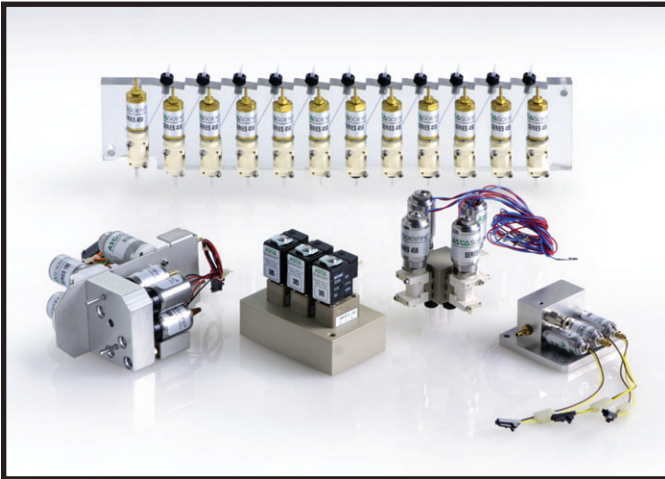


Customized Solutions

Valves & Assemblies

ASCO SCIENTIFIC®



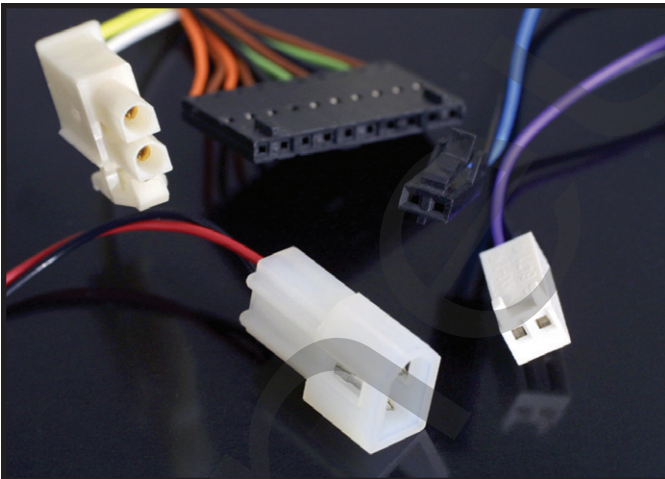
Custom Manifolds & Assemblies

ASCO Scientific has the ability to work with you to design a custom manifold for your specific fluid control requirements. We can design manifolds that include our solenoid valves as well as other components such as fittings, pressure sensors, relief valves, etc. We can also provide drawings in electronic formats such as Autocad or Pro E. Once the design is finalized, we can supply the complete assembly tested and ready for installation into your equipment.



Special body configurations and materials

To fit in a tight space or mount exactly in your equipment, ASCO Scientific can create custom body configurations. In addition, we can supply our existing products lines with various body and elastomer materials based on your fluid compatibility requirements.



Electrical Connectors/Special Voltage

To simplify your wiring and reduce labor to install solenoid valves, we can provide our valves with any electrical connector you desire. We routinely provide valves with various connectors made by AMP, Molex, and other connector manufacturers.

Also, we can provide our valves in non-standard voltages and lower power consumption based on your specific application requirements.



Customer specific testing and cleaning

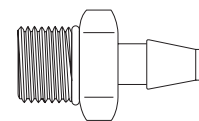
To ensure that our products perform as expected in your equipment, we can develop test procedures based on your exact requirements. Also, we can specially clean our valves and components to prevent contamination of the media in your equipment.

