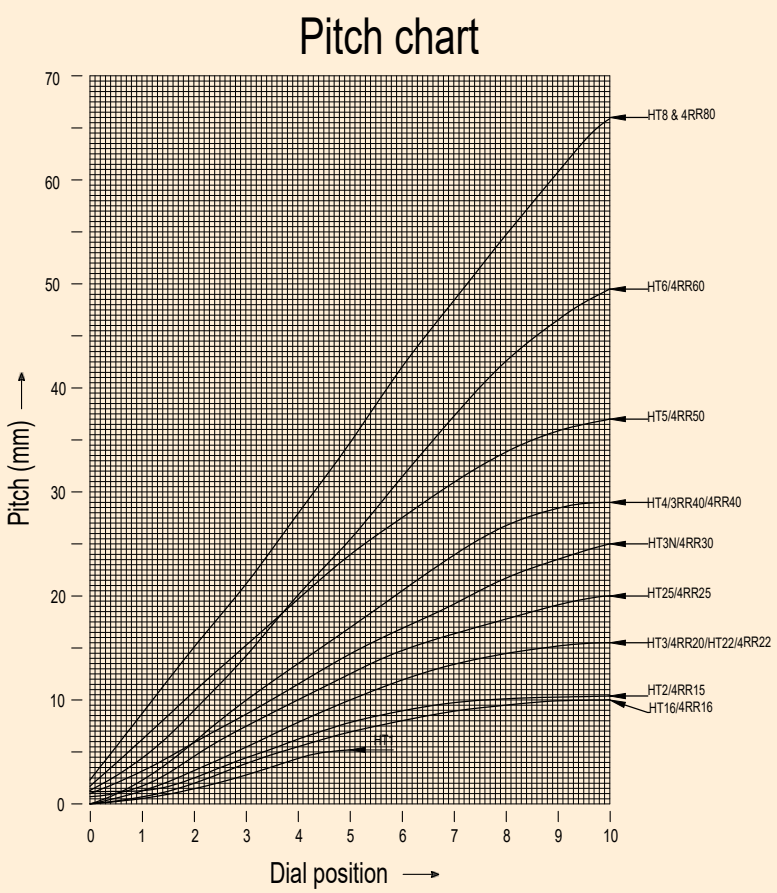


Fig. 15

Adjusting the pitch

To change the pitch, press the pointer lever down and move it along the dial.

Linear speed

Depends on both the shaft speed and the pitch setting.

Shaft speed

Calculated based on the maximum pitch of the traverse unit and the required linear speed.

Recommended shaft speed

$$\frac{\text{Maximum Linear Speed Required}}{0.95 \times \text{Maximum Pitch of Traverse Unit Selected}}$$

Spooling Application

In spooling operations, the traverse shaft is driven by the bobbin drive shaft to ensure automatic speed synchronization. It's crucial to maintain the speed ratio between the bobbin drive and traverse shafts for accurate pitch adjustments

$$\text{Speed Ratio (dr/ds)} = \frac{0.95 \times \text{Maximum Pitch of the Traverse Unit}}{\text{Maximum Pitch Required.}}$$

Where:
dr = Diameter of Pulley Traverse Shaft
ds = Diameter of Pulley on Bobbin Drive Shaft

Refer to Figure 16/17 for visual representation.

