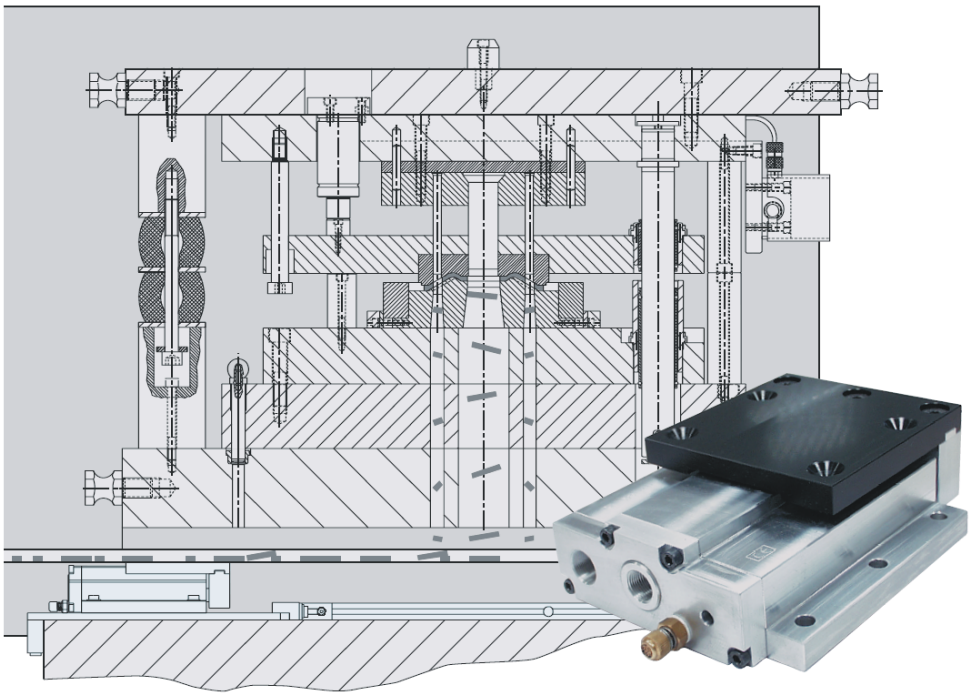




TECAPRES®



PNEUMATIC PART CONVEYOR
TPTN-18 / TPTN-25 User Guide

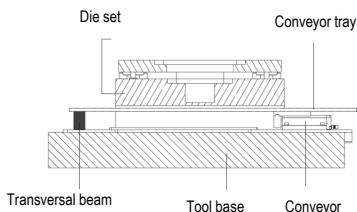
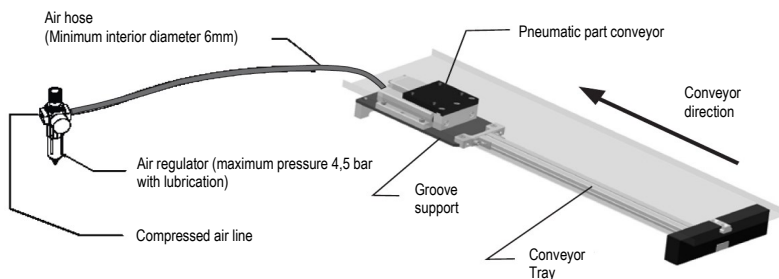


Pneumatic part conveyor User guide

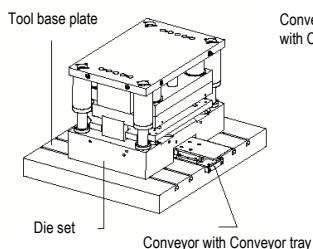
Foreseen use:

The TPTN pneumatic part conveyor is exclusively designed for industrial applications. Its use in non-industrial applications is strictly forbidden. With the TPTN pneumatic part conveyor, several parts, particularly stamped parts, are moved by means of a conveyor tray. The equipment takes advantage of the superficial friction between the parts that are conveyed and the tray itself. This equipment works with lubricated compressed air and needs a conveyor tray, a tray support, and an air connection that is regulated at a maximum of 4.5 bar. The direction in which the parts are conveyed is always towards the side of the air connection.

