

Polyethylene Tubing

Advantages

Chemical resistant, flexible, low cost, eight colors, five tube sizes and choice of reel lengths.

Construction

Flexible polyethylene thermoplastic tubing is extruded from high molecular weight resin for increased dimensional stability, uniformity and long-term strength. Its resistance to environmental stress cracking greatly exceeds that of ordinary polyethylene tubing as measured by ASTM D-1693, (10% IGEPAL).

Applications & Approvals

Polyethylene tubing is available in black as well as seven coding colors as recommended by the Instrument Society of America. Black (EB) tubing contains an ultra-violet inhibitor which is recommended for use in sunlit areas. Ingredients of natural and color tubing (except black) listed below meet FDA requirements for food contact applications. All tubing conforms to ASTM D-1248, Type I, Class A, Category 4, Grade E5.

Temperature Range

Suggested operating temperature range is -80°F to +150°F (-62°C to +66°C).

Fitting Recommendation

- FT fittings
- Brass fittings

Nomenclature

Part numbers are constructed from symbols that identify the style and size of the fitting. Letters identify style and material. Numbers identify size in 1/16's of an inch.

Example:

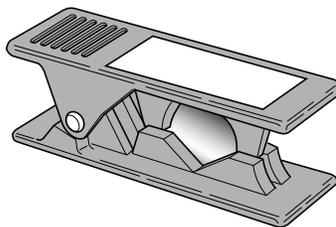
E - 6 4 - Y - 0500
 Polyethylene ———
 3/8" (6/16) Tube O.D. ———
 1/4" (4/16) Tube I.D. ———
 Color, Yellow ———
 Reel Footage ———

Instrument grade tubing E

Part Number	Color	O.D.	I.D.	Wall	Reel Length Feet	Working Pressure psi at 73°F	Min. Burst psi at 73°F	Min. Bend Radius Inches	Weight Per 100 Feet
E-43-0100	Natural	1/4	.170	.040	100	120	625	1	1.1
E-43-0500	Natural	1/4	.170	.040	500	120	625	1	1.1
E-43-1000	Natural	1/4	.170	.040	1000	120	625	1	1.1
EB-43-0100	Black	1/4	.170	.040	100	120	625	1	1.1
EB-43-0500	Black	1/4	.170	.040	500	120	625	1	1.1
EB-43-1000	Black	1/4	.170	.040	1000	120	625	1	1.1
E-43-R-0100	Red	1/4	.170	.040	100	120	625	1	1.1
E-43-R-0500	Red	1/4	.170	.040	500	120	625	1	1.1
E-43-B-0100	Blue	1/4	.170	.040	100	120	625	1	1.1
E-43-B-0500	Blue	1/4	.170	.040	500	120	625	1	1.1
E-43-O-0500	Orange	1/4	.170	.040	500	120	625	1	1.1
E-43-Y-0500	Yellow	1/4	.170	.040	500	120	625	1	1.1
E-43-P-0500	Purple	1/4	.170	.040	500	120	625	1	1.1
E-43-G-0500	Green	1/4	.170	.040	500	120	625	1	1.1
E-53-0500	Natural	5/16	.187	.062	500	145	800	1-1/8	2.1
EB-53-0500	Black	5/16	.187	.062	500	145	800	1-1/8	2.1
E-64-0100	Natural	3/8	.250	.062	100	125	675	1-1/4	2.5
E-64-0500	Natural	3/8	.250	.062	500	125	675	1-1/4	2.5
EB-64-0100	Black	3/8	.250	.062	100	125	675	1-1/4	2.5
EB-64-0500	Black	3/8	.250	.062	500	125	675	1-1/4	2.5
E-64-R-0500	Red	3/8	.250	.062	500	125	675	1-1/4	2.5
E-64-B-0500	Blue	3/8	.250	.062	500	125	675	1-1/4	2.5
E-64-O-0500	Orange	3/8	.250	.062	500	125	675	1-1/4	2.5
E-64-Y-0500	Yellow	3/8	.250	.062	500	125	675	1-1/4	2.5
E-64-P-0500	Purple	3/8	.250	.062	500	125	675	1-1/4	2.5
E-64-G-0500	Green	3/8	.250	.062	500	125	675	1-1/4	2.5
E-86-0100	Natural	1/2	.375	.062	100	90	425	2-1/2	3.6
EB-86-0100	Black	1/2	.375	.062	100	90	425	2-1/2	3.6
E-108-0100	Natural	5/8	.500	.062	100	70	325	4	4.6
EB-108-0100	Black	5/8	.500	.062	Coil	70	325	4	4.6

Plastic tube cutter PTC

Part No. PTC-001



An easy to handle razor/edged tube cutter, closes automatically, assuring clean and square cuts.