Automatic speed synchronisation with bobbin rotation

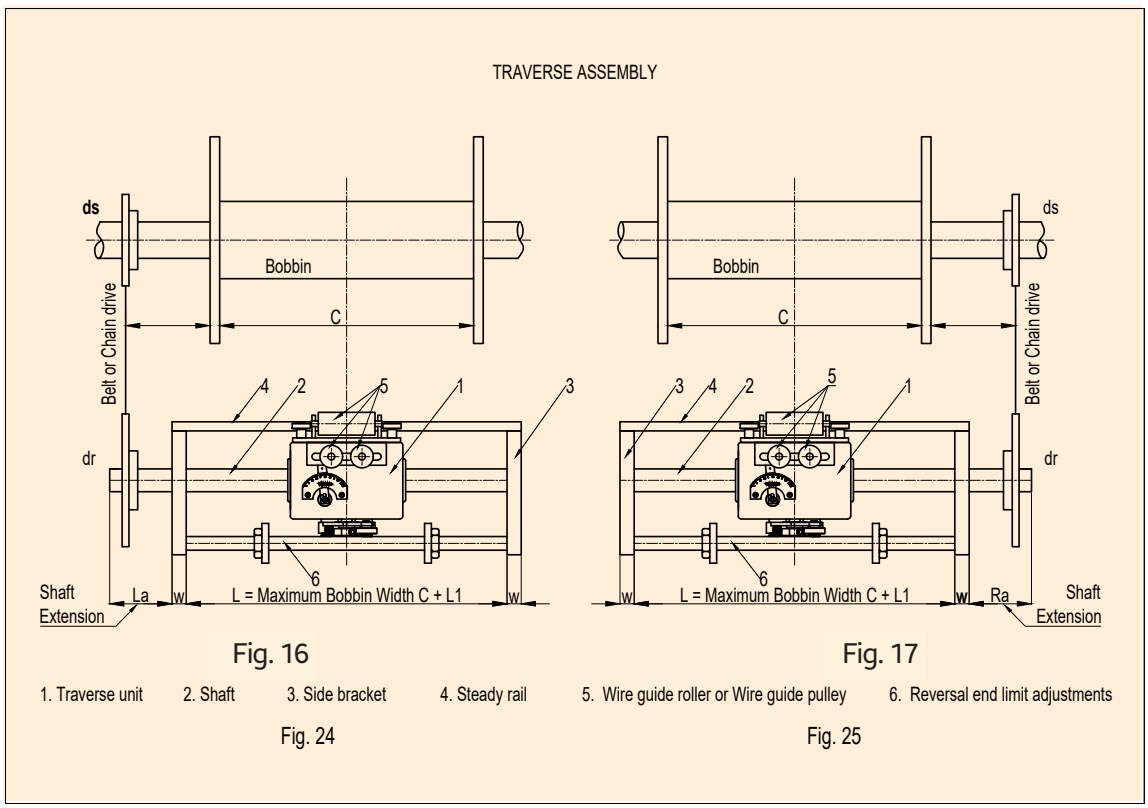


Fig. 16 Fig. 17

1. Traverse unit 2. Shaft 3. Side bracket 4. Steady rail 5. Wire guide roller or Wire guide pulley 6. Reversal end limit adjustments

Fig. 24 Fig. 25

Layer Winding

In layer winding, the speed ratio is determined based on the maximum width or diameter of the material.

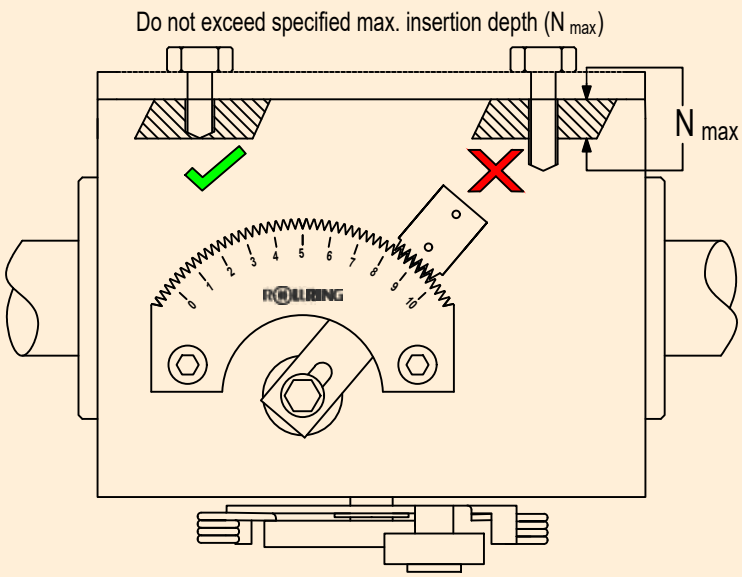
$$\text{Speed Ratio (dr/ds)} = \frac{0.95 \times \text{Maximum Pitch of the Traverse Unit}}{\text{Maximum dia or width of material}}$$

Maximum Insertion Depth of mounting bolt on traverse unit

To avoid operational issues, it is essential that the bolt length used for mounting guide assemblies does not exceed the specified maximum insertion depth. Exceeding this depth (N) can lead to several problems, including:

- Failure of the unit to reverse at end limits
- Reduced operational speed
- Inconsistent pitches between forward and reverse directions
- Potential damage to the reversal plate

Important: Refer to Figure 18 for the maximum insertion depth specifications applicable to different models.



MODEL	N max (mm)
HT1	5
HT2 / 4RR15	6
HT16 / 4RR16	6
HT3 / 4RR20 / HT22 / 4RR22	8
HT25 / 4RR25	10
HT3N / 4RR30	10
HT4 / 3RR40 / 4RR40	12
HT5 / 4RR50	14
HT6 / 4RR60	16
HT8 / 4RR80	24

Fig . 18

Installing the Traverse Unit on the Shaft

Installing the Traverse Unit on the Shaft

- Assemble the traverse unit onto the shaft by rotating the shaft.
- Set the pitch to the maximum
- Insert one end of the shaft into the traverse unit and continue rotating the shaft.
- To remove the traverse unit, simply rotate the shaft in the reverse direction.

