

Solenoid Operated Pinch & Isolation Valves

For Analytical, Bio-Medical and Laboratory Applications
Over 500 standard solenoid valves available.



Effective Date: June '98

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<http://www.nresearch.com>

NR RESEARCH[®]
INCORPORATED

267 Fairfield Avenue, West Caldwell, NJ 07006 USA
Tel: (973) 808-8811 Fax: (973) 808-0086



<http://www.nresearch.com>

Your Primary Source of Supply

Neptune Research has become a leader in the development of Solenoid Operated Teflon[®] Isolation Valves, Pinch Valves, and Sub-Miniature Valves. Our valves feature small size, low power consumption, high cycle life and fast response time.

MANUFACTURING PLANT & SALES OFFICE:

Address	267 Fairfield Avenue	E-Mail:	sales@nresearch.com
	West Caldwell, NJ 07006 USA	E-Mail:	service@nresearch.com
Phone :	(973) 808-8811		
Fax :	(973) 808-0086	Website:	http://www.nresearch.com

Terms And Conditions

- 1) Prices and specifications are subject to change without notice.
- 2) Shipping dates are approximate and are subject to delays beyond our control.
- 3) Terms: Net 30 days to companies with established credit rating.
- 4) F.O.B. Point and Title: All material is sold F.O.B. factory. Title to all material sold shall pass to buyer upon delivery by seller to carrier at shipping point.
- 5) Special tooling acquired specifically to produce goods for buyer remain the property of NResearch.
- 6) Limited Warranty: The seller warrants all NResearch products to be free from defects in workmanship or material under normal use and service for a period of one year from date of shipment. Liability under this warranty is limited to repair or replacement F.O.B. factory of any parts which prove to be defective providing goods have been returned within one year from date of purchase.

The products in this catalog are covered by one or more of the following patents: United States Patent Nos. Re. 34,261; 4,711,269; 5,143,188; 4,496,133; 4,993,456; 5,190,071; 5,433,244; 5,546,987; and other United States Patents pending. European Patent No. 0 319 618 in Switzerland, Germany, France, Great Britain, Liechtenstein and Sweden and other patents pending.

RECENT DEVELOPMENTS

Modern computer technology has brought about a demand for greater miniaturization with commensurate lower power consuming solenoid operated valves. This is primarily a result of total computerization of laboratory, analytical and medical processes.

Presently accepted competitive solenoid and valve design principles are fast becoming obsolete as they are unable to meet the requirements of rapidly growing technologies in our field. Our research division has developed new and innovative valve designs which we are proud to present in this catalog.

RESEARCH AND DEVELOPMENT

Our on-going research permits us to assist our customers in meeting their unique requirements in a prompt and economical manner. We welcome being able to help with your special valve design problems.

QUALITY CONTROL

We utilize only the highest available quality for our raw materials. All our component parts are manufactured by us, enabling end production to be the ultimate in high standards of quality control. All of our valves are 100% tested.

DELIVERY

We are proud to offer industry's best delivery. Many standard items are available for off-the-shelf shipment. We are extremely proud of our "On Schedule" delivery of custom-made valves.

PRICING

While we feel that our products are superior to any competitive units, we constantly attempt to make our overall pricing the most attractive in our market place.

WARRANTY

All units warranted for 1 year from date of shipment. Improper use or mishandling of the units, in the opinion of the manufacturer, voids this warranty!

Your Inquiries Are Invited

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*(N.O. — Normally Open) *(N.C. — Normally Closed)

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SUB-MINIATURE, TFE (TEFLON®) ISOLATION VALVES & PINCH VALVES



Ideal for use where space is at a premium and where high purity is an absolute necessity.

