

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.

- When at rest the body must not be supported by the closed cylinder: mount cylinder with a minimum pull out of 15 mm and a maximum (recommended) of 25 mm.
 - Always refer to the updated Binotto technical data sheet, for maximum extension speed and other specifications of the cylinder.
 - We recommend to mount cylinders in a cradle, to protect the cylinder (Fig. 1).
 - 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).
 - Normally, especially for 3way tipper application, we recommend to mount the underbody cylinder in the middle of the body (Fig. 2); For rear application, according to the chassis and body design it is possible to mount it in front of the centre of gravity of the body.
 - The underbody cylinder must be vertical when the body is lowered.
 - Where an end of stroke device is to be used, remember to allow 150mm-200mm of unused stroke.
 - Strictly comply with all the mounting dimensions as per Binotto official data sheet. See the cylinder data sheet for the minimum distance between the support cross members and allow for rotation of the cylinder during tipping (rotation is approximately half the tipping angle).
 - Make sure that, during cylinder extension, the cylinder and the cradle can rotate free from any obstacle.
 - Always protect the cylinder from welding spatter and other foreign matter.
 - Carefully clean oil tank and pipes.
 - Fit suitable filter and pressure relief valve in the hydraulic system.
 - Always use good quality hydraulic oil (Tab. 2).
 - Do not wash cylinders with high pressure jet cleaner.
 - Never exceed the maximum working pressure of the cylinder.
 - Check that the tipping angle is not excessive.
 - When welding do not use the cylinder as an earthing point.
 - When mounting the cylinder in chassis brackets, make sure the oil inlet is facing the right direction for connecting to the hydraulic system.
 - Always ensure there is a clearance of 2 mm between the cradle and the brackets.
- As a guide for the distance between the cross members (M) use:
- cradle width + 2 x (width of chassis bracket + 2 mm clearance), for open welded brackets (Fig. 3);
 - cradle width + 2x (2mm clearance), for closed bolted brackets (Fig. 4).

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

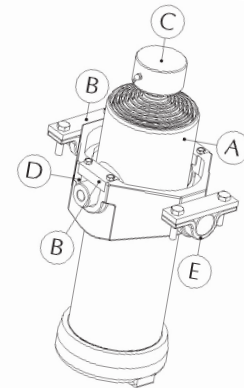
Environmental Conditions (°C)	ISO VG CLASS
Less than -40°C	10
Siberian Winter (to -10°C)	15
North European (from -18°C to +5°C)	22
South European (from 0°C a +25°C)	32
Middle East (40°C-50°C)	46
"Hard" Middle East (>50°C)	68

Binotto SHORT MOUNTING INSTRUCTIONS AND RECOMMENDATIONS

Underbody cylinder

QI • Rev. K • 03_2025

Fig. 1



- A = cylinder
- B = closing plates
- C = ball socket
- D = cradle
- E = brackets

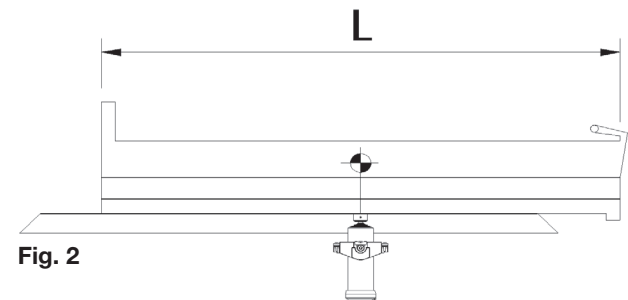


Fig. 2

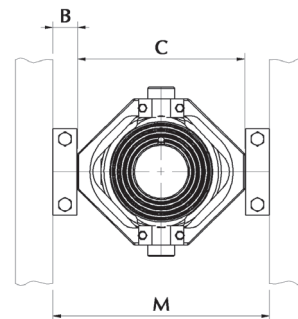


Fig. 3

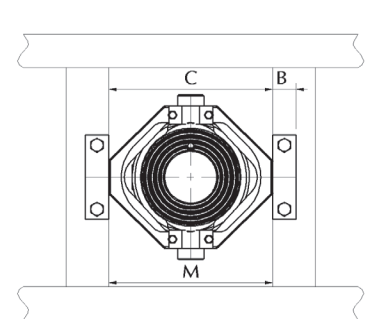


Fig. 4

HORIZONTAL CROSS MEMBER SPACING (Open and closed brackets)

- B = BRACKET WIDTH
- C = CRADLE WIDTH
- M* = MINIMUM CROSS MEMBER SPACING (INC. 2MM PLAY)

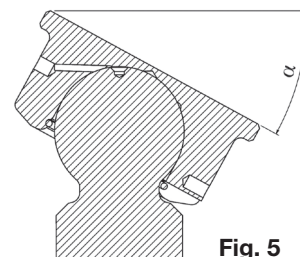


Fig. 5

Never exceed max inclination recommended in the Binotto cylinder datasheet