

THANKS FOR YOUR PREFERENCE TO BINOTTO!

Ensure that only fully trained, highly professional and qualified personnel having technical expertise install, repair or service this equipment, otherwise serious damage and/or injury or death can occur.

Work safe, use proper lifting equipment, support the body with a **body prop** when working under a raised body.
The cylinder is made for lifting purposes only and must not be considered as a body stabilizer.

- 1. Strictly comply with all the mounting dimensions as per Binotto official data sheet.
- 2. Always refer to the updated Binotto technical data sheet, for maximum extension speed and other specifications of the cylinder.
- 3. Apply a reinforced profile or a rigid lifting plate for mounting the lifting brackets (Fig. 1).
- 4. See the cylinder data sheet for the minimum distance between the support cross members (Fig. 2). Avoid laying the brackets on any frame plate and leave at least 10mm space at the bottom (Fig. 2a). Install the brackets in order to have the point of support only on top.
- 5. Keep at least 1 mm clearance (per side) between cylinder and brackets to avoid friction during rotation/extension of the cylinder.
- 6. Use all bolt holes of the brackets. Use quality bolts (Tab. 1 for recommendations) with self-locking nuts and flat washers over the slotted hole in the bracket.
Nuts and washers should be on the bracket flanges. If the space is not enough, they can be reversed.
- 7. Nuts and washers always on the bracket flange, when tipping weight is above 50 tons.
- 8. Fit bolts in corners of slotted holes when tipping weight is above 50 tons (Fig 3).
- 9. Do not mount lifting brackets upside down, when tipping weight is above 50 tons (Fig 4).
- 10. Apply grease on the cylinder pins for corrosion prevention and for initial fit.
- 11. Remove excessive grease.
- 12. Ensure the Binotto plastic cap is fitted on the top to protect cylinder from dirt and moisture.
- 13. Always use good quality hydraulic oil (Tab. 2).
- 14. Mount the cylinder along the longitudinal centre line of the body.
- 15. Mount the cylinder exactly vertical.
- 16. For MFC the maximum forward fitting angle depends on the length of the cover (Fig. 5).
- 17. For MF (spherical top eye) the maximum angle is 30° (Fig. 6).
- 18. MFC cylinders fitted straight (0°) can be supported by a welding rubber on the tipper body to reduce rattling.
- 19. MFC cylinders fitted under an angle cannot be supported in this way;
- 20. They also rotate with the cover towards the body when tipping. Make sure the cover will not touch the body and in general that the cylinder (MFC or MF type) can rotate free from any obstacle.
- 21. For MF cylinders, ensure the bearing has enough working space (2x6°).
- 22. If necessary, use filler rings to reduce that space (bearing inclination shall not exceed 6°).
- 23. Maximum backwards angle of rotation during tipping operation is 29°.
- 24. Mount front-end cylinder with a minimum pull out of 15 mm and a maximum pull out of 25 mm. The closed length of the front-end cylinders on the Binotto data sheets already includes pull out (20 mm for MFC).
- 25. Do not wash cylinders with high pressure jet cleaner.
- 26. Never exceed the maximum working pressure of the cylinder.
- 27. Store cylinders carefully and keep them clean and in closed position. Hydraulic cylinders as well as any other component of the tipping kit must be kept indoors, in an environment that is protected from physical damage and atmospheric agents, dust, humidity and extreme temperature. Make sure that plugs or closures are properly installed in all ports to keep out moisture and dirt. Avoid to over tighten port plugs. Grease the oscillating and not painted parts especially in case of long-term storage (longer than 3 months).
- 28. The grease must be oil based.

ADVICES: Protect the hydraulic circuit by a pressure limiter and a filter.
In case of replacement, drain and clean the hydraulic circuit and refill tank with new clean hydraulic oil before you install the new cylinder.

Table 1. Recommended torque of bolts

Type	Size	DIN	Quality	Torque
Bolt	M12	931	8. 8	80 Nm
Nut	M12	985	8. 8	80 Nm
Bolt	M16	931	8. 8	210 Nm
Nut	M16	985	8. 8	210 Nm

Table 2. Oil recommendations

Environmental Conditions (°C)	ISO VG CLASS
Less than -40°C	10
Siberian Winter (to -10°C)	15
North European (from -18°C to +5°C)	22
South European (from 0°C a +25°C)	32
Middle East (40°C-50°C)	46
“Hard” Middle East (>50°C)	68

Complete instruction **manuals and video** aided instructions are available on www.binotto.com.
Register on-line to access to the Operators’ Reserved Area. Subject to change without notice.

Binotto SHORT MOUNTING
INSTRUCTIONS AND
RECOMMENDATIONS
Front cylinder (MFC & MF types)

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