FEATURES

- △ All TFE Wetted Parts
- △ High Cycle Life
- △ Low Internal Volume
- △ Fast Response Time
- △ Small Size
- △ Low Power Consumption
- △ Zero Dead Volume
- △ Exceptionally Lightweight

DIMENSIONS

MODEL	A	B MAX.	C (Basic Circle)
161T 161P	0.750 (19.0)	1.15 (29.2)	0.500 (12.7)

(Metric Dimensions in Parenthesis)

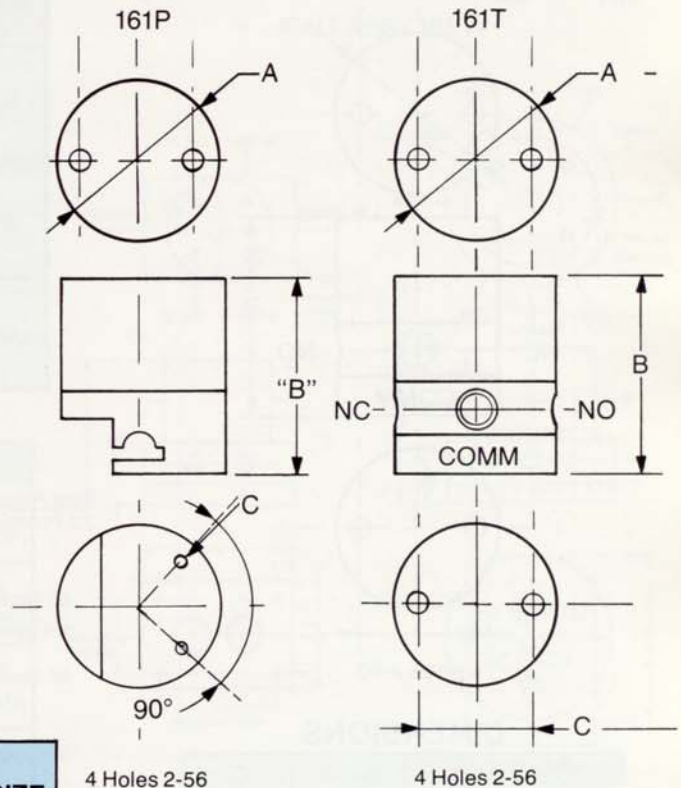
SPECIFICATIONS

MODEL	VOLT/AMPS	POWER WATTS (Approx.)	EQUIV. ORIFICE DIA.	PORT SIZE
161T 161P	12VDC/.08 Amps 24VDC/.04 Amps	1.0	1/32	10-32

ENGINEERING SPECIFICATIONS

Operating Pressure: Vacuum-30PSI

Standard Lead Wires: 12"



Subminiature Valves available in other configurations. Consult factory.

ORDERING INFORMATION

MODEL	TYPE	VOLTAGE
161T	2 Way, Normally Closed = 01	12VDC = 1 24VDC = 2
	2 Way, Normally Open = 02	
	3 Way = 03	
161P**	1 Tube, Normally Closed = 01	
	1 Tube, Normally Open = 02	

**161P-Pinch Valve available with standard .030" ID x .065" OD Tubing

TO ORDER

MODEL: 161T Normally Closed 24VDC Mounting
161T 01 2 (a)
i.e.: 161T012(a)
See Page 10

Specify Sub-Miniature

*Teflon is a registered trademark of Du Pont Corporation

Ideal for use with corrosive fluids
and where high purity is required.

**MODELS: 225T
360T
648T**

FEATURES

- △ All TFE Wetted Parts
- △ Low Internal Volume
- △ High Cycle Life
- △ Fast Response Time
- △ Small Size
- △ Low Power Consumption
- △ Zero Dead Volume
- △ Exceptionally Lightweight