Note: Chamfer the shaft end to 2 X 300 to prevent damage to the Rolling Rings during installation.

Direction of Shaft Rotation.

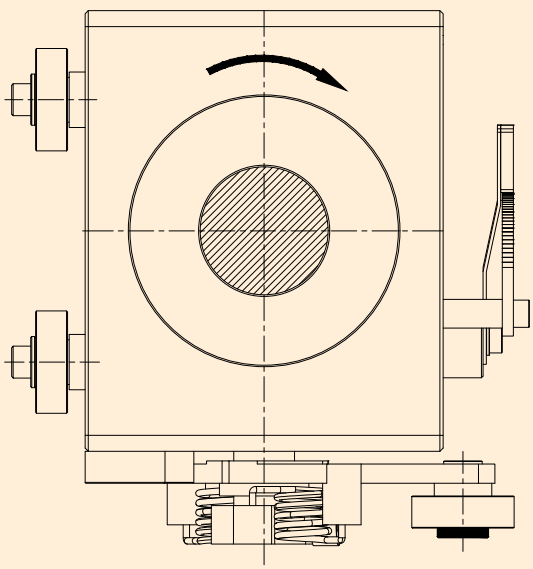
Traverse units are typically configured for **clockwise shaft rotation** by default, unless otherwise specified.

Below are two common orientations:

Top Towards (Clockwise Rotation)

In this setup, the traverse unit is configured with the bearing on the reversal lever pointing towards the speed setting dial. This configuration aligns with the default clockwise shaft rotation.

(Refer to Figure 20 for a visual representation.)



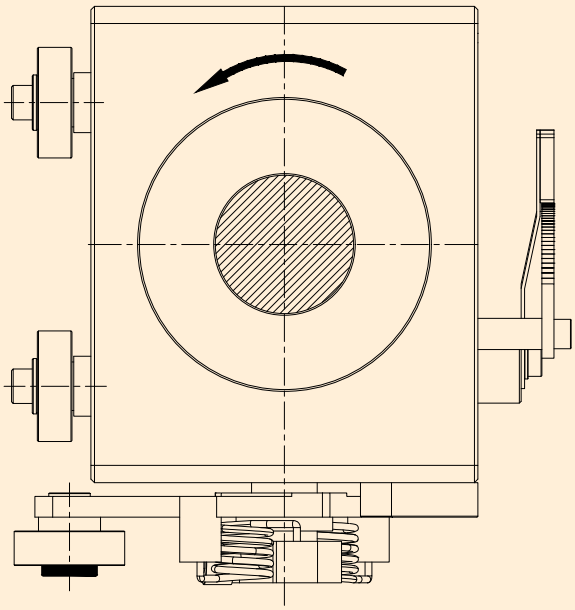
Top Towards

Fig. 19

Top Away (Anti-Clockwise Rotation)

For anti-clockwise shaft rotation, the traverse unit is configured differently. Here, the bearing on the reversal lever is positioned away from the speed setting dial to accommodate the anti-clockwise rotation.

(Refer to Figure 21 for a visual representation.)



Top Away

Fig. 20

Ensure the correct orientation during installation to match the desired rotation direction of the traverse unit. The accompanying photos and drawings should help guide the proper setup and alignment for your specific application

Modifying Traverse Unit for Shaft Rotation Direction

The traverse unit can operate in either the clockwise or counterclockwise direction of shaft rotation. It may be necessary to modify the reversal mechanism to match the shaft's rotation direction. This modification can be done easily without opening the unit. Follow these steps:

1.Remove the Release Lever

Loosen the bolt and detach the release lever.

2. Remove Springs and Reversal Lever

Carefully remove the springs and the reversal lever.

3. Detach the Striker Plate

Remove the striker plate from its current position.

4.Refit the Striker Plate on the Opposite Side

Mount the striker plate on the opposite side from where it was originally positioned.

5.Refit the Reversal Lever with a 180° Turn

Reattach the reversal lever after rotating it 180°.