May be used with polyethylene, polypropylene, nylon and other plastic tubing.

How To Use

Insert plastic tube to desired length, allow tube cutter to close, then apply pressure until tube snaps off.

Polyethylene Tubing

Construction & Approvals

Flame resistant polyethylene is manufactured from a distinctively formulated compound which meets the UL94 V-2 flame classification. It also meets the flame spread, fuel contribution and smoke density requirements of the ASTM E84-81a tunnel test.

Applications

Schrader Bellows series FRPE tubing is the preferred product for pneumatic control applications in the heating-ventilating-air conditioning-energy conservation industry. It is also suitable for use in petrochemical plants, petroleum refineries, pulp and paper mills, mines, steel mills and other industries where protection against intermittent flame and hot sparks is necessary.

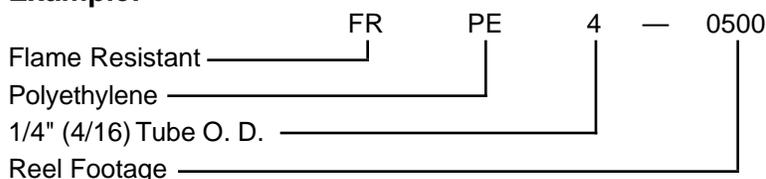
Temperature Range

Suggested operating temperature range is -85°F to +150°F (-65°C to + 66°C).

Nomenclature

Order by tubing part number and name.

Example:



Flame resistant tubing FRPE

Part No.	Color	O.D.	I.D.	Wall	Reel Length Feet	Working Pressure psi at 73°F	Min. Burst psi at 73°F	Min. Bend Radius Inches	Weight Per 100 Feet
FRPE2.5-0500	Black	5/32	.096	.030	500	180	900	1/2	.56
FRPE4-0250	Black	1/4	.170	.040	250	130	650	3/4	1.20
FRPE4-0500	Black	1/4	.170	.040	500	130	650	3/4	1.20
FRPE4-1000	Black	1/4	.170	.040	1000	130	650	3/4	1.20
FRPE6-0250	Black	3/8	.250	.062	250	180	900	1-1/2	2.90
FRPE6-0500	Black	3/8	.250	.062	500	180	900	1-1/2	2.90
FRPE8-0250	Black	1/2	.375	.062	250	130	650	1-3/4	4.00

Advantages & Construction

Schrader Bellows series HDPE is manufactured from high strength, high density polyethylene. This semi-rigid tubing is inherently resistant to most chemicals, less easily cut or damaged and has a higher burst pressure rating than series "E" tubing.

Applications & Approvals

HDPE tubing is recommended with FT fittings for maximum performance. Material meets NFS std 14 for potable water use.

Temperature Range

Suggested operating temperature range is -80°F to +175°F (-62°C to +80°C).

Nomenclature

Order by tubing part number and name.

High density tubing HDPE

Part No.	Color	O.D.	I.D.	Wall	Reel Length Feet	Working Pressure psi at 73°F	Min. Burst psi at 73°F	Min. Bend Radius Inches	Weight Per 100 Feet
HDPE-43-0250	Black	1/4	.170	.040	250	300	1200	1-1/2	1.1
HDPE-43-0500	Black	1/4	.170	.040	500	300	1200	1-1/2	1.1
HDPE-64-0250	Black	3/8	.250	.062	250	300	1200	2-1/2	2.5
HDPE-64-0500	Black	3/8	.250	.062	500	300	1200	2-1/2	2.5

Nylon Tubing



Nomenclature

Order by tubing part number and name.

Example:

Nylon _____ N N — 2 — 016
 Color, Natural _____
 1/8" (2/16) Tube O.D. _____
 Wall Thickness in thousandths of an inch _____

Advantages

Flexible nylon tubing is carefully made from high-grade, abrasion-resistant, heat-and light-stabilized nylon. Resistance to stress-cracking greatly exceeds that of ordinary nylon tubing. Extremely low level water absorption.

