VALVE CORES

Valve Cores and Valve Core Tools
Valve cores are a cartridge type, spring assisted, check valve assembly that screw into a mating threaded cavity (housing).

A valve core cartridge assembly is comprised of a spring-loaded pin in a tubular housing that has an external thread for mounting into a mating cavity. The valve pin has a soft elastomeric seating washer and an extended actuation shaft. When the actuation shaft is depressed it forces the pin to move off the valve core's housing seat allowing flow to pass through the valve. The core assembly has an external PFA (Perfluoroalkoxy) static seal to prevent leakage between the valve core and the mating cavity it screws in to.

For example: an automotive tire pressurization valve that is comprised of a valve core mounted in a stem type housing. When a pressurized hose fitting is placed over the tire valve stem the fitting pushes the valve core pin inwards forcing the flow of air to enter the tire. When the hose fitting is removed the valve core's spring and internal tire pressure forces the valve core to close.

There are a number of options for customers wishing to purchase valve cores in both the OEM and aftermarket sectors, see the product part tables on page 5 for more information.

Most Schrader-Pacific® valves have threads and bodies with a standard exterior size allowing for use of universal caps and tools. A Schrader-Pacific valve can be used to control air, nitrogen, R12, R22, R134a, R1234-YF, oils, Halon, SF6, Petrol's, and other controllable media.

Construction information

Materials
Brass, Stainless Steel (spring)

Sealing Materials
Polychloroprene (Neoprene), Nitrile-Butadiene (Nitrile), Hydrogenated Nitrile-Butadiene (HNBR), Fluorocarbon (Viton®, GFLT), Silicone, Epichlorohydrin, Silastic, PFA (Perfluoroalkoxy).

Finish
No Plating, Nickel or Tin plated Brass

Valve cores are defined by their characteristics, and depending on the type selected, these characteristics vary depending on the material, the finish and the design of each valve core.

Opening Pressure: This is the typical air pressure necessary to overcome the resistance of the spring that keeps the valve closed, allowing air to pass through.

Minimum and Maximum Travel: This is the recommended distance the pin can travel without damaging the valve core. This information can be found on specific Schrader-Pacific drawings.

Standard thread pitch: 0.206-36 (Tire and Rim: TR-C1)
All Schrader-Pacific® valve cores are compatible with existing SAE, Tire & Rim, ISO and ARI standards, manufacturing valves for air tanks, steel barrels, compressors and other pneumatic containers where dependable automatic valves are needed. Schrader-Pacific also offers service tools to install, remove or repair valves.

OEM sales available worldwide in medium to high quantities.
Application specific orders welcomed.

Schrader-Pacific offers a range of standard, large bore, airplane and special valve cores through the aftermarket/replacement sector.

Tank Valves
High Pressure Valves
Build Your Own Valve
Valve Cores
Air System Fittings
TPMS (Tire Pressure Monitoring System)
Couplers and Plugs

Schrader-Pacific reserves the right to change any of the following specifications without notice. This document is meant to be used as reference only. For more specific information, or information regarding cores not listed here, please contact Schrader-Pacific.
### VALVE CORES

#### Air Conditioning
- 8081530070
- 8081540070
- 8081910047
- 37479-52

**JRA Cores**

- 5.232 x 0.708mm Core
- 8mm x 6g Core

**.210"-36 Standard Cores**

- 045750035
- 054051000
- 085000020

**.210"-36 Standard Cores**

- 08080721047
- 08080731047
- 08080801047
- 061810020

**.210"-36 Standard Cores**

- 8081220047
- 8081210047
- 0200842001

**8mm Cores**

- 8mm Cores
- 8mm x 6g Core

**10mm Cores**

- 10mm Cores
- 10mm Core

#### Standard Air

#### Fuel System Cores

#### Miscellaneous

**Sniffer Applications**

- 015660113
- 62310199
- 060350001

**Large Bore Core**

**.210"-36 Standard Core**

**High Pressure Core**

**Long Pin Assembly**

**Valve Core Assortment Kit Part#**

020000001

**WARNING:** This product can expose you to chemicals, including Lead which is known to the State of California to cause cancer or birth defects or other reproductive harm.

