VALVE CORES

VALVE CORES, VALVE CORE TOOLS AND ACCESSORIES

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® valves have threads and bodies with a standard exterior size allowing for use of universal caps and tools. A Schrader 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 drawings.

All Schrader® 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 also offers service tools to install, remove or repair valves.

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

Schrader 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

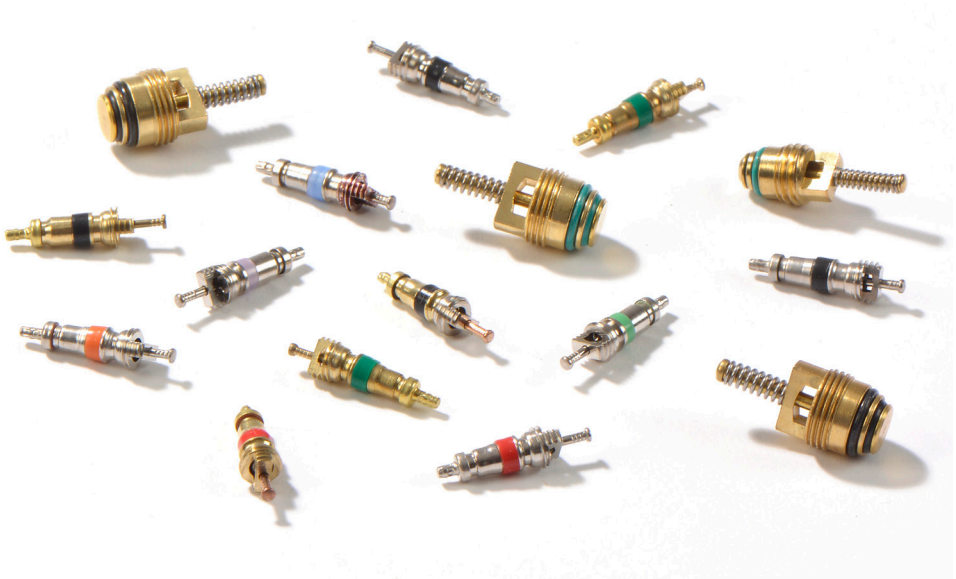
Valve Cores

Air System Fittings

TPMS (Tire Pressure Monitoring System)

Couplers and Plugs

Schrader International, Inc. 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 International, Inc.



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.

VALVE CORES

Air Conditioning


8081530070


8081540070

JRA Cores


8081910047


8089000070

5.232 x 0.708mm Core | **8mm x 6g Core**

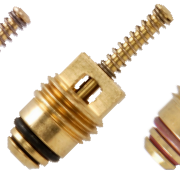

8080570047


8080580047


8081070047

.210"-36 Standard Cores


8081120047


8081100047


0200822001

8mm Cores


8081220047


8081210047


0200842001

10mm Cores

Miscellaneous


015660113


62310199


060350001

Snifter Applications | **Large Bore Core** | **.210"-36 Standard Core**


099141117


8039700047


8588900047

High Pressure Core | **Long Pin Assembly**

Standard Air


045750035


054051000


085000020

.210"-36 Standard Cores

Fuel System Cores


8080721047


8080731047


8080801047


061810020

.210"-36 Standard Cores


0200841001

10mm Core

Valve Core Assortment Kit
Part# 0200000001

For application details please contact your Schrader Sales representative.

Air Conditioning

Part No. 1,000 pack	Opening Pressure PSIG	Max. Working Pressure PSIG	Temp Range °F	Installation Torque IN.-LBS	Core Type	Dynamic Sealing Surface	Surface Finish
8080570047	40	800	-20 to 220	3-5	Standard	Neoprene	Plated
8080580047	40	800	-20 to 220	3-5	Standard	Neoprene	Unplated
8081070047	40	800	-10 to 300	3-5	Standard	HNBR	Plated
8081100047	N/A	800	-40 to 245	10-20	8mm	Neoprene	Unplated
8081120047	N/A	800	-40 to 245	10-20	8mm	HNBR	Unplated
8081210047	N/A	800	-40 to 245	15-30	10mm	Neoprene	Unplated
8081220047	N/A	800	-40 to 245	15-30	10mm	HNBR	Unplated
0200822001	N/A	800	-40 to 300	10-20	8mm	HNBR	Unplated
0200842001	N/A	800	-40 to 300	15-30	10mm	HNBR	Unplated
8081530070	N/A	800	-40 to 245	5-10	JRA	HNBR	Plated
8081540070	N/A	800	-40 to 245	5-10	JRA	HNBR	Unplated
8081910047	N/A	400	-40 to 210	3.5-7	Std. European	Chloroprene	Plated
8089000070	N/A	400	-40 to 210	6.2-9.7	8mm European	Chloroprene	Plated