Chemical-resistant nylon tubing has the additional benefits of better flexibility, lighter weight and resistance to flexural fatigue.

Colors

Available in natural (NN) and black (NB). Black tubing is recommended for use outdoors and in sunlit areas.

Temperature Range

Operating temperatures, depending upon conditions, are -65°F to +200°F (- 54°C to + 93°C) continuous.

Fitting Recommendations

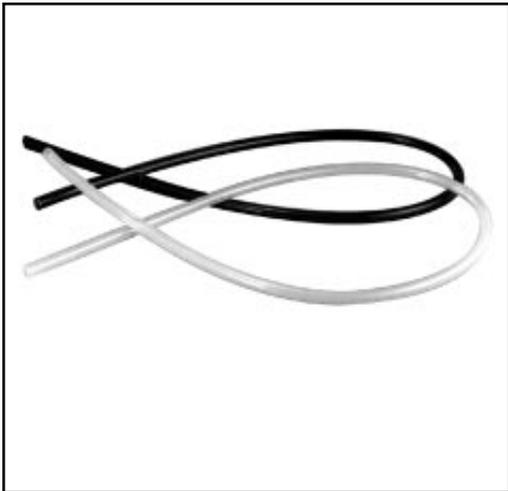
- FT fittings
- Brass fittings

Flexible tubing N

Nylon Part No.	Color	Nom. Tube O.D.	Nom. Tube I.D.	Average Wall Thick.	*Min. Burst Pressure at 73°F psi	Min. Bend Radius Inches	Std. Reel Length Feet	Std. Reels Per Carton
NN-2-016	Natural	1/8	.093	.016	1000	1/4	250	1
NB-2-016	Black	1/8	.093	.016	1000	1/4	250	1
NN-2-031	Natural	1/8	.064	.031	2000	1/4	250	1
NB-2-031	Black	1/8	.064	.031	2000	1/4	250	1
NN-2.5-025	Natural	5/32	.106	.025	1200	1/2	250	1
NB-2.5-025	Black	5/32	.106	.025	1200	1/2	250	1
NN-3-025	Natural	3/16	.138	.025	1000	5/8	250	1
NB-3-025	Black	3/16	.138	.025	1000	5/8	250	1
NN-3-046	Natural	3/16	.096	.046	2000	7/16	250	1
NB-3-046	Black	3/16	.096	.046	2000	7/16	250	1
NN-4-035	Natural	1/4	.180	.035	1000	7/8	250	1
NB-4-035	Black	1/4	.180	.035	1000	7/8	250	1
NN-4-040	Natural	1/4	.170	.040	1250	7/8	250	1
NB-4-040	Black	1/4	.170	.040	1250	7/8	250	1
NN-4-062	Natural	1/4	.127	.062	2000	1/2	250	1
NB-4-062	Black	1/4	.127	.062	2000	1/2	250	1
NN-5-040	Natural	5/16	.233	.040	1250	1-1/8	250	1
NB-5-040	Black	5/16	.233	.049	1250	1-1/8	250	1
NN-6-050	Natural	3/8	.275	.050	1250	1-1/8	250	1
NB-6-050	Black	3/8	.275	.050	1250	1-1/8	250	1
NN-6-093	Natural	3/8	.190	.093	2000	3/4	250	1
NB-6-093	Black	3/8	.190	.093	2000	3/4	250	1
NN-8-062	Natural	1/2	.375	.062	1000	1-1/4	250	1
NB-8-062	Black	1/2	.375	.062	1000	1-1/4	250	1
NN-8-124	Natural	1/2	.253	.124	2000	1	250	1
NB-8-124	Black	1/2	.253	.124	2000	1	250	1

*Suggested working pressure is 1/4 of burst pressure.

Nylon Tubing



Nomenclature

Order by tubing part number and name.

Example:

Nylon _____ N B R 2 016
 Color, Black _____
 Rigid _____
 1/8" (2/16) Tube O.D. _____
 Wall Thickness in thousandths of an inch _____

Semi-rigid high strength tubing NR

Advantages

Series NR semi-rigid nylon tubing offers better chemical resistance than series N, good resistance to high ambient temperature and low moisture absorption. NR has a high tensile strength which will give excellent coupling retention in high pressure, temperature and vibration environments.

Construction

Schrader Bellows series NR tubing is manufactured from a semi-rigid nylon II material. The tubing does not contain plasticizers.