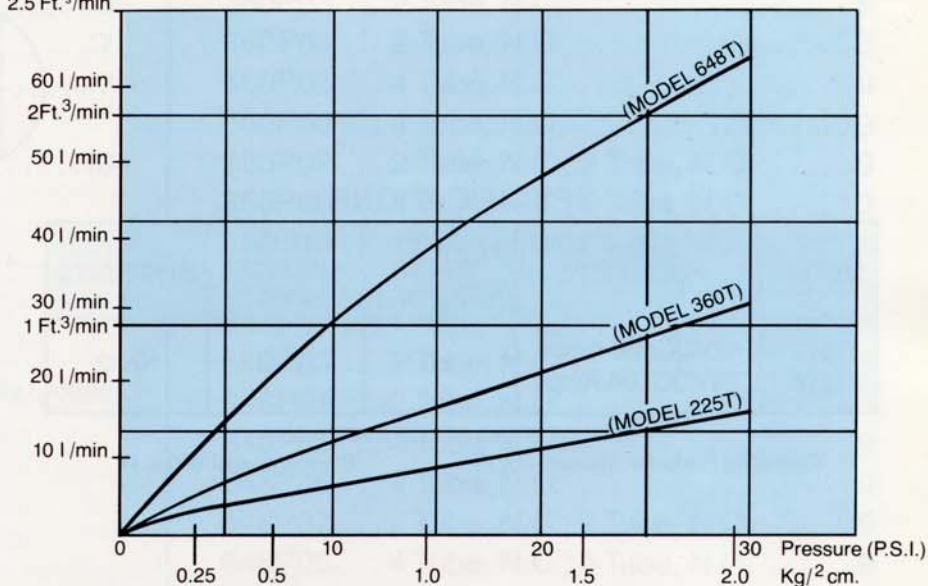
SPECIFICATIONS

MODEL	VOLT/AMPS	POWER WATTS (Approx.)	EQUIV. ORIFICE DIA.	PORT SIZE
225T	12 VDC/.13 Amps 24 VDC/.06 Amps 115 VAC/.01 Amps	1.5	1/16	1/4 - 28 Flat Bottom
360T	12 VDC/.4 Amps 24 VDC/.18 Amps 115 VAC/.04 Amps	4.2	3/32	1/4 - 28 Flat Bottom
648T	12 VDC/.6 Amps 24 VDC/.3 Amps 115 VAC/.07 Amps	7.2	5/32	1/8 NPT

ENGINEERING SPECIFICATIONS

Operating Pressure: Vacuum - 30 PSI Standard Lead Wires: 12"

Flow Rate (Cu. Ft./min or Liters/min . . . AIR) Comm → n.c.
2.5 Ft.³/min



DIMENSIONS

MODEL	A	B MAX.	C
225T	1.00 (25.4)	1.50 (38.1)	0.687 (17.44)
360T	1.25 (31.75)	1.78 (45.2)	0.884 (22.45)
648T	1.50 (38.1)	2.10 (53.3)	1.125 (28.58)

(Metric Dimensions in Parenthesis)

ORDERING INFORMATION

MODEL	TYPE	VOLTAGE
225T	2 Way, Normally Closed = 01	12VDC = 1
360T	2 Way, Normally Open = 02	24VDC = 2
648T	3 Way = 03	115VAC = 3

TO ORDER

MODEL: 225T Normally Open 115VAC Mounting
225T 02 3 (a)

i.e.: 225T023 (a)

See Page 10

TFE (TEFLON*) ISOLATION VALVES

Double 3-Way & Triple 3-Way

The double 3-Way Valve can be used to replace two 3-Way Valves. It operates with one solenoid and consequently is suitable in systems where two valves

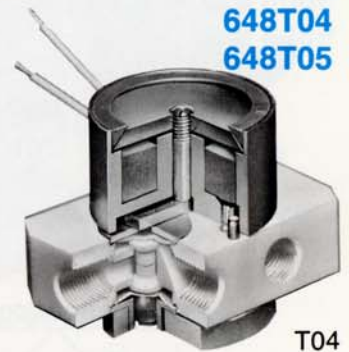
would operate simultaneously. The Triple 3-Way also operates with one solenoid and would be the equivalent of three 3-Way Valves.