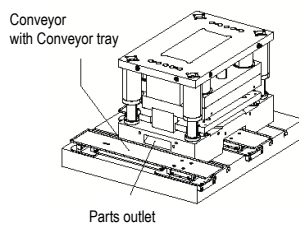
The following graph illustrates the layout of this equipment:



Section view of a stamping tool with parts outlet and conveyor with its tray.



Stamping parts are conveyed from the outlet to the scrap heap bin.



Parts from stamping are conveyed laterally away from the tool to the scrap heap bin.

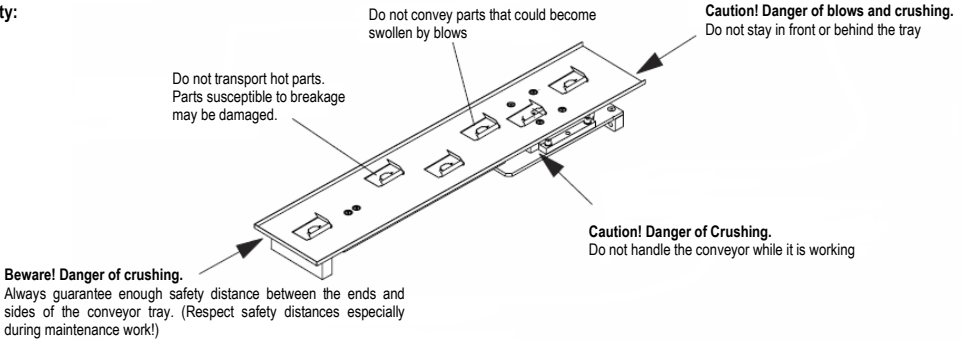
In the beginning conveyor capacity depends on the surface of the parts that are conveyed, on the tray surface and on the adjusted stroke frequency. Conveyor transport capacity with the conveyor tray is indicated in catalogue specifications.

In order to prevent tool breakage and other defects due to a pneumatic conveyor stop during the automatic manufacturing process, a control device has to be foreseen that transmits a signal that initiates a tool emergency stop in case of unit malfunction or stoppage.

In order to obtain a long service life without breakdowns, the unit has to be properly handled and all the assembly instructions described in this manual should be observed.

Pay attention to the following safety indications, as an inadequate use may cause injury to people and damage to the equipment and other things.

Safety:



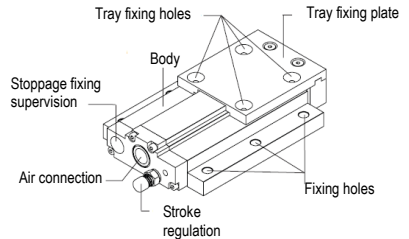
Conveyors must be fixed on to the tool in such a way they are protected by safety devices such as protection grids.

Assembly:

The pneumatic part conveyor is composed by a moving plate, on which the conveyor tray is fixed. The conveyor is connected to the air mains (maximum 4.5 bar) through a R3/8" connection that can be regulated by a pressure regulator with a lubricator. The interior diameter of the connection hose should be 6 mm minimum, otherwise the unit will malfunction because of insufficient air flow.

There can only be one conveyor per pressure regulator.

Upon initial functioning add some drops of oil to the air connection. Fix the conveyor with at least 4 M8 screws to the substructure (tool base plate). The screws are to be equipped with a safety washer.



The construction of the substructure should be dimensioned in such a way that the support surface is flat and without misalignments.

Fix the conveyor tray with four countersunk screws on the tray support plate.

Make sure the length of the screws, depending on the thickness of the tray plate plus that of the base plate, have adequate dimensions so that the screw ends do not stick out over the tray.

The longer the conveyor tray plate is, the more wear and tear the equipment will have to undergo.

By holding the edges, plates with thicknesses below 1mm can have a higher rigidity.