Applications & Approvals

NR tubing is specified for machine tool lubricating systems, marine control systems, process lines for chemicals and oils and other applications requiring a high quality nylon tube.

Temperature Range

The recommended operating temperature range for service at rated pressures with compatible fluids is -60°F to +200°F (-51°C to +93°C).

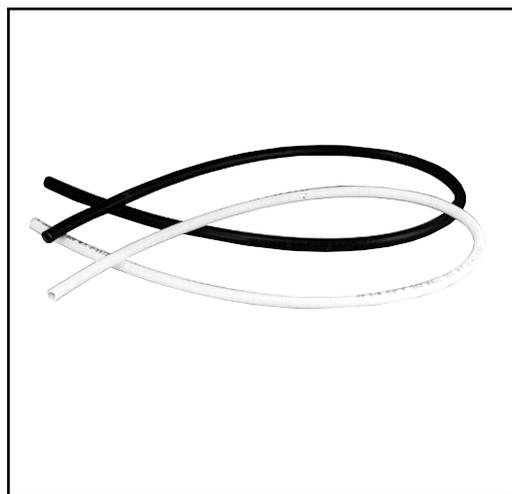
Fitting Recommendations

- FT fittings
- Brass fittings

Nylon Part No.	Color	Nom. Tube O.D.	Nom. Tube I.D.	Average Wall Thick.	*Min. Burst Pressure at 73°F psi	Min. Bend Radius Inches	Std. Reel Length Feet	Std. Reels per Carton
NNR-2-017	Natural	1/8	.091	.017	1700	1/2	500	1
NBR-2-017	Black	1/8	.091	.017	1700	1/2	500	1
NNR-2-026	Natural	1/8	.073	.026	2500	3/8	500	1
NBR-2-026	Black	1/8	.073	.026	2500	3/8	500	1
NNR-3-024	Natural	3/16	.140	.024	1700	3/4	500	1
NBR-3-024	Black	3/16	.140	.024	1700	3/4	500	1
NNR-3-039	Natural	3/16	.110	.039	2500	5/8	500	1
NBR-3-039	Black	3/16	.110	.039	2500	5/8	500	1
NNR-4-035	Natural	1/4	.180	.035	1700	1	250	1
NBR-4-035	Black	1/4	.180	.035	1700	1	250	1
NNR-4-050	Natural	1/4	.150	.050	2500	7/8	250	1
NBR-4-050	Black	1/4	.150	.050	2500	7/8	250	1
NNR-5-040	Natural	5/16	.233	.040	1700	1-1/2	250	1
NBR-5-040	Black	5/16	.233	.040	1700	1-1/2	250	1
NNR-6-048	Natural	3/8	.279	.048	1700	1-3/4	250	1
NBR-6-048	Black	3/8	.279	.048	1700	1-3/4	250	1
NNR-6-075	Natural	3/8	.225	.075	2500	1-1/2	250	1
NBR-6-075	Black	3/8	.225	.075	2500	1-1/2	250	1
NNR-8-062	Natural	1/2	.376	.062	1500	2-3/8	250	1
NBR-8-062	Black	1/2	.376	.062	1500	2-3/8	250	1
NNR-8-075	Natural	1/2	.350	.075	2200	2-1/2	250	1
NBR-8-075	Black	1/2	.350	.075	2200	2-1/2	250	1

*Suggested working pressure is 1/4 of burst pressure.

Polypropylene Tubing



Nomenclature

Order by tubing part number and name.

Example:

Polypropylene PP — 8 6 — 0250
 1/2" (8/16) Tube O.D. | | | | |
 3/8" (6/16) Tube I.D. | | | | |
 Coil Length in feet | | | | |