Barbed Fittings for Series AL Valves

Barbed Fittings for #10-32 UNF ports and Soft Tubing

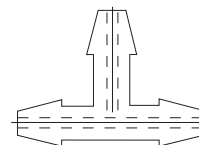
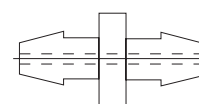
Thread Size	Barb Size	Fitting Material	Seal Material	Part Number
#10-32	1/16" I.D. Tubing	Polypropylene	FKM	F714-12*
#10-32	1/8" I.D. Tubing	Polypropylene	FKM	F714-11*
#10-32	1/16" I.D. Tubing	Brass	FKM	F765-2*
#10-32	1/8" I.D. Tubing	Brass	FKM	F765-1*

Asterisk (*) is part of fitting number



Connectors and Tees for Soft Tubing

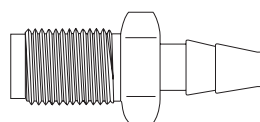
Fitting Type	Barb Size	Fittings Material	Part Number
Connector	1/16" to 1/16"	Polypropylene	F614-1
Connector	1/8" to 1/8"	Polypropylene	F614-2
Connector	1/16" to 1/8"	Polypropylene	F614-3
Tee	1/16"	Polypropylene	F612-1
Tee	1/8"	Polypropylene	F611-1



Barbed Fittings for Series 190, 330, 368, 458 and 462 Valves

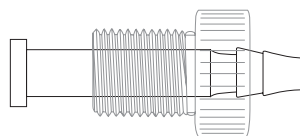
Flat Bottom Seal Barbed Fittings, Single Piece Construction for use with Polyurethane, Silicone, or Tygon tubing

Thread Size	Barb Size	Fitting Material	Color	Part Number
#10-32	1/16" I.D. Tube	Polypropylene	Natural	FD1032-B062-01
#10-32	1/16" I.D. Tube	Polypropylene	Black	FD1032-B062-02
#1/4-28	1/8" I.D. Tube	Kel-F	Natural	FD2528-B125



Flat Bottom Seal Barbed Fittings, Two Piece Construction for use with low density Polyethylene, Polyurethane, Silicone, or Tygon tubing

Thread Size	Barb Size	Fitting Material	Color	Part Number
1/4-28	1/16" I.D. Tube	Polypropylene	Natural	FD2528-IB093-11
1/4-28	1/16" I.D. Tube	Polypropylene	Black	FD2528-IB093-12
1/4-28	1/8" I.D. Tube	Polypropylene	Natural	FD2528-IB140-11
1/4-28	1/8" I.D. Tube	Polypropylene	Black	FD2528-IB140-12



Pinch Valve Tubing & Accessories

For use with Series 284, 384, 373, 388, 390, 397, 401 and 443 Pinch Valves

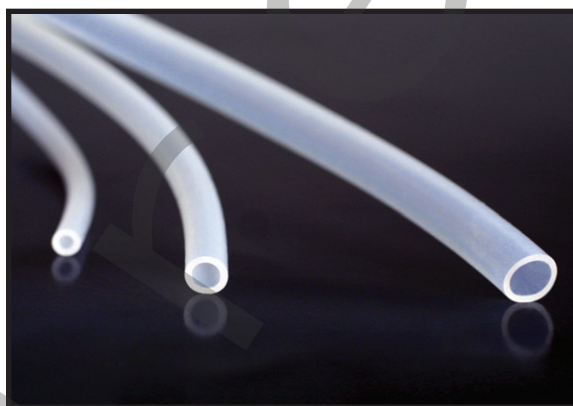


Tubing

ASCO Scientific offers silicone tubing to be used with the Series 284, 384, 373, 388, 390, 397, 401, and 443 pinch valves. It is available in various sizes as listed below.

Specifications

Tubing Material	Platinum Cured Silicone
Durometer	55 +/-5 Shore "A" in accordance with ASTM D-2240
Standards	Meets requirements of U.S. Pharmacopoeia XX, Class VI-Plastic Containers



Tubing Catalog Numbers

Tubing for Series 373, 388, 390, 397, 401, and 443

Tubing Size (inches)			Tubing Catalog Number
ID	OD	Wall	
1/32	3/32	1/32	F739-01
1/32	5/32	1/16	F739-02
1/16	1/8	1/32	F739-03
1/16	3/16	1/16	F739-04
3/32	5/32	1/32	F739-05
3/32	7/32	1/16	F739-06
1/8	3/16	1/32	F739-07
1/8	1/4	1/16	F739-08
3/16	1/4	1/32	F739-10
1/4	5/16	1/32	F739-11
1/4	3/8	1/16	F739-12
3/8	1/2	1/16	F739-13