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FEATURES

- △ All TFE Wetted Parts
- △ High Cycle Life
- △ Low Power Consumption
- △ Zero Dead Volume
- △ Fast Response Time

**MODELS: 360T04
360T05
648T04
648T05**



CUT-AWAY VIEW

T04

SPECIFICATIONS

MODEL	VOLT/AMPS	POWER WATTS (Approx.)	EQUIV. ORIFICE DIA.	PORT SIZE
360T	12VDC/.40 Amps 24VDC/.18 Amps 115VAC/.04 Amps	4.2	1/16	1/4-28 Flat Bottom
648T	12VDC/.60 Amps 24VDC/.30 Amps 115VAC/.07 Amps	7.2	3/32	1/4-28 Flat Bottom

ENGINEERING SPECIFICATIONS

Operating Pressure: Vacuum-30PSI

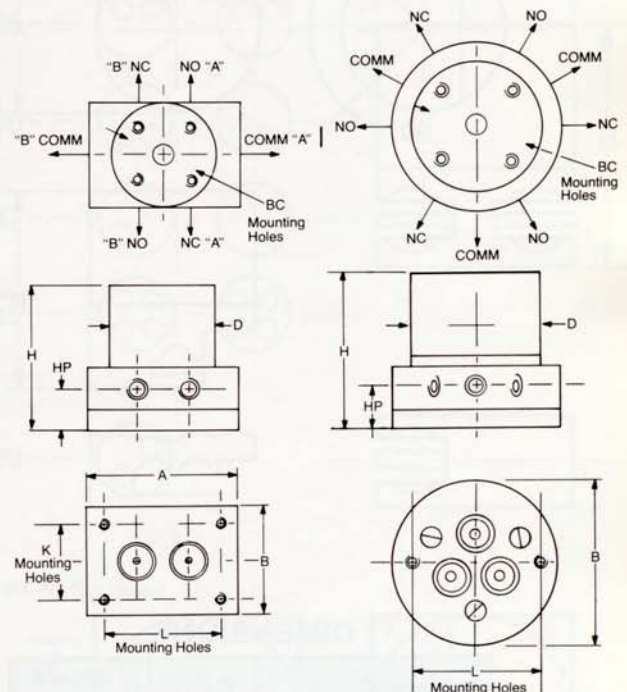
Standard Lead Wires: 12"

DIMENSIONS

MODEL	A	B	BC	D	H MAX.	HP	K	L
360T04	1.80 (45.72)	1.25 (31.75)	0.88 (22.35)	1.25 (31.75)	1.9 (48.2)	0.45 (11.4)	0.81 (20.57)	1.38 (35.05)
360T05		1.75 (44.45)	0.88 (22.35)	1.25 (31.75)	1.9 (48.2)	0.45 (11.4)		1.25 (31.75)
648T04	2.30 (58.42)	1.50 (38.1)	1.125 (28.58)	1.50 (38.1)	2.12 (53.85)	0.50 (12.7)	1.00 (25.4)	1.75 (44.45)
648T05		2.00 (50.8)	1.125 (28.58)	1.50 (38.1)	2.12 (53.85)	0.50 (12.7)		1.50 (38.1)

All mounting holes are #4-40

(Metric Dimensions in Parenthesis)



