

TBDQ PNEUMATIC THREE-WAY

OPERATION MANUAL



江苏中天农牧机械有限公司

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Important instruction:

1 This manual detailedly describes TBDQ series pneumatic three-way of each system structure, function and use and maintenance method. Before installation and use of the machine , customer should read the manual, and have a full understanding of the ministries and its structure and function ,then have operation and maintenance of the machine. Due to the continuous improvement of product structure, after a certain time period, the manual of narrative content and the actual situation of the products will have small changes. Users should pay attention to it.

2 Please propose your advice to us for melioration when finding quality problem or others. Thanks !

1 APPLICABLE SCOPE AND PERFORMANCE FEATURES

TBDQ Pneumatic Three-way is mainly used for the switching of bulk materials in the spouts during the flow in the grain, food, feed, oil and chemical products processing industries. It is an indispensable equipment for production process to realize automatic control.

This equipment has features of simple structure, fine appearance, sensitive motion, stable and reliable working, convenient operation and control. Two types, obverse three-way and side three-way, are available.

2 MAIN TECHNICAL SPECIFICATIONS

See Table 1 for main technical parameters.

Table 1 Main Technical Parameters

Model Parameters	TBDQ 20×20×30°	TBDQ 20×20×45°	TBDQ 25×25×45°	TBDQ 32×32×45°	TBDQ 40×40×45°	TBDQ 50×50×45°	TBDQ 60×60×45°	TBDQ 80×80×45°
Cylinder Dia. (mm)	40	40	40	40	40	40	40	40
Working Pressure (Mpa)	0.4-0.8	0.4-0.8	0.4-0.8	0.4-0.8	0.4-0.8	0.4-0.8	0.4-0.8	0.4-0.8
Capacity (t/h)	40	50	50	100	150	200	300	400

3 MAIN STRUCTURE AND WORKING PRINCIPLE

3.1 Main Structure

TBDQ Pneumatic Three-way mainly consists of housing, rotating shaft, turning plate, inlet retaining plate, cylinder fixing plate, magnetic cylinder with valve. The main structure is as shown in Figure 1.

3.2 Working Principle

TBDQ Pneumatic Three-way realizes the switching of flow of materials by driving the rotating shaft and turning plate to turn through cylinder. The turning plate is lined with macromolecular plate with good wearability. And inlet taper retaining plate is available so that the turning plate will not be blocked by materials and there is no materials leakage, and materials will not be carried outwards when the turning plate is turning. The turning plate can move freely with little resistance. The pneumatic circuit is as shown in Figure 2.

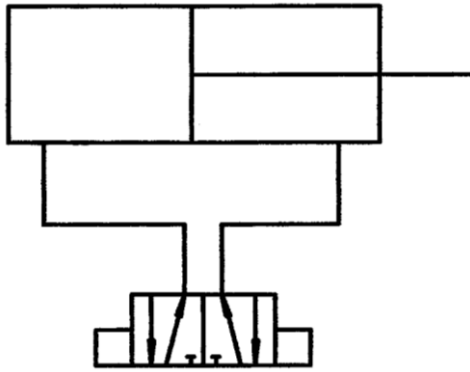


Figure 2 Diagram of Pneumatic Three-way Circuit

4 INSTALLATIONS AND COMMISSIONING

4.1 Installation

4.1.1 During the installation of equipment, sealing measures should be taken for the connecting position of pneumatic three-way with pipes. Materials leakage is not allowed.

4.1.2 Air pipeline should not have air leakage.

4.1.3 See Figure 3 and Table 2 for installation sizes.

4.2 Commissioning

4.2.1 An unloaded test should be made on the feeding gate. The turning plate should run flexibly and freely and there should not be crawl and vibration.

4.2.2 Adjust the one-way throttle valve or muffling exhaust valve to control the turning speed of the turning plate.

4.2.3 Adjust the position of magnetic switch so that the equipment turns to be in position.

5 MAINTENANCE

5.1 Periodically check the sealing of air pipes and fastening of all connecting parts of the equipment itself. Prompt treatment should be carried out when the equipment has materials leakage.

5.2 The compressed air entering the cylinder must be treated by air source triple connector. One triple connector can be used for 5–10 units pneumatic three-way. Water in triple connector should be discharged periodically and it must be lubricated periodically.

5.3 If installing outdoors, antirust and rainproof measures should be taken.

6 CAUTIONS

6.1 During the operation of equipment, any parts of human body must not touch the rotating parts of equipment so as to avoid the human body injury accident.

6.2 To inspect or repair the equipment, equipment must be turned off.

Table 2 Installation Sizes Parameters of Pneumatic Three-way

Specification Model	A	H	b ₁	b ₂	b ₃
TBDQ20×20×45°	230	400	200	2×119	266
TBDQ25×25×45°	760	465	250	2×144	316
TBDQ32×32×45°	850	520	320	2×179	386
TBDQ20×20×30°	780	400	200	2×119	266
TBDQ25×25×30°	858	465	250	2×144	316
TBDQ32×32×30°	950	520	320	2×179	386



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