Tubing for Series 284, 384

Tubing Size (inches)			Tubing Catalog Number
ID	OD	Wall	
.030	.065	.017	TB030X065S11P
.040	.085	.022	TB040X085S11P
.062	.095	.017	TB062X095S11P
.062	.125	.031	TB062X125S11P
.078	.125	.031	TB078X125S11P
.104	.192	.044	TB104X192S11P
.132	.183	.026	TB132X183S11P
.187	.313	.063	TB187X313S11P
.250	.375	.062	TB250X375S11P

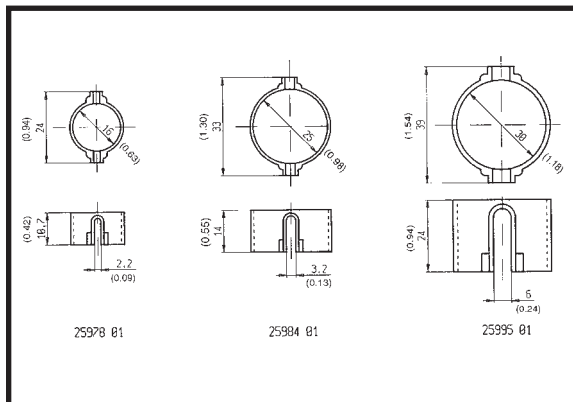
Tubing Guide

ASCO Scientific offers plastic tubing guides that slide easily onto the valve body of the Series 284 & 384 pinch valves to retain small OD tubing in the pinch valve body.

Tubing Guide Cat. No	Max OD of Tubing (inches)	Valves Applicable
2597801	.085	SCH284A001
		SCH284A002
		SCH284A003
		SCH284A004
		SCH284A009
		SCH284A010
		SCH284A011
		SCH284A012
		SCH384A001
		SCH384A002
		SCH384A003
		SCH384A004
2598401	.138	SCH284A005
		SCH284A013
		SCH394A005
2599501	.236	SCH284B006
		SCH284B007
		SCH284B014
		SCH284B015
		SCH384B006
		SCH384B007



Tubing Guide Dimensions mm [ins.]

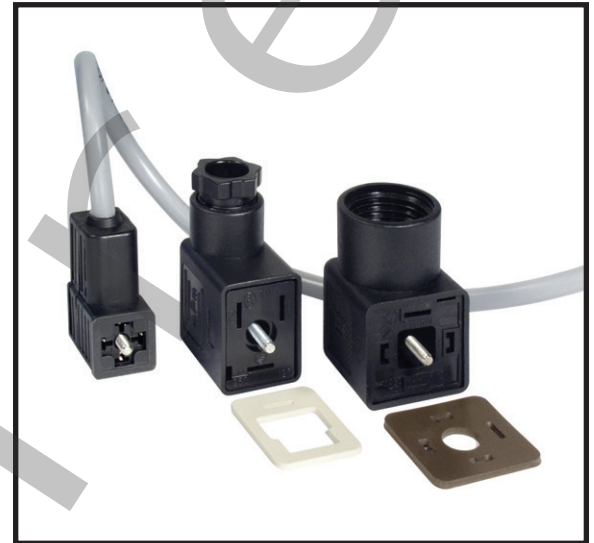




ASCO's electrical connection devices are designed using the DIN 43650/ISO 4400 or DIN 46244 (Pg 9P) form standards consistent with our solenoid valve coil designs and permitting industry interchangeability. Each size is available for user wiring or factory prewired installations. Other options include 1/2" conduits, and LED/VDR models.