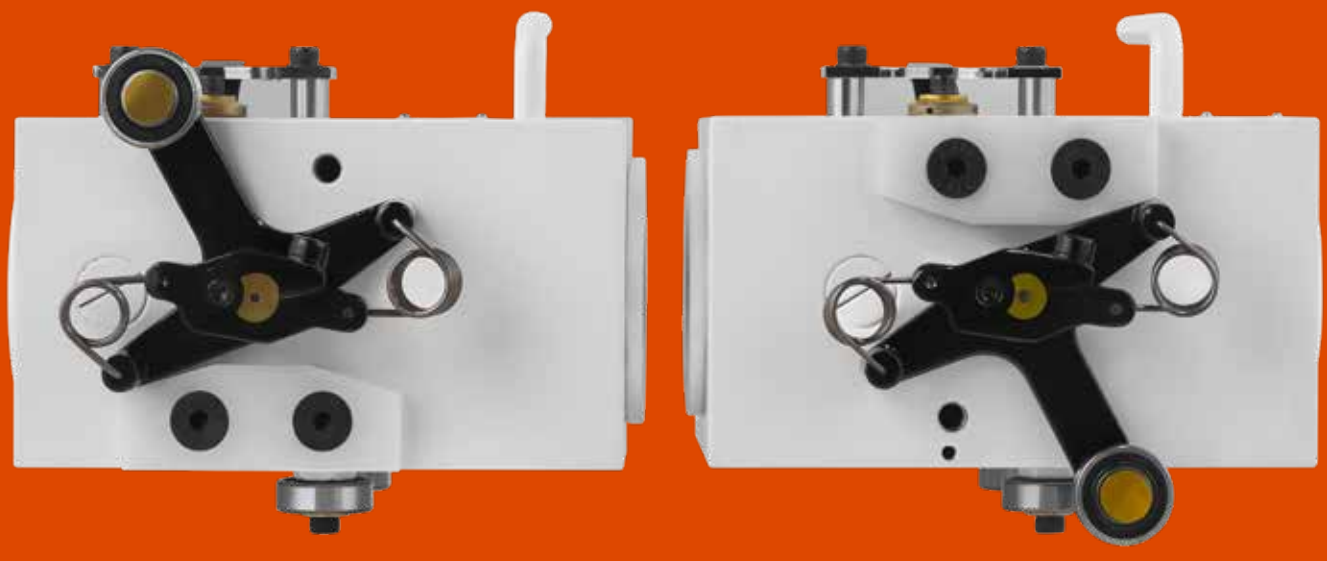
6.Reassemble Springs and Release Lever

Reinstall the springs and release lever. Ensure the spring lugs are not bent. Insert the spring long lug into the reversal lever and the short lug into the release lever.

7.Test the Reversal Lever Manually

Manually operate the reversal lever and listen for the knocking sound to ensure proper function. After completing these steps, your traverse unit will be ready to operate in the opposite direction of shaft rotation. Follow the instructions carefully to ensure a successful conversion without complications. (Refer to Figure 22 for a visual guide.)

Always adhere to the manufacturer's guidelines for proper usage and modification.



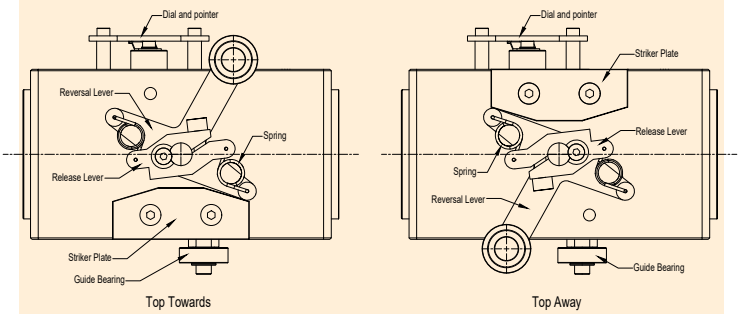
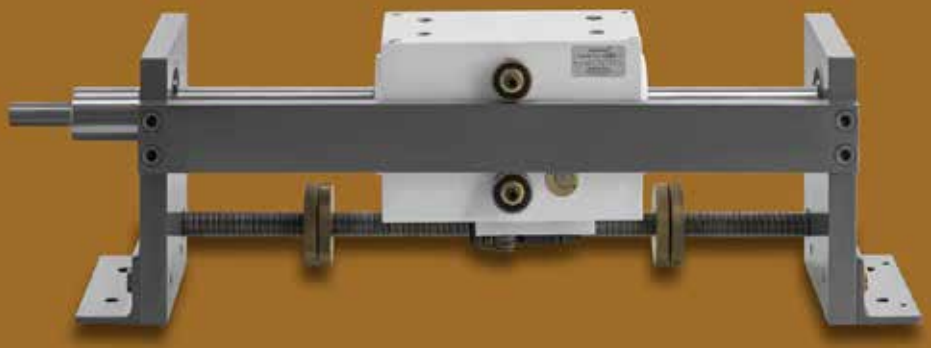


Fig. 21

Tailored to your precise requirements & specifications



TRAVERSE ASSEMBLY

Our traverse assemblies are meticulously designed to meet the specific needs of our customers.

Customization of Traverse Assemblies

Our traverse assemblies are expertly tailored to meet the unique needs of our customers, with several essential factors considered during customization:

1. Maximum Traverse Stroke Length

Our traverse assemblies are expertly tailored to meet the unique needs of our customers, with several essential factors considered during customization:

2. Guide Assembly Requirements

We can incorporate appropriate guide assemblies to match your application.