T04 Configuration

T05 Configuration

ORDERING INFORMATION

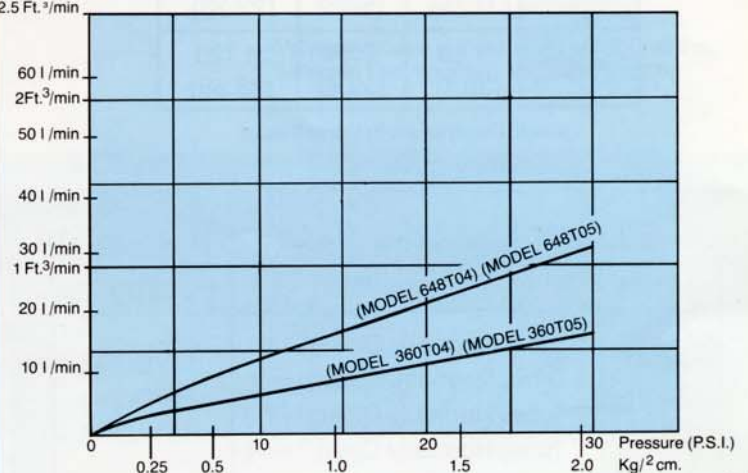
MODEL	TYPE	VOLTAGE
360T	Double 3-Way =04	12VDC=1 24VDC=2 115VAC=3
648T	Triple 3-Way =05	

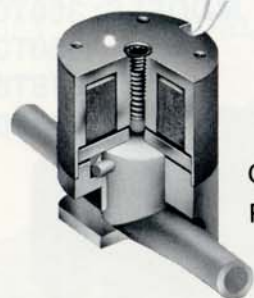
TO ORDER

MODEL: 648T Double 3-Way 24VDC Mounting
 648T 04 2 (a)
 i.e.: 648T042 (a) See Page 10

*Teflon is a registered trademark of Du Pont Corporation

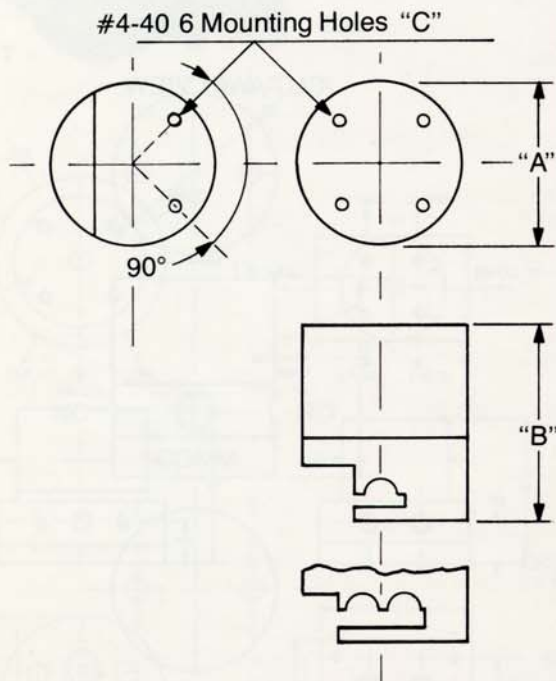
Flow Rate (Cu. Ft./min or Liters/min . . . AIR) Comm → n.c.
2.5 Ft.³/min





**MODELS: 225P
360P
648P**

CUT-AWAY VIEW
P01



DIMENSIONS

MODEL	A	B MAX.	C (Basic Circle)
225P	1.00 (25.4)	1.40 (35.5)	.687 (17.46)
360P	1.25 (31.75)	2.00 (50.8)	0.875 (22.23)
648P	1.50 (38.1)	2.34 (59.4)	1.125 (28.58)

(Metric Dimensions in Parenthesis)

ORDERING INFORMATION

MODEL	TYPE	VOLTAGE
225P	1 Tube, Normally Closed =01	12VDC=1
360P	1 Tube, Normally Open =02	24VDC=2
648P	2 Tube, Normally Closed =03	115VAC=3
	2 Tube, Normally Open =04	

SOLENOID PINCH VALVES

Suitable for application where fluid must be isolated from the valve parts. The tubing can be easily changed. The valves are available 2-Way, Normally Closed and 2-Way, Normally Open. They are offered with single or double tubes.