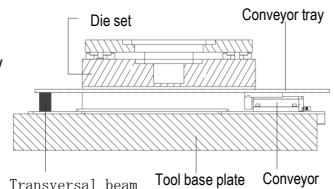
Tray weight must not exceed 3 kg.

Use supports in the front and back areas to project the conveyor tray from vibrations or leaning. Only extremely short trays (length of the device + 100 mm), which are very light, do not require supports.

The tray support assembly must avoid interfering with the conveyor guide

The conveyor tray must not become bulged.

The figure on the right illustrates the installation of a conveyor tray support.





Safety distances as shown in the figure imply the corresponding safety installations that exclude the possibility of blows or crushing.

Henceforward safety distances in accordance with DIN EN 349 should be respected .

Stroke distance should be taken into account when carrying out conveyor assembly.

It is for this reason that the tray should not be placed too near possible obstacles. Stroke distance may increase due to the weight of the tray - be especially careful with this.

Conveyor speed will depend on stroke frequency. The conveyor can be regulated from 40 strokes/min. up to 140 strokes/min. for (TPTN-18) and 180 strokes/min. for (TPTN-25) approximately. Depending on the form of the pieces to be conveyed, optimal transport speed may be determined by trying out different stroke frequencies.

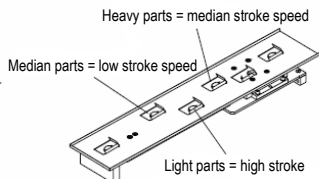
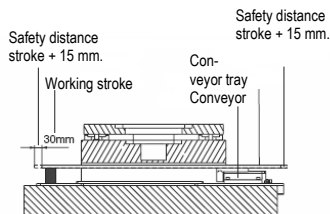
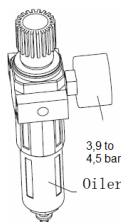
A high stroke frequency does not necessarily produce a higher transport speed. An excessively high stroke frequency may even lead to the cancellation of transport, with the pieces simply vibrating on the tray.

Stroke frequency regulation is carried out by means of the adjustment screw placed at the front of the conveyor.

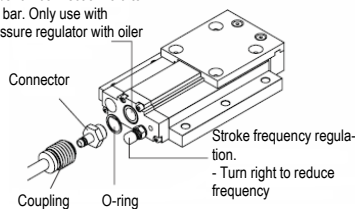
Connect the air mains to the necessary connection elements.

Adjust the pressure regulator from 3.9 up to a maximum of 4.5 bar and fill it with oil.

Use only appropriate oil for the compressed air. We recommend approximately 1 drop of oil per minute for 60 strokes.



R 3/8" air connection. 3.9 to 4.5 bar. Only use with pressure regulator with oiler



Incorrect functioning:

The conveyor plate does not move:

- check air supply and check that the pressure is correct (3.9 to 4.5 bar)
- check the inside diameter of the air hose (6 mm)
- check the oiler of the pressure regulator (if necessary apply a drop of oil on the air connection)
- check that the conveyor tray moves freely or if it is blocked or lopsided.

Stroke frequency cannot be regulated correctly:

- If the conveyor has not been used for some time, we recommend an empty running period of about 10 minutes.

The conveyor stops after some time in use:

- Lubrication is not enough (check the oiler). Before starting the conveyor apply a little oil in the air connection.

Maintenance:

Operate the conveyor only with the pressure regulator and oiler!

Optimum oiling is to be guaranteed by the pressure regulator. Adjust necessary lubrication according to the stroke frequency used.

