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CONTENTS AND DOCUMENT CONTROL

DOUBLE-ACTING PNEUMATIC CYLINDER

VAYCOM-DE-EN · Rev. 00 · 03/11/2026

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GENERAL INFORMATION AND SAFETY

| SCOPE

The cylinder transmits axial force to the valve or gate. Verify the reference, stroke, coupling and operating conditions against the supplied assembly. Avoid lateral loads on the piston rod.

| PERSONNEL AND PROTECTION

Installation and maintenance are for qualified, authorised personnel. Keep the work area clear and keep hands away from the gate, rod and moving connections.

| ISOLATION BEFORE WORK

1. Move the assembly to the safe position specified for the installation. Isolate the valve from the process, depressurise and drain the section as applicable.

2. Isolate, lock and identify the pneumatic and electrical supplies, including remote signals and solenoid pilot circuits.

3. Vent both chambers and all lines. Verify that no residual pressure remains, including where check valves or locking devices are fitted.

4. Secure the rod, gate and any part that could move under gravity or process loads before releasing connections.

| IDENTIFICATION AND DOCUMENTATION

Check the service limits and applicable documentation against the nameplate and supply records.

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EXPLODED VIEW AND PARTS LIST

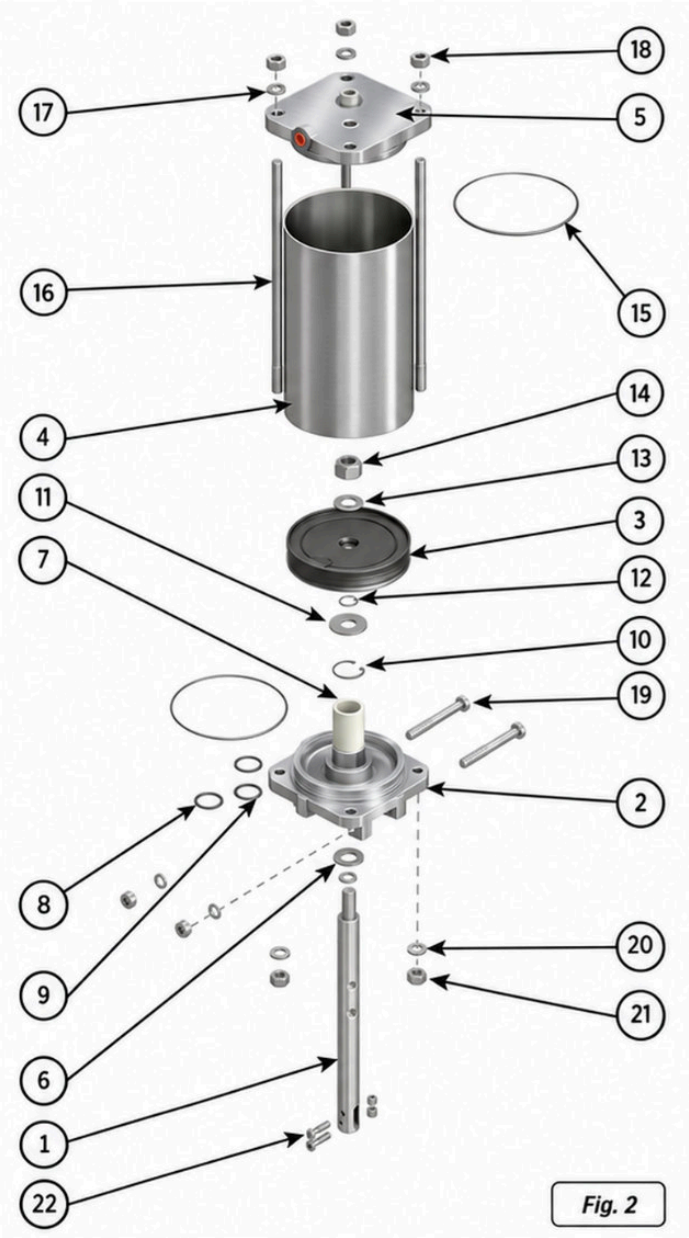


Fig. 2

ITEM	DESCRIPTION
1	Piston rod
2	Support cover
3	Piston
4	Barrel
5	Upper cover
6	Scraper
7	Bush
8	Outer O-ring
9	Inner O-ring
10	Circlip
11	Washer
12	O-ring
13	Washer
14	Self-locking nut
15	O-ring
16	Tie rods
17	Washer
18	Nut
19	Screw
20	Washer
21	Nut
22	Screw

Reference drawing · Verify against the VAYCOM D/E cylinder supplied.

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TRANSPORT AND STORAGE

| RECEIPT

Check cylinder identification, packaging, rod, fasteners and accessories. Record transport damage before installation.