FEATURES

- △ High Cycle Life
- △ Low Power Consumption
- △ Zero Dead Volume
- △ Small Size
- △ Fast Response Time

SPECIFICATIONS

MODEL	VOLT/AMPS	POWER WATTS (Approx.)	TUBE WALL
225P	12VDC/.13 Amps 24VDC/.06 Amps 115VAC/.01 Amps	1.5	1/32
360P	12VDC/.40 Amps 24VDC/.18 Amps 115VAC/.04 Amps	4.2	1/32, 1/16
648P	12VDC/.60 Amps 24VDC/.30 Amps 115VAC/.07 Amps	7.2	1/32, 1/16

ENGINEERING SPECIFICATIONS

Standard Tube Material: Silicone

Standard Lead Wires: 12"

TUBING NUMBER	TUBING I.D.	TUBING WALL	TUBING O.D.
225P { —11	1/32"	1/32"	3/32"
—21	1/16"	1/32"	1/8"
360P { —22	1/16"	1/16"	3/16"
—42	1/8"	1/16"	1/4"
648P { —82	1/4"	1/16"	3/8"

Indicated Tube Sizes are for reference only. Consult factory.

Other Tubing Sizes Available on Customer Request

TO ORDER

MODEL: 225P 2 Tube, N.C. 12VDC Tube# Mounting
 225P 03 1 —11 (a)
 i.e.: 225P031—11(a)

See Page 10

SOLENOID OPERATED MULTIPLE TUBE PINCH VALVES

These valves are offered with a variety of tubing combinations. They are available with 2 tubes, 4 tubes and 8 tubes. Each valve is operated with a single solenoid.

Available with:

- (a) 1 Tube, Normally Open and 1 Tube, Normally Closed
- (b) 4 Tube, Normally Closed
- (c) 4 Tube, Normally Open
- (d) 2 Tube, Normally Closed and 2 Tube, Normally Open
- (e) 4 Tube, Normally Closed and 4 Tube, Normally Open

FEATURES

- △ High Cycle Life
- △ Zero Dead Volume
- △ Low Power Consumption
- △ Fast Response Time

SPECIFICATIONS

MODEL	VOLT/AMPS	POWER WATTS (Approx.)	TUBE WALL
225P	12VDC/.13 Amps 24VDC/.06 Amps 115VAC/.01 Amps	1.5	1/32
360P	12VDC/.40 Amps 24VDC/.18 Amps 115VAC/.04 Amps	4.2	1/32, 1/16
648P	12VDC/.60 Amps 24VDC/.30 Amps 115VAC/.07 Amps	7.2	1/32, 1/16

ENGINEERING SPECIFICATIONS

Standard Tube Material: Silicone Standard Lead Wires: 12"

DIMENSIONS

MODEL	A	B MAX.	C (Basic Circle)
225P	1.00 (25.4)	1.80 (45.7)	0.687 (17.44)
360P	1.250 (31.75)	2.25 (57.1)	0.884 (22.45)
648P	1.50 (38.1)	2.60 (66.0)	1.125 (28.58)

(Metric Dimensions in Parenthesis)

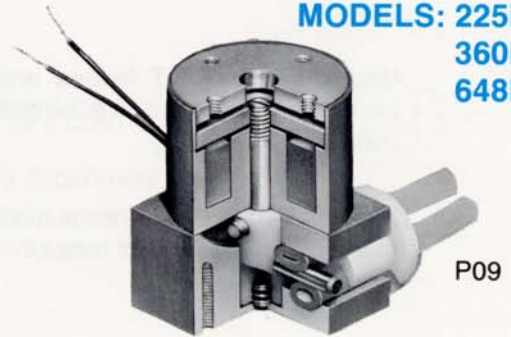
ORDERING INFORMATION

MODEL	TYPE	VOLTAGE
225P	4 Tube, Normally Closed =05	12VDC=1
	4 Tube, Normally Open =06	24VDC=2
360P	2 Tube, N.C., 2 Tube, N.O. =07	115VAC=3
648P	4 Tube, N.C., 4 Tube, N.O. =08	
	1 Tube, N.C., 1 Tube, N.O. =09	