Standard Air

Part No. 1,000 pack	Opening Pressure PSIG	Max. Working Pressure PSIG	Temp Range °F	Installation Torque IN.-LBS	Core Type	Dynamic Sealing Surface	Surface Finish
045750035	25 to 35	200	-40 to 165	3-5	Standard	Nitrile	Unplated
054051000	90	250	-65 to 300	3-5	Standard	Silicone	Plated
085000020	60 to 75	300	-40 to 225	3-5	Standard	Nitrile	Unplated

Fuel System Cores

Part No. 1,000 pack	Opening Pressure PSIG	Max. Working Pressure PSIG	Temp Range °F	Installation Torque IN.-LBS	Core Type	Dynamic Sealing Surface	Surface Finish
8080721047	40	500	0 to 450	3-5	Standard	Viton®	Plated
8080731047	40	500	-40 to 450	3-5	Standard	Viton®	Plated
8080801047	40	500	-30 to 400	3-5	Standard	GFLT	Plated
061810020	45	500	-20 to 350	3-5	Standard	Viton®	Unplated
0200841001	N/A	800	-40 to 400	15-30	10mm	Viton®	Unplated

Miscellaneous

Part No. 1,000 pack	Opening Pressure PSIG	Max. Working Pressure PSIG	Temp Range °F	Installation Torque IN.-LBS	Core Type	Dynamic Sealing Surface	Surface Finish
015660113	0.2 to 4	150	-10 to 165	3-5	Standard	Nitrile	Plated
062310199	50	200	-65 to 300	3-5	Large Bore	Red Silicone	Plated
060350001*	50	550	-65 to 350	3-5	Standard	Silastic	Plated
099141117	80	4000	-40 to 225	3-5	Standard	Nitrile	Plated
8039700047	N/A	200	-2 to 167	3-5	Standard	Nitrile	Plated
8588900047	23-28 (approx.)	n/a	n/a	3-5	Standard	Nitrile	Plated

*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

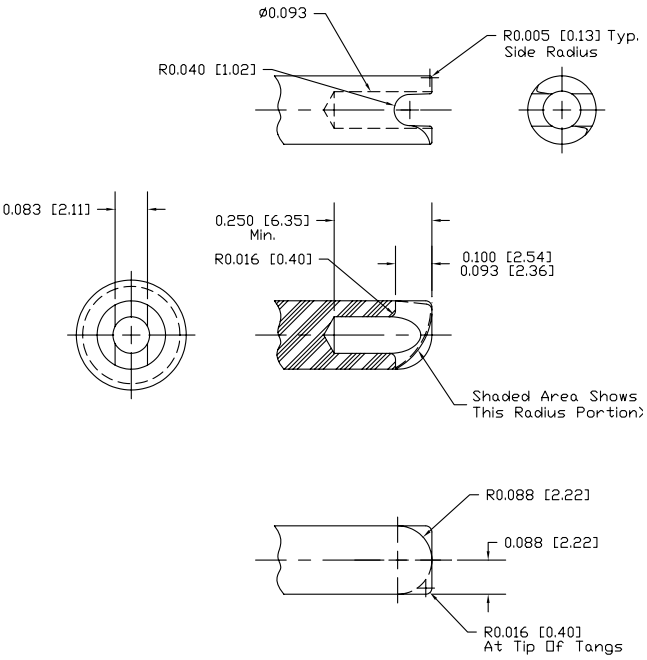
Standard valve cores are defined by ISO (International Standards Organization), TRA (Tire & Rim Association) and ARI (American Refrigeration Institute) relative to the application for air, fluid and gas service devices.

Installation Torque

The installation torque for standard cores per ISO is 3 – 5in. 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.