3. Load Carrier

We offer the option to attach a load carrier equipped with linear bearings to the Rollring assembly. This feature effectively reduces the direct load on the traverse unit, enabling it to handle substantial loads with ease.

Our commitment to customization ensures that you receive a traverse assembly perfectly tailored to your needs, whether you require extended stroke lengths, guide assemblies, or the ability to handle heavy loads.

Traverse Assembly Components

A traverse assembly typically includes the following key components:

1. Traverse Unit
2. Shaft
3. Mounting Brackets
4. Steady Rail
5. Guide Assemblies
6. Reversal End Limits

refer figure 16/17

When dealing with heavy loads, excessive winding tension, or guide overhang, it's advisable to incorporate a load carrier with linear bearings supported on guide shafts/rails for enhanced performance.

Shaft Specifications

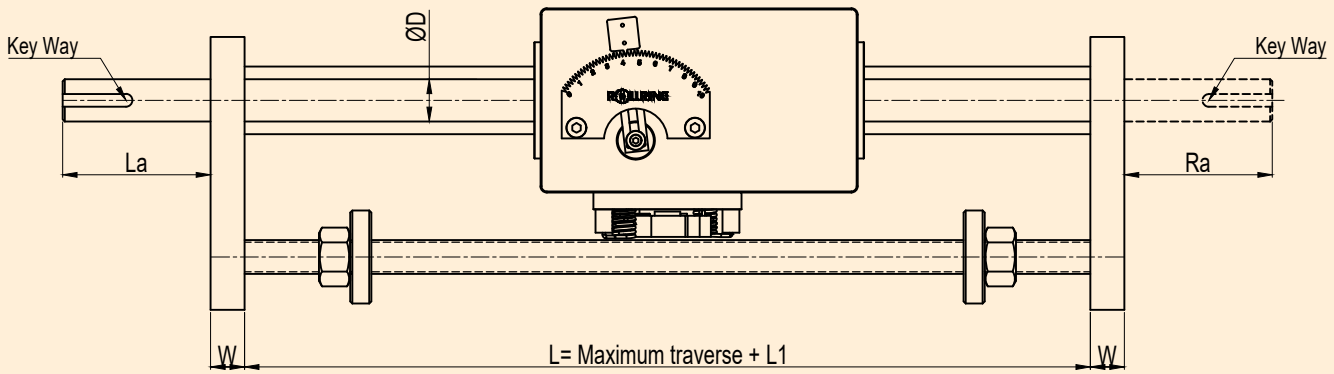
The shaft is critical for optimal performance and should possess the following attributes:

- Material: C45
- Shaft Straightness: Within 50µ per 300 mm
- Surface Hardness: 58 to 60 HRC
- Surface Finish and Straightness
- Tolerance on Diameter: g6
- Heat Treatment: High-frequency induction hardening
- Depth of Effective Hardness: 1 to 2.8 mm
- Corrosion Protection: Hard chrome plating

Shaft Length:

The minimum length between support brackets should equal the maximum stroke length plus L1 (where L1 relates to the length of the traverse unit).

(Refer to Figure 23)



Traverse Unit Model	HT1	HT2	4RR15	HT3 & HT22	HT16	4RR16	4RR20 & 4RR22	HT25	4RR25	HT3N	4RR30	3RR40	HT4 & 4RR40	HT5 & 4RR50	HT6 & 4RR60	HT8 & 4RR80
L1 (mm)	100	120	140	160	120	140	190	170	190	210	240	230	275	325	420	500

Fig. 22

Key Components

1. Guide Rail

Prevents the traverse unit from rotating on the shaft. Ensure that the guide bearing moves unhindered along the rail.

2. Mounting Bracket

Supports the shaft on a bearing.

3. Guide Assembly

The traverse unit's top side features four tapped holes for guide assembly mounting. Ensure the bolt length adheres to specifications to prevent damage.