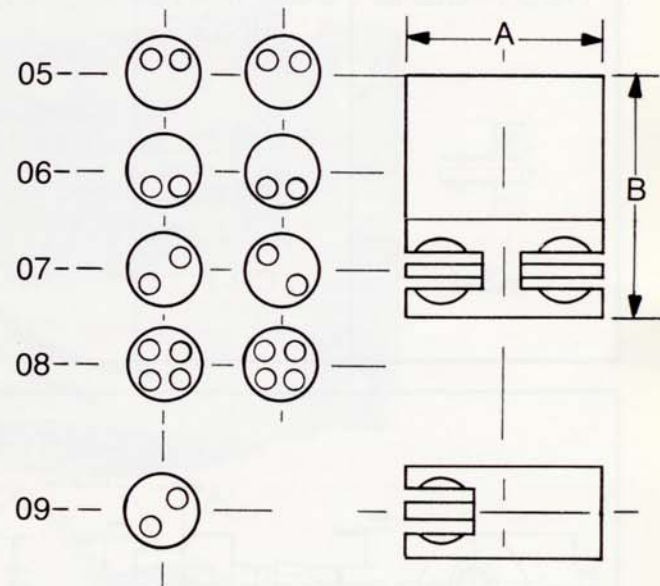
(Not all configurations are available in all tube sizes-contact factory)

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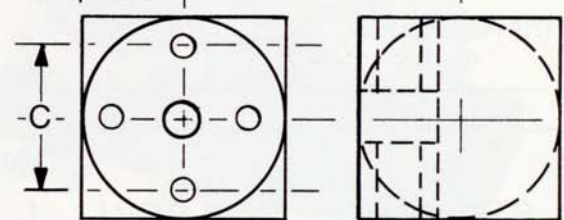
**MODELS: 225P
360P
648P**



CUT-AWAY VIEW



#4-40 Tap Holes



Valves available in 2 mounting configurations,
Solenoid End Mounting and Clip Mounting

TO ORDER

MODEL: 360P 4 Tube, N.C. 12VDC Tube# Mounting
360P 05 1 -42 (a)

i.e.: 360P051-42 (a)

Note: Tubing Number Specifications Chart on Page 8

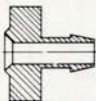
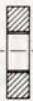
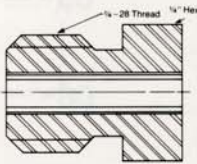
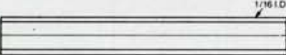
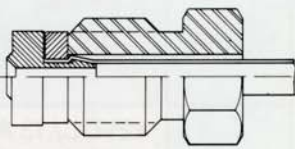
MOUNTING OPTIONS

Unique TRI-MOUNT feature enables the user to select one of three optional methods of mounting.

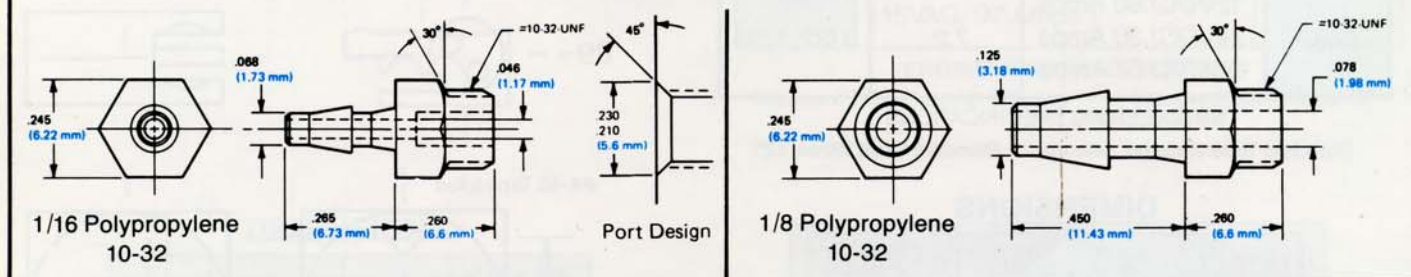
Integral or Special Mountings available at extra charge. Contact factory.

