576 Series Solenoid Valve Manual Operation Introduction

Description

* ***576 series solenoid operated spool valve make of anodized aluminum or stainless steel. The spool valves have threaded port connection and/or Namur interface. In below form, you can find the basic pneumatic datum for every member of 576 series spool valve.***

Series	Type	Cv Value	Nominal flow rate(L/min)	Threaded port	Namur interface	Material	3/2 NC	5/2	5/3
576 000	Direct	0.10	74(at 5 bar)	1.8" or 1/4" BSPP or NPT	-	PA	Available	N/A	N/A
576 100	Direct	0.10	74(at 5 bar)		24×32	Anodized aluminum			
576 200	Direct	0.10	74(at 5 bar)		24×32	AISI 316			
576 300	Pilote	1.40	1390(at 5 bar)	1/4"BSPP or NPT	24×32	Anodized aluminum		Available	Available
576 400	Pilote	2.79	2775(at 5 bar)	1/2"BSPP or NPT	40×45				Available
576 500	Pilote	1.10	1100(at 5 bar)	1/4"BSPP or NPT	24×32				N/A
576 600	Pilote	1.10	1100(at 5 bar)	1/4"BSPP or NPT	24×32	AISI 316			
576 700	Pilote	6.76	6380(at 5 bar)	3/4"or 1" BSPP or NPT	N/A	Anodized aluminum			

* 576 series direct operated valves is suitable for single (mono-stable) solenoid with standard coils, and various explosion-proof coils certified for use in hazardous area(Zone 0, 1,2 and Class I Div.1&2 Group A,B,C and D)
* 576 series pilot operated spool valve is suitable for single/dual (mono/bi-stable) solenoid with standard coils, Cnomo interface coils or various explosion-proof coils certified for use in hazardous area(Zone 0, 1,2 and Class I Div.1&2 Group A,B,C and D)
* As for 576 300/400 series Namur version, the 5/2 function spool valves are available to mounted directly for controlling double-acting actuator and the same spool valve also can be adapted by 3/2NC Namur function interface plate for controlling single-acting actuators.
* As for 576 500/600 series Namur version, the same spool valve can be adapted by 5/2 or 3/2NC function Namur interface plates for controlling double-acting or single-acting actuators.

Special Conditions for Safe Use

* To ensure the proper function of the device and promote long service life, you must comply with the information in these Operation Instructions and the application conditions and specifications provided in the Data Sheet. Usage of the device in a manner that is contrary to those Operating Instructions or the application condition and specification provided in the Data Sheet is improper and will avoid your warranty. This device serves exclusively as a 3/2, 5/2 or 5/3 solenoid valve for the media stated to be permissible on this Introduction and the Data Sheet. Any other use is considered to be improper use. The manufacturer will not be responsible for any improper use of the device.
* Changes to the product may only be made after consulting the manufacturer or his representative. Installation and maintenance of the valve must be carried out by qualified personnel only.
* Those solenoid spool valves are designed to operate with filtered (<=40μm), dry or lubricated air or neutral gas and within the technical characteristics specified on the nameplate and in the Data Sheet.

Pneumatic Connection

* **General recommendations**

Connect pipes for the required functions in accordance with this documentation and the ports markings on the product. Make sure that no foreign matter enters the system. Correctly support and align pipes to prevent mechanical strain on the valve.
When tightening, do not use the valve as a lever. Locate wrenches as close as possible to connection point. To avoid damage to the equipment, ***DO NOT OVER TIGHTEN*** pipe connections.

* **Connection of the spool valve**

576 series serves exclusively as a 3/2, 5/2 or 5/3 solenoid valve. Pressure inlet at port 1 on the body of the valve, Pressure outlet at port 2 and 4 on the body or on the interface plates, Exhaust at ports 3 and 5 on the body of the valve. Technical details please consult with Dimension and Installing.

* **Connection of pilot exhaust**

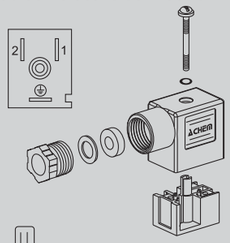
The standard model has a Ø3 exhaust port at end of the pilot valve. Just fixing and tightening a M8×0.75 female nut supplied on it.