4. Reversal End Limits

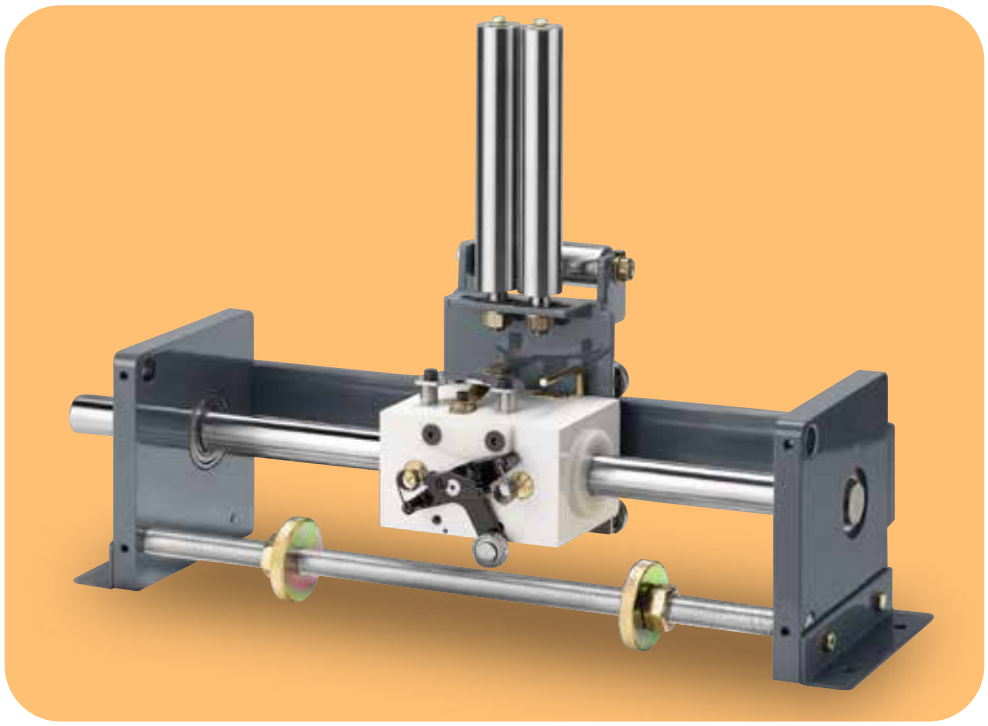
Use a threaded shaft with a nut or a plain shaft with an adjustable stopper to alter the stroke length.

Load Carrier

Reduces the load applied to the traverse unit, enabling it to handle heavy loads. This is particularly useful for applications with heavy guide assemblies, high tension, or twisting forces.

Types of Load Carriers

1. Bearing-Mounted Load Carrier:
A plate with four number radial roller bearings mounted on the traverse unit and supported by a rail. Suitable for normal applications.

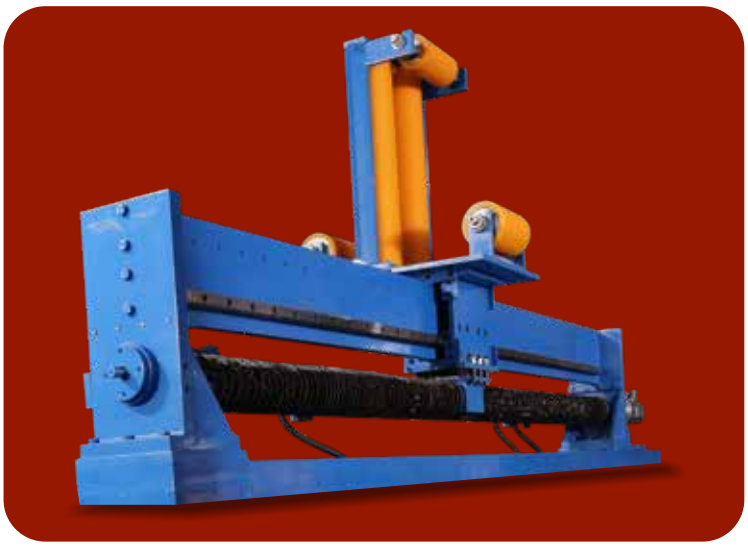


2. Load Carrier with Linear Bearing and Guide Shaft:

Features four linear bearings on a load carrier coupled to the traverse unit. Guide assemblies are mounted on the load carrier. Ideal for handling heavy loads.

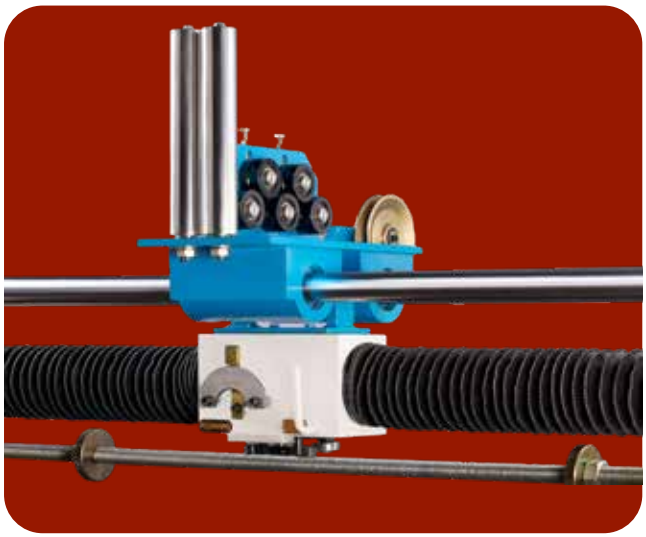
3. Load Carrier with LM Block and Rail:

Includes four LM blocks on two rails mounted on a machined plate. Suitable for very heavy loads.