*For application details contact your Schrader-Pacific Sales representative.*

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## Air Conditioning

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Opening Pressure</th>
<th>Max. Working Pressure</th>
<th>Temp Range °F</th>
<th>Installation Torque IN.-LBS</th>
<th>Core Type</th>
<th>Dynamic Sealing Surface</th>
<th>Surface Finish</th>
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<tr>
<td>8080570047</td>
<td>40</td>
<td>800</td>
<td>-20 to 220</td>
<td>3-5</td>
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## Standard Air

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## Miscellaneous

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<th>Core Type</th>
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<td>Standard</td>
<td>Nitrile</td>
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*no longer certified for aircraft use

1,000 pack part numbers shown. Other pack sizes available. Contact customer service or an authorized distributor for more information.

Due to the variety of operating conditions or applications, the customer is responsible to perform their own testing to insure performance, safety and warning requirements for the intended application.
Installation Guide

Scope
This engineering guide is to cover the installation and application recommendations for the use of standard valve cores in all automotive and industrial applications.

Product Type
Standard valve cores are defined by ISO (International Standards Organization), TRA (Tire & Rim Association) and ARI (American Refrigeration Institute) relative to the application for air, fluid and gas service devices.

Installation Torque
The installation torque for standard cores per ISO is 3 – 5 in. lbs. [0.34 – 0.57 Nm]. Breakaway torque is not an accurate way to verify the installation torque due to material, lubricants and other conditions that may exist.

Torque Drivers
For automated assembly, it is recommended to use only drafted torque driver bits that are more forgiving reducing the damage to the valve core creating chips that may cause leaks in the final assembly. (Specifications shown below.)

Temperature Sensitive
It is not recommended to submit the Valve Core assembled into a Valve Body to accelerated temperatures above the normal operating temperatures such as brazing and oven curing for paints and other coating processes. Permanent damage to the seals may occur causing long term sealing problems.

Standard Core Drilling
Core chamber must conform to ISO 7442 and threads must be to ISO 4570/1
All Valve Bodies must conform to the TRA, ISO or ARI recommended standard core drilling to ensure proper seating of the Valve Core to meet the sealing and pin height requirements of the individual industry standards.

Cleanliness
Cleanliness for the Valve Cores and Body must be less than 0.015 grams per 100 parts after final assembly. Using improper torque drivers can cause contamination.

Surface Finish
The importance of a properly machined housing cannot be overemphasized. The surface finish of the taper seat must be smooth without any machining tool marks. The proper taper seat angle must also be met to ensure proper compression of the outer Valve Core sealing material.

Serviceability
No Valve Cores are to be reused under any circumstances after removal from the Valve Body. Always install a new Valve Core when servicing the system for air, fluid or gas applications.

WARNING: This product can expose you to chemicals, including Lead which is known to the State of California to cause cancer or birth defects or other reproductive harm.
The right tools for the job

Proper core installation is important to ensure correct pin height and leak free performance. Schrader-Pacific recommends that tools designed specifically for the task be used.

Standard core tap/drill components.

- S8044 - #24 drill
- S12419 - step drill
- S8053 - tap
- S8038 - taper seat reamer

M10 Valve Core

- Internal diameter: 5.75-mm
- Diameter: 0.872
- Brand: SCHRADER
- Core: Brass
- Spring: Stainless Steel

M8 Valve Core

- Internal diameter: 4.75-mm
- Diameter: 0.383
- Brand: SCHRADER
- Core: Brass
- Spring: Stainless Steel

European M8 Valve Core

- Internal diameter: 5.785-mm
- Diameter: 0.872
- Brand: SCHRADER
- Core: Brass
- Spring: Stainless Steel

European Standard Valve Core

- Internal diameter: 5.785-mm
- Diameter: 0.872
- Brand: SCHRADER
- Core: Brass
- Spring: Stainless Steel

S8044 - #24 drill
S12419 - step drill
S8053 - tap
S8038 - taper seat reamer

Standard handle core tool for standard valve cores.

- Tool: S8044 - #24 drill
- Tool: S12419 - step drill
- Tool: S8053 - tap
- Tool: S8038 - taper seat reamer

4-way valve core tool

- Tool: S8044 - #24 drill
- Tool: S12419 - step drill
- Tool: S8053 - tap
- Tool: S8038 - taper seat reamer

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