Laboratory grade tubing PP

Part No.	Color	O.D. In.	Nom. I.D.	Wall	Coil Length Feet	Working Pressure at 73°F	Min. Burst Pressure at 73°F	Min. Bend Radius Inches
PP-21-1000	White	1/8	.080	.023	1000	350	1400	1/2
PPB-21-1000	Black	1/8	.080	.023	1000	350	1400	1/2
PP-32-0500	White	3/16	.120	.034	500	350	1400	3/4
PPB-32-0500	Black	3/16	.120	.034	500	350	1400	3/4
PP-43-0500	White	1/4	.170	.040	500	300	1200	1
PPB-43-0500	Black	1/4	.170	.040	500	300	1200	1
PP-53-0500	White	5/16	.187	.062	500	350	1400	1-1/4
PPB-53-0500	Black	5/16	.187	.062	500	350	1400	1-1/4
PP-64-0500	White	3/8	.250	.062	500	300	1200	1-1/4
PPB-64-0500	Black	3/8	.250	.062	500	300	1200	1-1/4
PP-86-0250	White	1/2	.375	.062	250	225	900	2-1/2
PPB-86-0250	Black	1/2	.375	.062	250	225	900	2-1/2
PP-108-0100	White	5/8	.500	.062	100	175	700	4
PPB-108-0100	Black	5/8	.500	.062	100	175	700	4

Advantages

Polypropylene tubing may be used at higher temperatures and working pressures than polyethylene tubing. Resistance to hot water and hot corrosive acids is excellent. Polypropylene tubing will last many times longer than nylon tubing in hot water service.

- Acid Resistant
- High Temperature
- Medium Pressures
- Chemical Resistant
- Corrosion Resistant
- Flexible
- Dimensionally Stable

Applications & Approvals

Polypropylene tubing is available in white or ultra-violet resistant black. Good resistance to vegetable oils. Water absorption is less than .01%. Excellent resistance to environmental stress cracking. Meets FDA requirements for food contact.

Temperature Range

Suggested operating temperatures, depending upon conditions are 0°F to +200°F (-18°C to +93°C).

Fitting Recommendations

- FT fittings
- Brass fittings

Polyurethane Tubing



Advantages

Polyurethane tubing is a high quality, precision-made tubing used in a wide range of demanding and critical applications.

Polyether based, polyurethane tubing occupies a unique position among polymers, sharing the best properties of both rubber and plastic. Urethane exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics. The tubing is tough, strong, kink-resistant and abrasion resistant, yet it's flexible and easy to assemble onto designated fittings.

- Tough
- Flexible
- Broad Temperature Range
- Eight Colors
- Abrasion Resistant
- Chemical Resistant

Applications & Approvals

Polyurethane tubing is used for a wide variety of applications. Typical usage includes air tools, robotics, pneumatic logic and actuation systems, analytical instrumentation, vacuum equipment, pressure measurement apparatus, semi-conductor equipment manufacturers and a variety of medical and laboratory applications.

Temperature Range

Suggested operating temperatures, depending upon conditions are 0°F to +200°F (-18°C to +93°C).

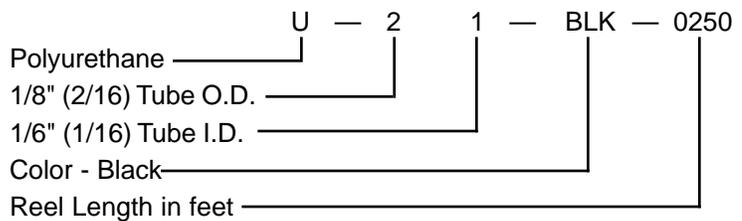
Fitting Recommendations

- Thermoplastic fittings
- Brass fittings

Nomenclature

Order by tubing part number and name.

Example:



Polyether base tubing U

Part No.*	Nom. Tube O.D.	Nom. Tube I.D.	Wall Thick.	Working** Pressure (PSI)	Burst Pressure (PSI)	Reel Length Feet
U-21-0500	1/8	1/16	1/32	100	400	500
U-21-0250						250
U-42-0500	1/4	1/8	1/16	110	450	500
U-42-0250						250
U-64-0250	3/8	1/4	1/16	80	325	250
U-64-0100						100 (coil)
U-86-0250	1/2	3/8	1/16	55	225	250
U-86-0100						100 (coil)

* Colors: Clear-Blank, Black-BLK, Green-GRN, Red-RED, Yellow-YEL, Blue-BLU, Orange-ORG, Gray-GRA

** Based on a full 4:1 safety factor.

Clear Vinyl Tubing



Advantages

Clear vinyl tubing is made from a virgin clear PVC (polyvinyl chloride) resin, specially formulated for exceptional purity, clarity and flexibility. Clear vinyl tubing is superior or equivalent to clear vinyl tubing available from any other source.

Clear vinyl tubing is 70 durometer for soft, easy handling and bending without tubing collapse, and is crystal clear for fully visible fluid flow and excellent appearance.