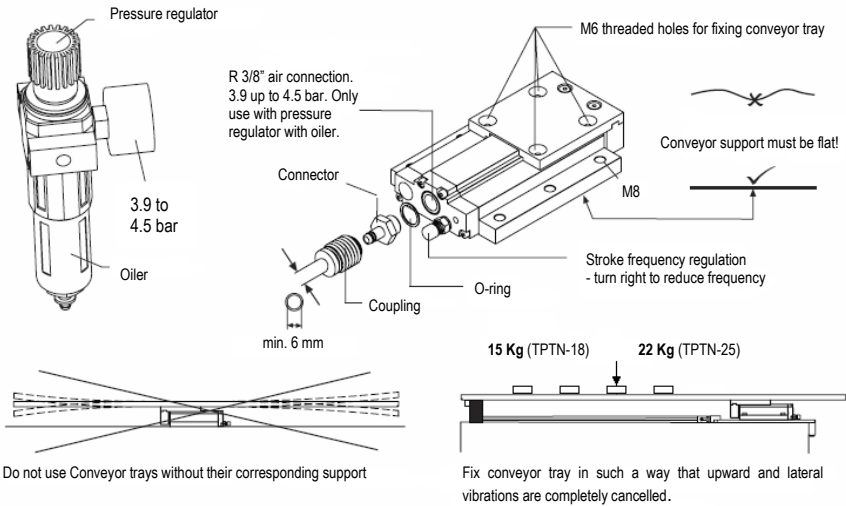
Amount guidance: 1 drop of oil per minute for 60 strokes per minute.

Use emulsified and very fluid oil to guarantee optimum oiling. Clean the pressure regulator water separator every day.

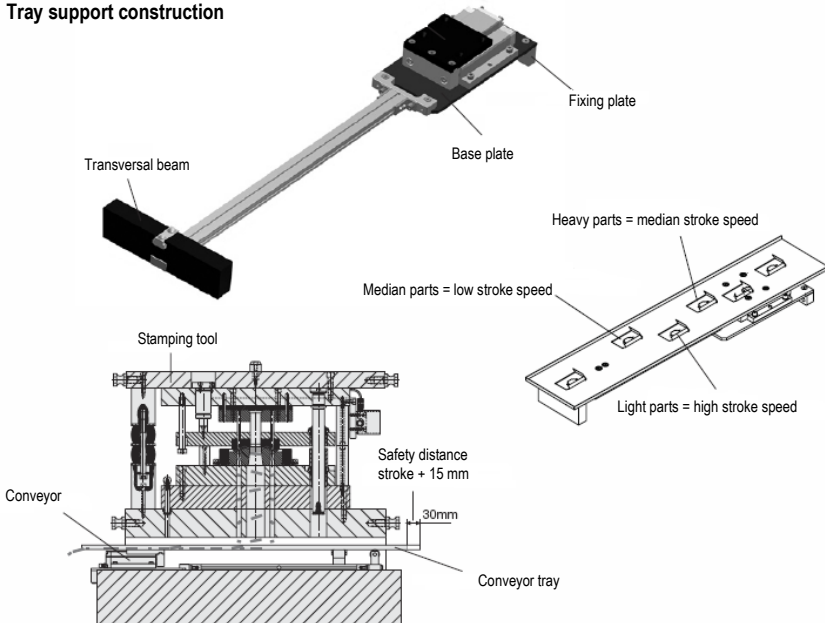
Do not use the pneumatic part conveyor subjecting it to high temperatures, as this can alter lubrication and damage the closing seals .

The conveyor has been adjusted by the manufacturer, for this reason it should not be opened.

Assembly instructions



Tray support construction





Spare parts list:

1. Body
2. Lid
3. Fixing plate
4. Tray fixing plate
5. Connection piece
6. Piston rod
7. Stroke stop
8. Valve head 1
9. Valve head 2
10. Guiding column
11. Shell
12. Spring stop
13. Valve stem 1
14. Valve stem 2
15. Spring sleeve
16. Support
17. Valve seal
18. Guiding column o-ring
19. K.Pole o-ring
21. VM ring
22. Lid seal
23. Body seal
24. Backward compression spring
25. Frontwards compression spring
26. Preassure column spring
27. Cylindrical head screw
28. Cylindrical head screw
29. Cylindrical head screw
30. Cylindrical head screw
31. Countersunk screw
32. Countersunk screw
33. Absorbing plate
34. Regulating valve