- a) Solenoid End Mounting — for accessibility of fittings, tubing and improved heat dissipation.
- b) Body Mounting.
- c) Side Mounting (with clip)

To order, add the appropriate letter a,b,c, (as above) to the ordering code as indicated on various pages in this catalog.

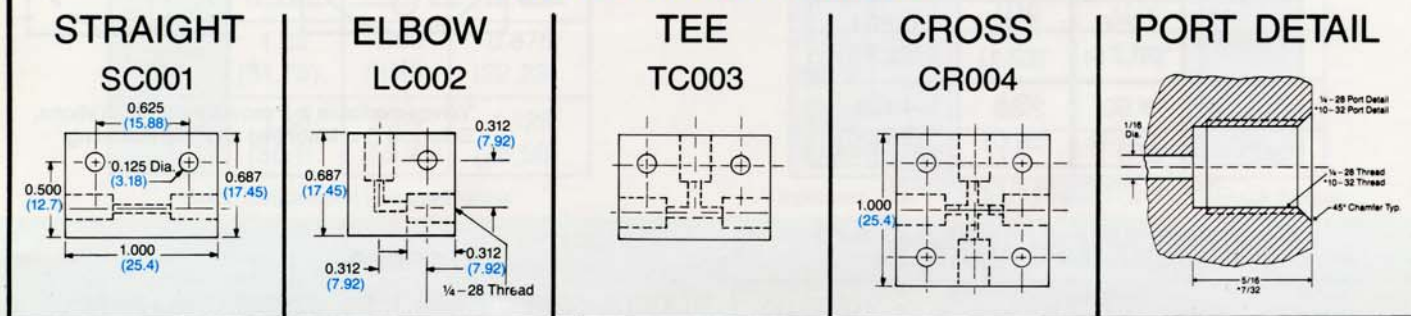
KEL-F-SEAL  KS-1	CLAMPING RING  CR-1	TFE NUT  TN-1	TUBING Specify length of tubing desired (in inches)  Available as Single or Double Ended TT-1	TUBING ASSEMBLY  TA- 1 (Single End Fitting) 2 (Double End Fitting)
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BARB FITTINGS



(Metric Dimensions in Parenthesis)

CONNECTION FITTINGS



COMPONENT CLIPS

A complete selection of clips available for various diameters.

Many standard materials and finishes are carried in our inventory.

Contact factory for your specific needs.

MANIFOLD INTEGRATED SYSTEMS

A wide variety of these sophisticated units are available to customer specifications. Illustrated are several variations which have already been fabricated for specific orders.

Our engineering department has the experience and technical knowledge to aid your staff. We invite your inquiries.



SPECIALTY VALVES



SUB-MINIATURE VENT VALVE

Typically used to clear blood cell counting equipment of accumulated foreign liquid.



LATCHING VALVE WITH UNIVERSAL MOUNTING PLATE

Ideal for situations where valve must remain open for extremely long periods of time. Available upon special order on all models.

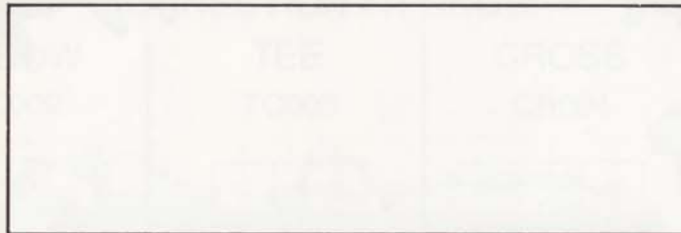
All of our standard valves are available with Universal Mounting Plates as shown here. Contact factory for technical information about this special option.



PNEUMATIC PINCH VALVE

Our complete line of valves are available with Pneumatic Actuators upon special order.

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