4. Bellows:

Bellow-type covers are provided on the shaft to prevent dust accumulation, minimizing wear on the rolling rings and shaft. Specifically designed for dusty environments.



Specialised Configurations

• Vertical Traverse Assembly

For vertical take-up or winding, traverse units can operate on vertically mounted shafts. A load carrier with linear bearings and guide shafts is recommended for mounting wire guide pulleys. A counterweight equivalent to the traverse unit's weight is suggested to reduce the force required for upward movement.

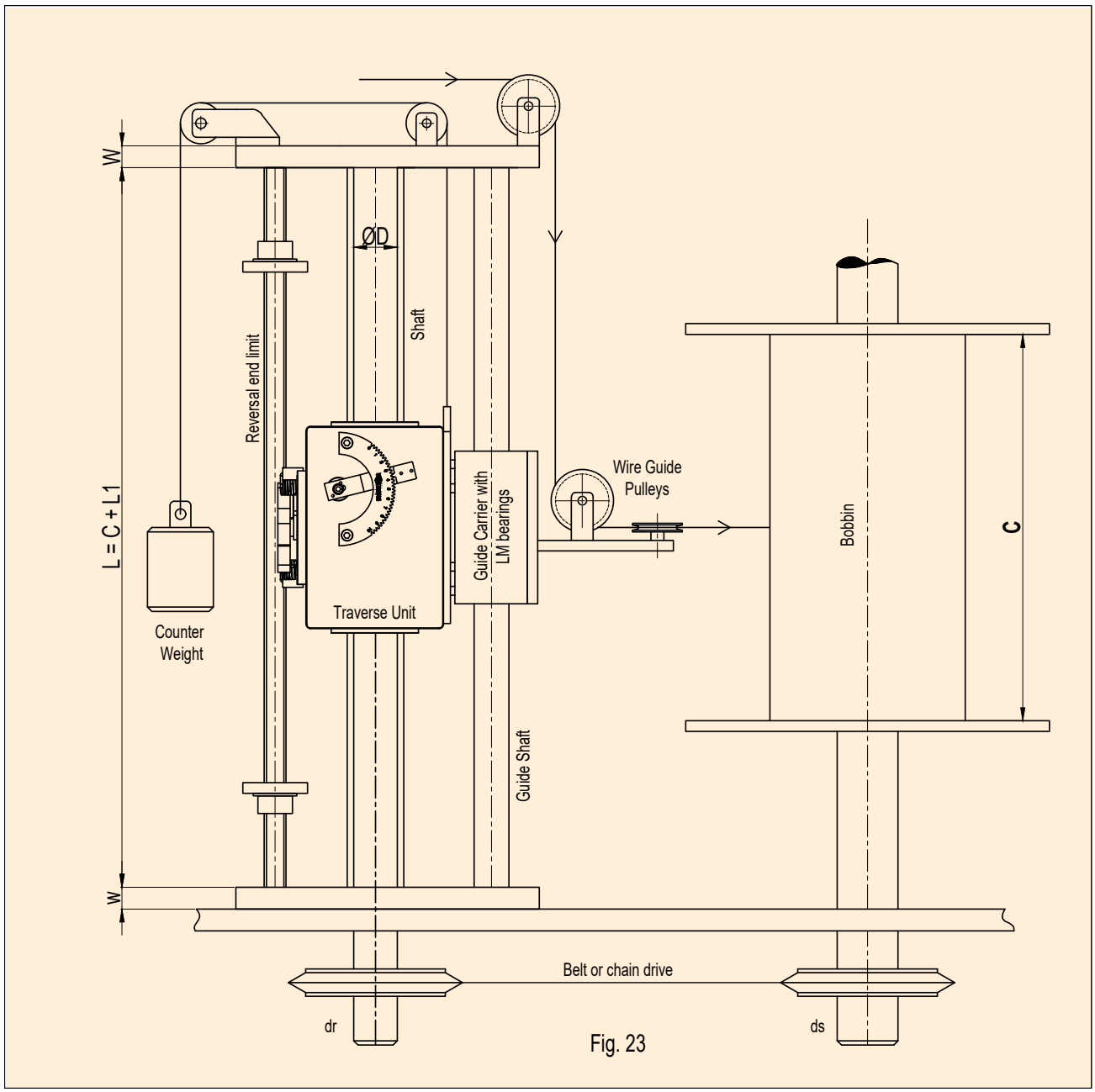


Fig. 23

- ### Traverse Assembly with Motorized End Limit Control

A small motor facilitates remote adjustment of traverse reversal end limit positions.