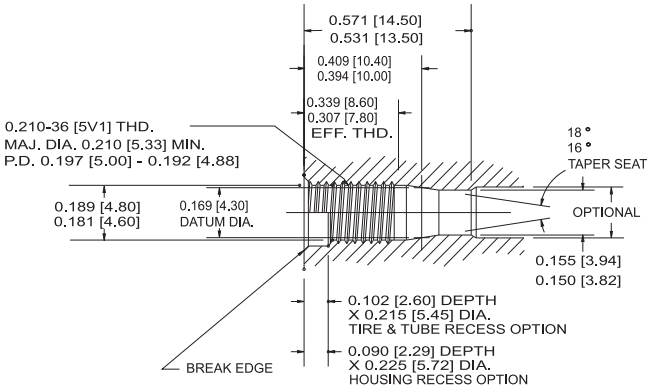
Torque Drivers

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.

The right tools for the job

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

Meets Tire and Rim Association (TRA) recommended torque values of 3" to 5" in-lb. on TRC1 valve cores. Serves as both a core remover and installer. Order individually. (One per box)

20141

Standard core tap/drill components.

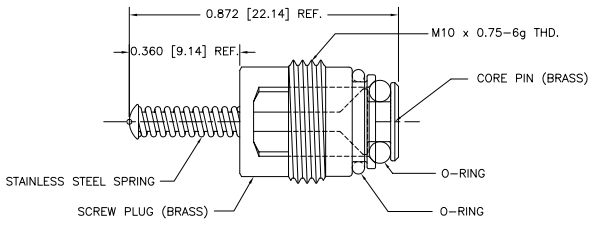
S8044 - #24 drill
S12419 - step drill
S8053 - tap
S8038 - taper seat reamer

Standard handle core tool for standard valve cores.

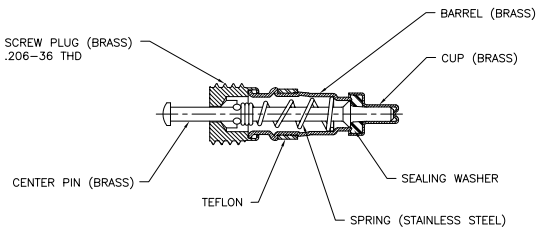
296970

4-way valve core tool

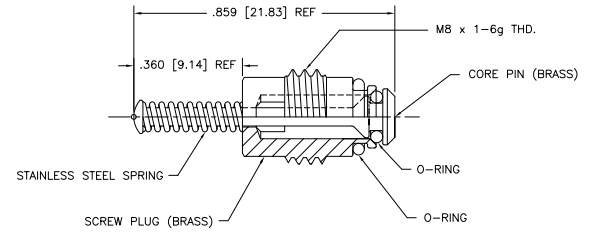
90-344



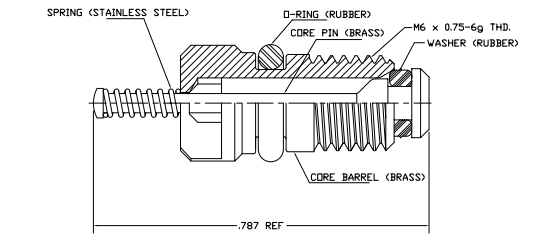
M10 Valve Core



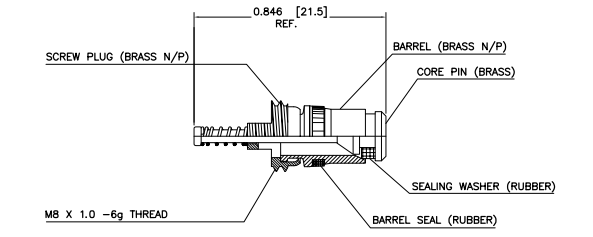
Standard Valve Core



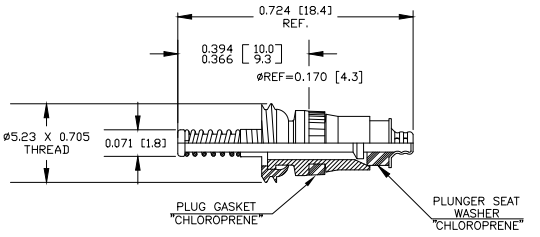
M8 Valve Core



JRA Valve Core



European M8 Valve Core



European Standard Valve Core

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