

# TESTING MACHINE FOR TORQUE LIMITERS 020



**BONDIOLI  
& PAVESI** 

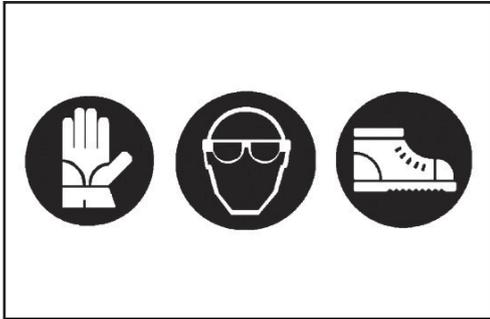
© BONDIOLI & PAVESI SpA

No part of this manual may be reproduced  
without specific permission from Bondioli & Pavesi.

All data and codes contained in this catalog replace and supersede any information given by previous publications. Consequently data provided in previous publications may no longer be valid. Bondioli & Pavesi reserves the right to change specifications without prior notice or obligation.

**Operator's manual**  
**TESTING MACHINE FOR**  
**TORQUE LIMITERS**  
**020**

# Safety and conditions of use



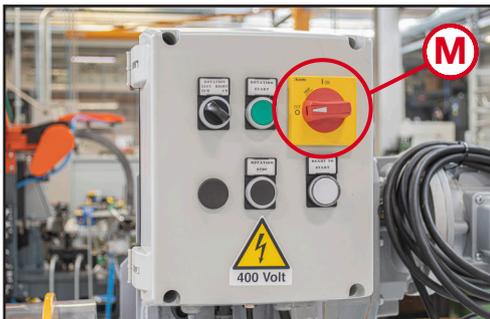
Always wear adequate safety equipment when using the machine or performing any maintenance or repair work.



Before starting the machine, make sure that the torque limiter to be tested and the counter-support are correctly fastened and secured and that the fixed and movable guards are closed correctly.



Only start the machine when the fixed and movable guards have been closed correctly.  
Stop the machine and wait for it to stop completely before opening the fixed and movable guards.  
Do not enter the area inside the guards when the machine is running or switched on.  
Switch off the machine and disconnect the power supply before performing any maintenance or repair work.



In the event of an emergency, set the main switch (M) to "0".  
The stop button has priority over all the other buttons and completely blocks the machine preventing it from being accidentally restarted



The warning plates provided for safety reasons must not be removed, covered or damaged in any way. They must be clearly visible and legible. Any damaged plates must be replaced with new ones.  
A failure to comply with this obligation will render the warranty null and void and the buyer shall assume full responsibility for this.

# Safety and conditions of use

---



The end user is responsible for:

1. Informing employees of residual risks.
2. Providing the necessary training
3. Indicating, if considered necessary, the need to wear personal protective equipment (PPE).

Bondioli & Pavesi declines all responsibility for a failure to observe the above recommendations regarding residual risks.

# Torque limiter testing machine

---

398038101

Complete torque limiter testing machine

The machine can be used to perform a programmed test cycle on any torque limiter with a setting of up to 4,500 Nm. The test cycles are performed at a rotational speed of 2 min<sup>-1</sup>.



# Torque limiter testing machine

## TYPES OF TORQUE LIMITERS THAT CAN BE TESTED



### ONE WAY RATCHET TORQUE LIMITERS SA - LN - LC - LT

A ratchet torque limiter is a device able to interrupt the transmission of power in the event of a torque peak or overload that exceeds the setting. The torque limiter is automatically re-engaged after the cause of the overload is removed. Ratchet torque limiters are generally employed to protect implements subject to constant or alternating torques from overloads.



### AUTOMATIC TORQUE LIMITER LR

This device interrupts the transmission of power when the torque exceeds the setting. To automatically re-engage the device, slow down or stop the PTO. This device is sealed, no additional lubrication is required.



### ADJUSTABLE FRICTION TORQUE LIMITERS FV - FFV

The torque transmitted to the machine is limited by allowing the clutch plates to slip relative to each other. Torque peaks or short duration overloads are limited when the clutch is used and adjusted properly. It can be used as an overload clutch, or to help start implements with high inertial loads. The setting can be adjusted by modifying the working height of the springs.



### NON-ADJUSTABLE FRICTION TORQUE LIMITERS FT - FK

The torque transmitted to the machine is limited by allowing the clutch plates to slip relative to each other. Torque peaks or short duration overloads are limited when the clutch is used and adjusted properly. It can be used as an overload clutch, or to help start implements with high inertial loads. The FT has a metal band around its circumference. Avoid excessive tightening of the bolts - implement, tractor, or driveline damage may occur. The FK clutch has bolts with cap nuts. The spring compression is correct when the nuts are fully screwed on.



### ADJUSTABLE INCORPORATED OVERRUNNING CLUTCH FRICTION TORQUE LIMITERS FNV - FFNV

A clutch which combines the functional characteristics of friction clutch and an overrunning clutch. Used on machines with high inertial loads.