Electrical connection

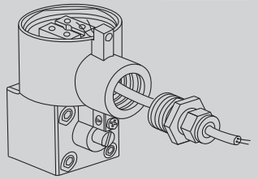
General recommendation

* Electrical connection must be made by qualified personnel and according to applicable local standards and regulations.
* Before any electrical connection, turn off the electrical current to power off the components
* Depending on the voltage, electrical components must be grounded according to local standards and regulations.
* Most valves are designed for continuous duty. To prevent the risk of personal injury, do not touch the solenoid operator which can become hot under normal operating condition.
* Standard coils(C0)
  Electrical connection is made with detachable plug connector for cable dia.6-8mm (see fig.), rotatable by 180° increments (3 pins:1,2 electric pins+PE)
* Flameproof coils(C4, C5)
  Electrical connection is made with wiring box with M20-1.5 or 1/2" cable entry , two points terminal strip for electric pins + ground pins and outside ground pins is available.(see fig.)
* Other explosion proof coils
  See particular data sheet delivered with these coils.

C0 coil electric connection



C4,C5 coils electric connection



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Maintenance

Prior any maintenance work, switches off power supply, depressurize and vent the valve to prevent the risk of personal injury or damage equipment.

◆ **Preventive maintenance**

Operate the valve at least once a month to check its function.
Avoid obstruction of exhaust port when it is not connected or protect it with a cap.

◆ **Cleaning**

Maintenance of the valve depends on the operating conditions. They must be cleaned at regular intervals. Cleaning must be done when a slowing down of the cycle, a leakage or an abnormal noise is noticed. The components must be checked for excessive wear. Cleaning must be made with suitable solvent.

◆ **Spare parts**

After a prolonged use, it can be necessary to replace the active components of the valve. A spare Parts Kit is available for each version of spool valve. Contact the manufacturer or his representative.

◆ **Troubleshooting**

Valve fails to operate (No switching noise)	-Check that electrical supply complies with values mentioned on the nameplate or coil. -Check coil for shorts or damage. -Check that mobile parts (spool, pilot plunger) are not blocked by foreign particles. -Check if the Namur interface plate mounted incorrectly.
Valve fails to return (for mono-stable)	-Check if the return spring is broken. -Check if the pilot exhaust port is blocked.
Valve switches but without effect	-Verify air pilot pressure (mini 2 bar) -Verify if the pilot plunger spring is broken.
External leakage	-Verify connectors and tightening of the valve on its interface plate. -Verify the tightening of the pilot.

Statement

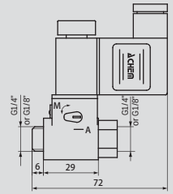
For continuous improvement of the product, we reserve the right to alter the dimensions, technical data and information included in this Manual Operation Introduction.

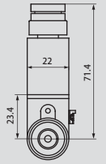
Dimension and Installing

**** Prior installing the solenoid valve, depressurize the pipes and clean them internally to avoid particles entering the system(tape sealant, thread compound). The valve may be mounted on the Namur interface of the pneumatic actuator in usage of Namur interface plates depending on the design of the spool valve.***

* The mounting dimension design of the 576 000 series directing solenoid valve s based on male threaded shaft (1/8" 0r 1/4" BSPP/NPT) which can be directly mounted to female threaded port of the pneumatic actuator. Details see the below Fig.

576 010P1C0





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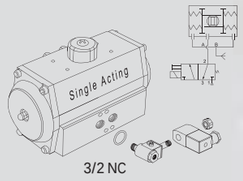
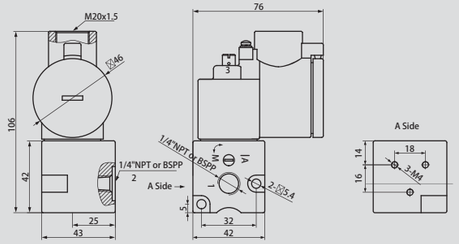


* The mounting dimension of the 576 100/200 series directing solenoid valve is multi-mount design. For the same body, the Namur and threaded connections are available. As for Namur connection, the body can be directly mounted to the Namur interface of the pneumatic actuator with two screws M5x35 (Torque 4-5Nm) provided. Details see the below Fig.

576 110F1C5/ 576 210F1C4



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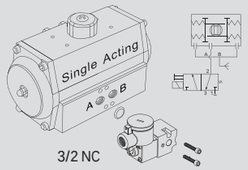
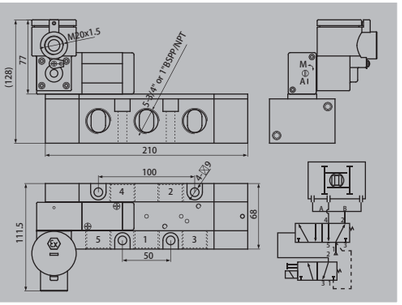
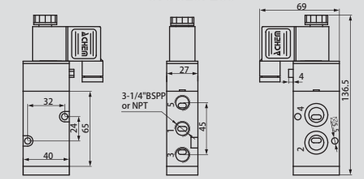


* The mounting dimension of the 576 700 series pilot solenoid valve is threaded connection design. The female ports are available for 3/4" or 1" BSPP/NPT. Based on 4-Ø9 mounting holes on the spool valve, Fix the valve on suitable location on pneumatic actuator with four screws M8x40 (Torque 5Nm) provided and than connect the pipes accordingly.