Features

- Glass fiber reinforced polyamide housing and lid.
- IP65 protection against moisture entry and washdown when properly installed with gaskets.
- LED: Light Emitting Diode. A solid-state diode that emits light to indicate power to the connector.
- VDR: Varistor absorbing the self-inductance of the coil. The VDR is there to protect the coil or controller against supply over-voltage or peak.
- Maximum voltage 240 Volts.



Size 11 mm, Form B

Part Number	Description	Orientation	Rotatable	Figure
88122403	1/2" conduit	Ground Down	180°	A
97500200	1/2" conduit with LED/VDR	Ground Down	180°	A
88122404*	PG 9 cable gland	Ground Down	180°	B
88122407	PG 9 cable gland with LED/VDR 120/AC-DC	Ground Down	180°	B
88122410	PG 9 cable gland with LED/VDR 240/AC-DC	Ground Down	180°	B
88122405	PG 9 cable gland with LED/VDR 24/AC-DC	Ground Down	180°	B
E1090-04-59**	4.5' leads with LED 120/AC-DC PVC	Ground Up	No	B
E1090-02-59**	4.5' leads with LED 24/AC-DC PVC	Ground Up	No	B
AP2004-02**	6' leads with stripped ends	Ground Down	180°	B

Available in 10 pack; part number 226061-001-.
 **Also available in 9', 16', and 33' lengths. Consult factory.

Figure A

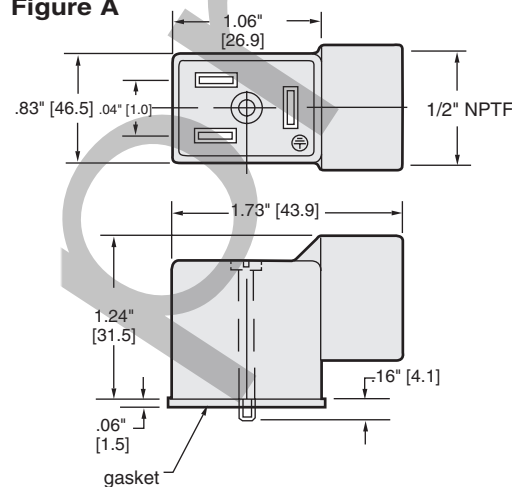
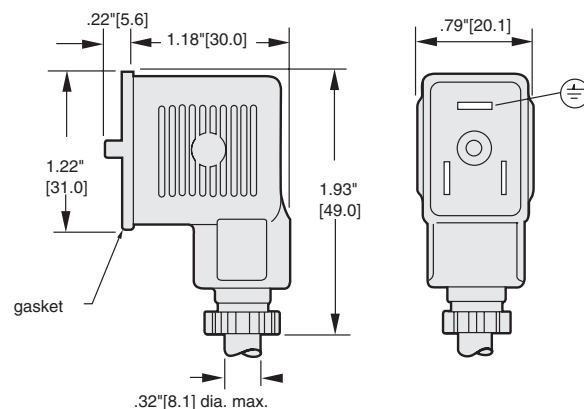


Figure B



Accessories

Electrical Connectors



Size 18 mm, Form A

Part Number	Description	Orientation	Rotatable	Figure
88122601	1/2" conduit	Ground Up	90°	C
97500015	1/2" conduit with LED	Ground Up	90°	C
88122602*	PG 11 cable gland	Ground Up	90°	D
88122605	PG 11 cable gland with LED/VDR 120/AC-DC	Ground Up	90°	D
88122608	PG 11 cable gland with LED/VDR 240/AC-DC	Ground Up	90°	D
88122603	PG 11 cable gland with LED/VDR 24/AC-DC	Ground Up	90°	D
88122604	PG 11 cable gland with LED/VDR 48/AC-DC	Ground Up	90°	D
E1089-04-59**	4.5' leads with LED 120/AC-DC PVC	Ground Up	No	D
E1089-06-59**	4.5' leads with LED 240/AC-DC PVC	Ground Up	No	D
E1089-02-59**	4.5' leads with LED 24/AC-DC PVC	Ground Up	No	D
272852	6' leads with North American outlet plug	Ground Up	No	D
272852-003	6' leads with North American outlet plug (rotated 90 degrees)	Ground Up	No	D
AP2003-03**	6' leads with stripped ends	Ground Up	No	D

*Available in 50 pack; part number 266615.