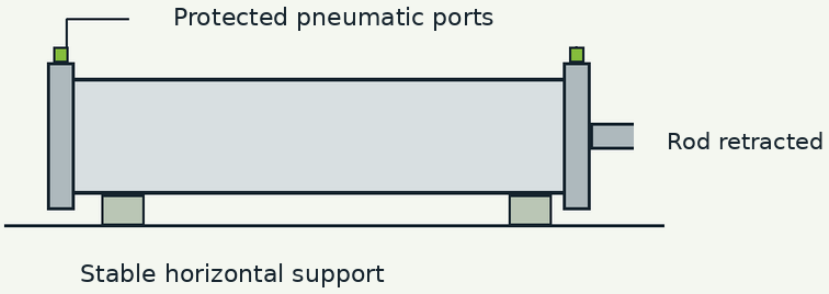
| TRANSPORT AND HANDLING

Before lifting, verify the equipment weight and lifting gear capacity. Keep the piston rod fully retracted during transport. Use the designated lifting points for a separate cylinder and protect sensors, control blocks, fittings and tubing. Lift an assembled valve using the points specified in its manual. Never lift the valve by its cylinder.

| STORAGE

Store indoors in a dry, ventilated area protected from weather, dust and saline environments. Keep the cylinder horizontal, supported and free of external loads, with the rod retracted. Leave port plugs in place until installation and retain them for future servicing.

FIGURE 1 · STORAGE POSITION



FORKLIFT
Select for weight and packaging.

PALLET TRUCK
Use suitable palletised support.

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INSTALLATION AND COMMISSIONING

| PRELIMINARY CHECKS

Follow the isolation procedure on sheet 01. Inspect the cylinder, fasteners and coupling. Verify that the stroke and service conditions match the supplied equipment.

| MOUNTING AND ALIGNMENT

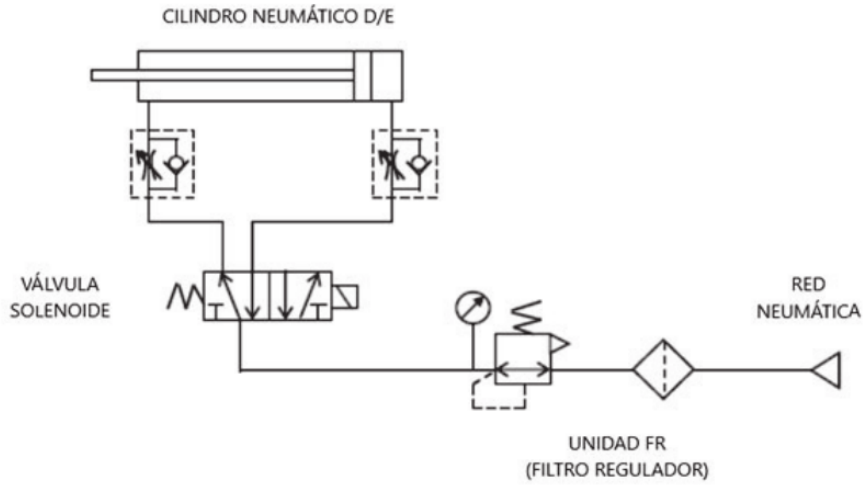
Support the cylinder while mounting it. Align the rod with the gate travel. Check lubrication of joints, bearings and pins where applicable. Fit the coupling without forcing it and tighten fasteners as specified in the supply documentation.

| PNEUMATIC CONNECTIONS

Identify both ports from the supply diagram. Clean the lines and verify fitting and thread compatibility. Keep chips and sealant out of the ports. If using sealing tape, leave the first thread uncovered. Observe fitting torque and equipment pressure limits.

| COMMISSIONING

Refit guards and clear the travel area. Restore air and controls in a controlled manner. Check direction, full stroke, sensors where fitted, and leakage. Isolate the equipment before correcting any fault.



Reference pneumatic circuit · Confirm the supplied configuration.

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MAINTENANCE AND TROUBLESHOOTING

| BEFORE SERVICING

Follow sheet 01. Isolate the air supply and electrical controls. Vent both chambers and verify zero residual pressure. Secure parts that may move before releasing fasteners.

| INSPECTION AND SEAL REPLACEMENT

Check connections, fasteners and rod condition. If a worn or damaged seal is confirmed, identify the correct replacement for the supplied configuration. Inspect the scraper, bush and sliding surfaces.

| TROUBLESHOOTING

Rod leakage — Check the rod seal, scraper and rod surface.

End cover leakage — Check the fitting, cover seal and seal groove.

Leakage between chambers — Check the controls, piston seal and barrel.

Incomplete stroke — Check the supply, alignment and valve travel.

| RETURN TO SERVICE

Refit guards. Restore air and controls in a controlled manner. Check direction, full stroke and leakage before returning the equipment to service.

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INTERNAL SERVICING AND SPARE PARTS

| 01 · PREPARE FOR SERVICING

Follow sheet 01. Verify that both chambers are depressurised and secure moving parts. Identify the cylinder configuration and consult its disassembly procedure before disconnecting the lines.

| 02 · DISASSEMBLE THE ASSEMBLY

The reference sequence separates the upper cover, barrel and tie rods, then the rod–piston assembly to access the bush and scraper. Confirm the removal sequence and method for the supplied cylinder.

| 03 · REPLACE SEALS AND INSPECT SURFACES

Identify the piston, bush and cover seals. Inspect the scraper, grooves, rod and barrel bore. Use replacements compatible with the supplied configuration.

| 04 · REASSEMBLE AND CHECK

Verify seal and scraper orientation, lubricant and tightening torques against the supply documentation. Refit guards and perform the stroke and leakage checks on sheet 05.

| ORDERING SPARE PARTS

Specify the reference or serial number, bore, stroke and item number on the applicable parts drawing. For a cylinder fitted to a valve, also provide the valve or order identification.

| PENDING VAYCOM VALIDATION

Configuration-specific sequence, seal kit, lubricant and tightening torques.