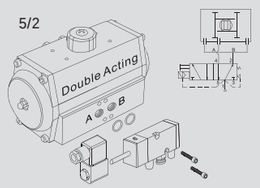


* The mounting dimension of the 576 300/400 series pilot solenoid valve is directly Namur connection design (threaded connection available). For 5/2 function, the spool valve can be directly mounted to the Namur interface of the pneumatic actuator with two screws M5×27 for 576 300 and M6×35 for 576 400 (Torque 4-5Nm) provided. For 3/2 NC function, armed with 3/2 Namur interface plate provided, the spool valve can be mounted to the Namur interface of the pneumatic actuator with two screws M5×35 for 576 300 and M6×55 for 576 400(Torque 4-5Nm) provided. Details see the below Fig.

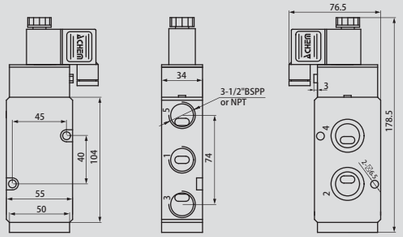
576 310F2C0

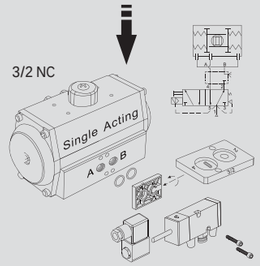


576 310F2C0/576 410F2C0

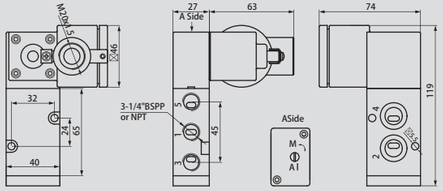


576 410F2C0





576 310F2C5



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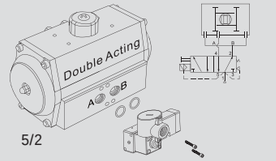

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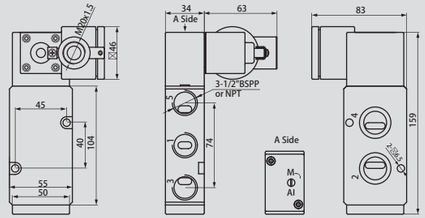
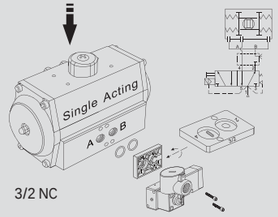
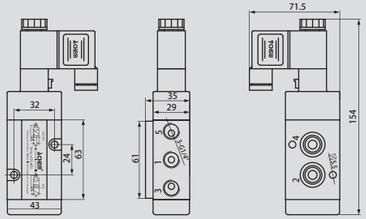




* The mounting dimension design of the 576 500/600 series pilot solenoid valve is exactly in light of Namur standard (threaded connection available). The same spool valve equips with 3/2 and 5/2 function Namur interface plates provided for controlling single-acting and double-acting actuators. According to the direction of the Namur interface plates, fix the spool valve and the interface plate on the Namur interface of the pneumatic actuator with two screws M5x35 (Torque 4-5Nm) provided. Details see the below Fig.

576 510F3C0/576 610F3C0



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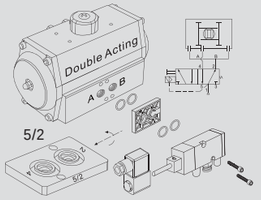

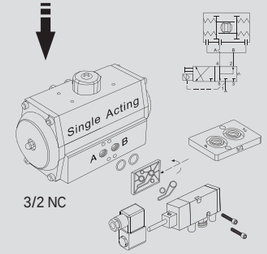

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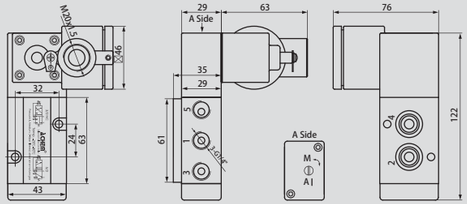

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