**Also available in 9', 16', and 33' lengths. Consult factory.

Figure C

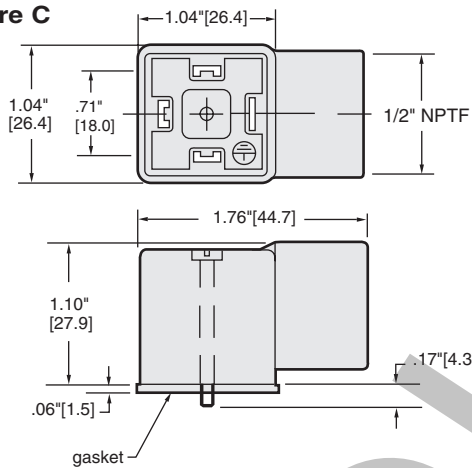
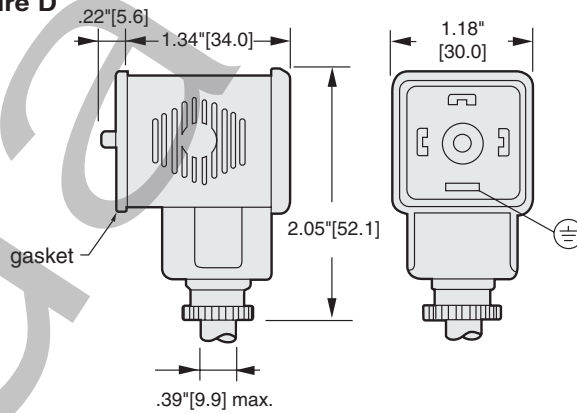


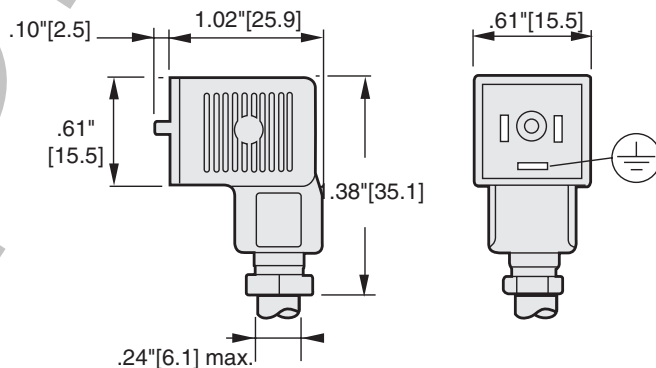
Figure D



Size 9.4 mm, Form C

Part Number	Description	Orientation	Rotatable
88143581	PG 7 cable gland	Ground Up	180°
AP2002-01	PG 7 cable gland LED/VDR 120-240/AC 50/60	Ground Up	180°
AP2002-05	PG 7 cable gland LED/VDR 48-120/AC 50/60	Ground Up	180°
AP2002-03	PG 7 cable gland LED/VDR 48-120/DC	Ground Up	180°
97500024	PG 7 cable gland LED/VDR 6-48/AC-DC	Ground Up	180°
E1091-04-59**	4.5' leads with LED 120/AC-DC PVC	Ground Up	No
E1091-02-59**	4.5' leads with LED 24/AC-DC PVC	Ground Up	No
88143567**	6' leads	Ground Up	No

**Also available in 9', 16', and 33' lengths. Consult factory.



The following is general information for materials that are commonly used in ASCO Scientific solenoid valves. This information is not intended as a specific recommendation; factors beyond our control could affect valve operation or material properties of the components used in ASCO Scientific's valves may be different than the general material properties listed below.