- ### Bi-conical Bobbin Winding

In bi-conical bobbin winding, end limits shift as needed during winding, with a PLC controlling the number of bobbin rotations. The stroke length increases based on wire diameter and bobbin taper, managed by a small PLC.

Note: Incorporating these components and considerations ensures optimal performance and adaptability of traverse assemblies across a wide range of applications.

Ball Screw Traverse Assembly

Our Ball Screw Traverse Assemblies are designed for both vertical and horizontal applications, accommodating various load types and optimizing traverse stroke and speed. Each assembly features

- ### Precision Rolled Ball Screw

Includes a matching nut.

- ### Load Carrier

Available with linear bearings and shaft or with LM block and rail.

- ### Drive Options

Choose between AC Motor or Servo Motor.

- ### Control Panel (Optional)

Includes a variable frequency drive for AC motor or servomotors, servo drive, PLC, and necessary accessories.

Maintenance

Lubrication

- **Shaft:**

Apply a very thin film of oil. Clean the shaft before application to ensure an even layer. In dusty environments, clean and reapply oil every shift to prevent dust accumulation, which can cause wear on the rolling rings and shaft. For severe conditions such as high dust, corrosive environments, or extreme temperatures, more frequent lubrication is recommended.

- **Reversal Mechanism:**

Lubricate the springs and reversal lever weekly with high-viscosity oil (SAE 90 or equivalent). Increase the frequency of lubrication in dusty environments to prevent spring breakage.

- **Spring Replacement:**

Ensure the longer end of the spring is inserted into the reversal lever.

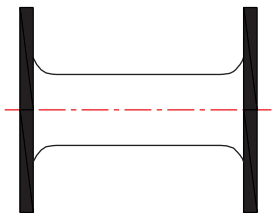
- **Side Thrust:**

Traverse units are pre-set for side thrust. If wear on the rolling rings or shaft occurs, the unit may slip or fail to reverse at the end limit. A slotted screw is located on the bottom side of the unit (near the reversal mechanism); tighten this slowly with a screwdriver to adjust side thrust. Avoid overtightening. If wear is significant, replace the rolling rings.

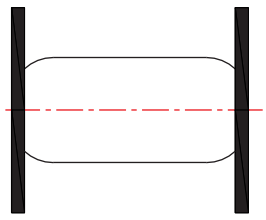
Servicing

We offer repair and service for our traverse units. Units can be sent to our factory for servicing. Please contact us for any service requirements or assistance.

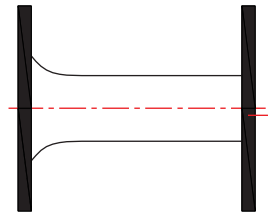
Winding Problems



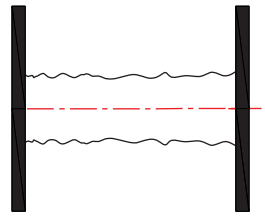
- Stroke length setting too wide
- Low side thrust
- Long overhang of guide assembly
- Wire tension too high
- Groove of guide pulley or gap between vertical rollers too wide
- Lateral play of guide pulley/roller



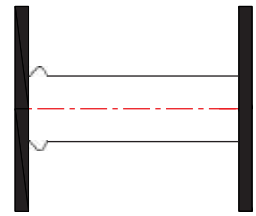
- Stroke length very short
- Material guide is very elastic
- Significant difference between barrel and flange diameter of bobbin
- Wide flat material does not reach the flange



- Traverse unit weakened due to wear of rolling components or shaft
- Wire tension too high
- Asymmetrical installation
- Attention needed to pressure screw position when traverse is vertically installed
- Variations in bobbin width; flanges not parallel



- Traverse unit slips
- Wire tension varies or is too low
- Pitch symmetry is misaligned
- Distance between traverse and spool too wide
- Gide system not suitable
- Material to be wound not stress relieved
- Pitch setting below 1(on dial)



- Pitch setting below 1 (on dial)

ROLLRING INDUSTRIES

Trusted by a global network of clients

Exported to over

50

Countries.

For inquiries, please feel free to reach out to us via WhatsApp /Phone /Mail

Krishnakumar V K +91 9846090164, +918606076607, krishnakumar@rollring.com
Arun Krishnakumar +91 9074342141, arun@rollring.com
Factory +91 9074340488, +91 9074781437, sales@rollring.com
rollringindustry@gmail.com

ROLLRING™ INDUSTRIES

46/2137 & 2139, Major Sandeep Unnikrishnan Road,
Kozhikode 673655, Kerala, India

Scan for website

Explore our innovative solutions at
www.rollring.com

MAKE IN INDIA