# Torque limiter testing machine

---



## NON-ADJUSTABLE INCORPORATED OVERRUNNING CLUTCH FRICTION TORQUE LIMITERS FNT

A clutch which combines the functional characteristics of friction clutch and an overrunning clutch.

Used on machines with high inertial loads.

# Torque limiter testing machine

## MACHINE EQUIPMENT

397401000R

Counter-supports



Code

Maximum torque

397401001R

1500 Nm

397401002R

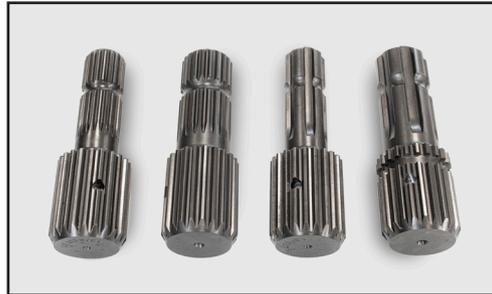
3000 Nm

397401003R

4500 Nm

397400000R

Shafts



Code

Dimension

397400001R

1-3/8" Z6

397400002R

1-3/8" Z21

397400003R

1-3/4" Z6

397400004R

1-3/4" Z20

USB pen drive



Code

Contents

397402001

Test bench licence

397402002

CE manual  
Operator's manual  
Operating software

# Torque limiter testing machine

## PROCEDURE FOR USE WITH HALF-SHAFT MOUNTED



1. Select the splined shaft corresponding to the attachment profile of the torque limiter to be tested.



2. Insert the splined shaft into the PTO.



3. Fasten the splined shaft to the PTO by tightening the socket screw.



4. Select the counter-support according to the torque to be tested. (This procedure cannot be used with counter-support 397401003R).



5. Put the support onto the two removable pins and fasten it with the special hook.

# Torque limiter testing machine



6. Insert the torque limiter into the counter-support and slide the support until it fits onto the splined shaft.



7. Block the two removable supports using the two orange handles.



8. Keep the half-shaft in a horizontal position by using a support and securing the end to guarantee the operator's safety.



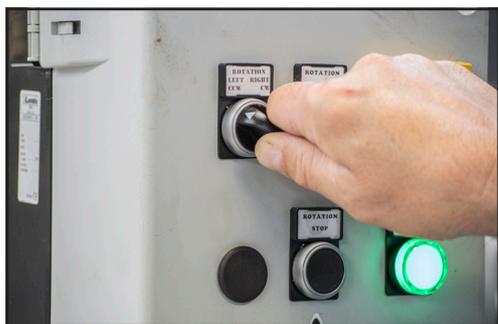
9. Close the movable guard.



10. Connect the machine cable to the PC and insert the USB pen drive. The PC is not supplied with the machine.

# Torque limiter testing machine

---



11. Using the special lever, select the direction of rotation.



12. Hold down the green button for a few seconds to start calibration.



13. Press rotation stop to stop calibration. Press rotation stop to stop calibration.

We recommend checking the torsionmeter calibration every 2 years on Bondioli & Pavesi premises.

# Torque limiter testing machine

## PROCEDURE FOR USE WITH HALF-SHAFT REMOVED



1. Select the splined shaft corresponding to the attachment profile of the torque limiter to be tested.



2. Insert the splined shaft into the PTO.



3. Fasten the splined shaft to the PTO by tightening the socket screw.



4. Put the torque limiter on the splined shaft.



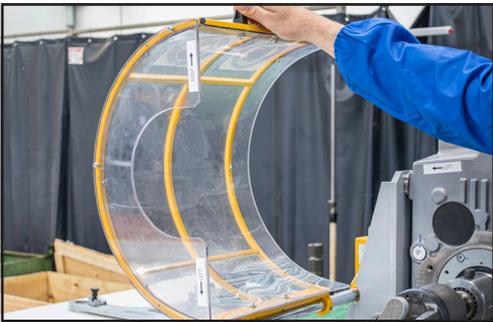
5. Select the counter-support according to the torque to be tested.

# Torque limiter testing machine

---



6. Put the support onto the two removable pins and fasten it with the special hook.



7. Close the movable guard.



8. Press the start button several times to phase the torque limiter with the counter-support.



9. Slide the counter-support until it reaches the space between the two yoke ears. Make sure that both ears touch the support.



10. Block the two removable supports using the two orange handles.

# Torque limiter testing machine



11. Connect the machine cable to the PC and insert the USB pen drive. The PC is not supplied with the machine.



12. Using the special lever, select the direction of rotation.



13. Hold down the green button for a few seconds to start calibration.



14. Press rotation stop to stop calibration.

We recommend checking the torsionmeter calibration every 2 years on Bondioli & Pavesi premises.



398CDS003EN00-0520  