Elastomers

NBR (nitrile, Buna-n)

NBR has excellent compatibility for most air, water and light oil applications. The standard compound is suitable for service in petroleum oils, air, water, mild acids, acetylene, kerosene, lime solutions, liquified petroleum gases and turpentine. Not recommended for highly aromatic gasolines or acids. It has a useful temperature range of -4°F to 185°F (-20°C to 85°C).

FKM (fluorocarbon elastomer, Viton¹)

FKM has a rather wide range of chemical compatibility. It is a fluorocarbon elastomer, which was primarily developed for handling hydrocarbons such as jet fuels, gasolines, and solvents that normally caused detrimental swelling to NBR. FKM is not suitable for ketones, halogenated hydrocarbons or freon. FKM has a high temperature range similar to EPDM, but has the advantage of being somewhat more resistant to "dry heat". It has a useful temperature range of 0°F to 350°F (-18°C to 177°C).

EPDM, EPR (ethylene propylene)

Ethylene propylene is suitable for applications above the NBR temperature range, such as handling hot water and steam. It has a wide range of fluid compatibility and its useful temperature range is -10°F to 300°F (-23°C to 149°C). Ethylene propylene is not compatible with petroleum based fluids.

FFKM (perfluoroelastomer, Kalrez¹)

FFKM has virtually universal chemical resistance. It is extremely resistant to swelling, a cause of most seal failures. Because of the elasticity (soft seal) associated with FFKM, a virtually unsurpassed seal is created. FFKM will retain elasticity even after long term exposure to temperatures up to 600°F (316°C).

VMQ (silicone)

Known as the only elastomer, which under certain conditions, can be utilized for both high and low temperature. Also handles hydrogen peroxide and some acids. VMQ is not suitable for steam service. Fluorosilicone compounds are noted to have better fuel resistance.

Plastics

POM (acetal, Celcon²)

Acetal resin type thermoplastics, which are extremely rigid but not brittle. They provide good toughness, tensile strength, stiffness and long life. They are odorless, tasteless, non-toxic and resistant to most solvents.

PBT (Valox³)

PBT is a crystalline thermoplastic polyester with excellent chemical resistance. It has outstanding dimensional stability with high heat resistance and low moisture absorption. PBT also has a high surface gloss with an inherent lubricity.

PPS (polyphenylene sulfide, Ryton⁴)

This resin has outstanding chemical resistance and no known solvents below 200°C. It has low friction, good wear resistance and high tensile strength.

PSU (polysulfone)

Known as one of the most heat resistant thermoplastics. It has excellent chemical resistance when used for inorganic acids, alkalis and aliphatic hydrocarbons.

PEI (polyetherimide, Ultem³)

This resin has good heat deflection characteristics. Good chemical resistance to non-oxidizing acids and polar solvents. Questionable usage on alkaline solutions.

PEEK (polyetheretherketone)

High performance thermoplastic that has a continuous working temperature of 250°C. It has an excellent resistance to a wide variety of chemicals and solvents. PEEK has excellent flexural, tensile, and impact properties combined with outstanding fatigue resistance.

PTFE (Teflon¹)

PTFE is virtually unattacked by any fluid. It has a very wide temperature range. PTFE is not easily fabricated and is known to have objectionable "cold flow" characteristics, which may contribute to objectionable leakage, particularly on gases.

ETFE (ethylene tetrafluoroethylene, Tefzel¹)

ETFE is a fluoropolymer resin with a chemical resistance similar to PTFE. It is a more rugged material than PTFE making it more suitable for valve bodies with threaded ports.

CTFE (chlorotrifluoroethylene, Kel-F⁵)

Thermoplastic known for its excellent chemical resistance. It has near-zero absorption rate and a low coefficient of thermal expansion. This polymer structure can be used in temperatures ranging from -240°C to 200°C. It is nonflammable and liquid oxygen compatible.

Notes:

1. Dupont Co. trademark
2. Celanese Plastics Co. trademark
3. GE Plastics trademark
4. Phillips 66 trademark
5. Daikin Industries trademark