Applications & Approvals

Formula V-1 tubing fully meets all specifications called out by the United States Food and Drug Administration (FDA) for materials in contact with food and drugs for human consumption.

Fitting Recommendations

- Tubing sizes 42, 43, 53, 64, 86 and 108 are made for use with FT tube fittings. A tube support should be used with this tubing for maximum fitting holding power.
- Thermoplastic fittings.
- Brass fittings.

Nomenclature

Order by tubing part number and name.

Example:

Clear Vinyl Tubing — PV — 10 — 8 — 1
 5/8" (10/16) Tube O.D. —————
 1/2" (8/16) Tube I.D. —————
 Formula V-1 FDA Approved Formulation

Clear vinyl tubing PV

Crystal Clear Part No.	I.D.	O.D.	Wall	Working Pressure at 73°F (psi)	Standard Coil Length-Feet
PV21-1	1/16	1/8	1/32	35	100
PV32-1	1/8	.170	.025	35	100
PV42-1	1/8	1/4	1/16	65	100
PV43-1	.170	1/4	.040	55	100
PV403-1	3/16	1/4	1/32	22	100
PV53-1	3/16	5/16	1/16	55	100
PV63-1	3/16	3/8	3/32	55	100
PV73-1	3/16	7/16	1/8	75	100
PV54-1	1/4	5/16	1/32	20	100
PV64-1	1/4	3/8	1/16	55	100
PV74-1	1/4	7/16	3/32	60	100
PV84-1	1/4	1/2	1/8	70	100
PV75-1	5/16	7/16	1/16	50	100
PV85-1	5/16	1/2	3/32	60	100
PV95-1	5/16	9/16	1/8	70	100
PV86-1	3/8	1/2	1/16	45	100
PV96-1	3/8	9/16	3/32	50	100
PV106-1	3/8	5/8	1/8	60	100
PV97-1	7/16	9/16	1/16	40	100
PV107-1	7/16	5/8	3/32	45	100
PV117-1	7/16	11/16	1/8	50	100
PV108-1	1/2	5/8	1/16	30	100
PV118-1	1/2	11/16	3/32	40	100
PV128-1	1/2	3/4	1/8	45	100
PV138-1	1/2	13/16	5/32	60	100
PV129-1	9/16	3/4	3/32	40	100
PV139-1	9/16	13/16	1/8	45	100
PV1310-1	5/8	13/16	3/32	35	100
PV1410-1	5/8	7/8	1/8	40	100
PV1510-1	5/8	15/16	5/32	50	100
PV1411-1	11/16	7/8	3/32	30	100
PV1511-1	11/16	15/16	1/8	40	100
PV1611-1	11/16	1	5/32	45	100
PV1612-1	3/4	1	1/8	35	100
PV1712-1	3/4	1-1/16	5/32	35	50
PV1812-1	3/4	1-1/8	3/16	50	50
PV1912-1	3/4	1-3/16	7/32	52	50
PV2012-1	3/4	1-1/4	1/4	55	50
PV1814-1	7/8	1-1/8	1/8	30	50
PV1914-1	7/8	1-3/16	5/32	35	50
PV2014-1	7/8	1-1/4	3/16	45	50
PV2016-1	1	1-1/4	1/8	25	50
PV2116-1	1	1-5/16	5/32	30	50
PV2216-1	1	1-3/8	3/16	40	50
PV2416-1	1	1-1/2	1/4	45	50
PV2616-1	1	1-5/8	5/16	55	50
PV2218-1	1-1/8	1-3/8	1/8	25	50
PV2418-1	1-1/8	1-1/2	3/16	35	50
PV2420-1	1-1/4	1-1/2	1/8	20	50
PV2620-1	1-1/4	1-5/8	3/16	35	50
PV2820-1	1-1/4	1-3/4	1/4	45	50
PV3024-1	1-1/2	1-7/8	3/16	30	50
PV3224-1	1-1/2	2	1/4	40	50
PV3624-1	1-1/2	2-1/4	3/8	50	50
PV3628-1	1-3/4	2-1/4	1/4	40	50
PV4028-1	1-3/4	2-1/2	3/8	48	50
PV4032-1	2	2-1/2	1/4	35	50
PV4432-1	2	2-3/4	3/8	40	50
PV4840-1	2-1/2	3	1/4	20	50