

# Pipe Fittings



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## Introduction

**PANAM** has been in the field of manufacturing precision Pipe Fittings and Instrumentation valves since the last Two decades. With a team of dedicated specialists **PANAM** has always endeavored to satisfy their customers ever widening demands with unmatched precision.

With the latest in-house machinery and infrastructure under one roof, **PANAM** is manufacturing a wide range of Pipe Fittings and Instrumentation products in different sizes and metals like brass, stainless steel, monel and in various other metals as per the customer's specific requirements. Variety of end connections - Male & Female NPT, BSPP, BSPT, ISO tapered pipe ends, Tube / Pipe socket weld.

**PANAM** Pipe Fittings are 100% factory tested and are NACE certified with Heat code traceability. Maximum working pressure upto 20,000 psig (1378 bar) or Higher available upon request

- API ISO 9001:2008 Certified
- API ISO TS 29001 Certified
- API Spec Q1 Certified
- API 6A Certified
- API 6D Certified
- API 600 Certified
- API 602 Certified
- MFG. Facility Approved by ABS Ind.
- ASTM F1387-99
- Leak Test Approved by TUV
- CE Marking



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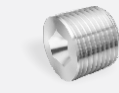
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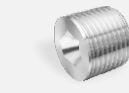
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### Female Elbow

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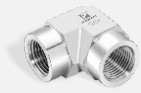
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### Female Branch Tee

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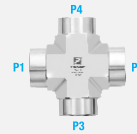
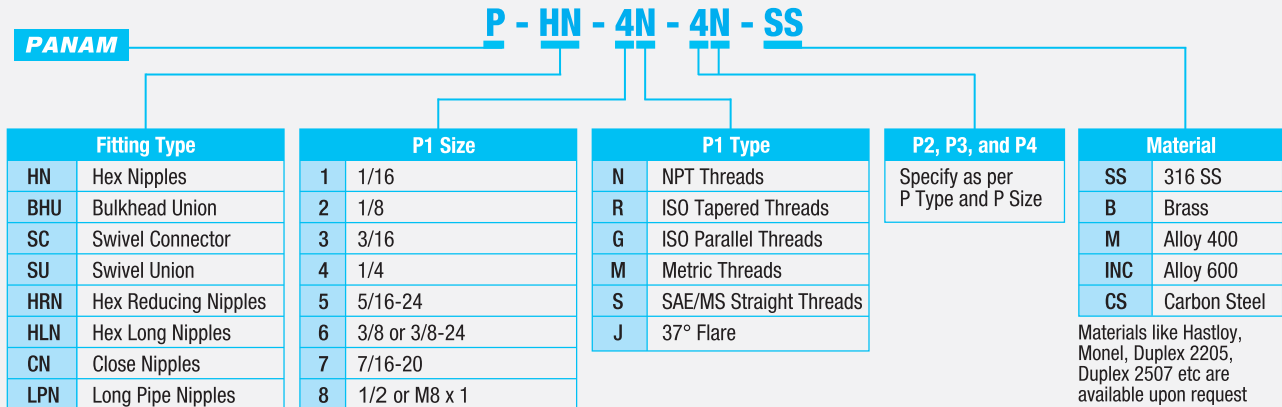




## Features

- Size Ranges from 1/16" to 2"
- To avoid Galling threads are hardened with smooth surface which helps to extend the fitting service life.
- For smooth flow path elbows are designed with radius junction.
- All Fittings are marked with Size, Material and Heat code for easy source tracing.
- All threads are capped for protection and properly packaged
- Straight fittings are manufactured from bar stock & Forged fittings are manufactured from forgings
- All pipe threads meet the requirement if ASME/ANSI B1.20.1 for tapered pipe threads (NPT)
- Working pressure meets the requirements of ANSI/ASME B31.3 at ambient temperature.

## Ordering Information



P1, P2, P3 & P4 Shall be described in the following orders. For tees the run shall proceed the branch, for cross the run shall proceed the branch

### Pressure Ratings

Size	316 SS		Brass		Carbon Steel	
	Male	Female	Male	Female	Male	Female
1/16	11000	6700	5500	3300	11000	6700
1/8	10000	6500	5000	3200	10000	6500
1/4	8000	6600	4000	3300	8000	6600
3/8	7800	5300	3900	2600	7800	5300
1/2	7700	4900	3800	2400	7700	4900
3/4	7300	4600	3600	2300	7300	4600
1	5300	4400	2600	2200	5300	4400
1 1/4	6000	5000	3000	2500	6000	5000
1 1/2	5000	4600	2500	2300	5000	4600
2	3900	3900	1900	1900	3900	3900

- Pressure ratings are based on ASME Code for pressure piping B13.3, Process piping with allowable stress 20,000psi for 316 SS 10,000psi/Brass, and 20,000psi/Carbon Steel.
- To determine pressure ratings in accordance with B31.1 Power piping - 316 SS x 0.94 / CS x 0.75 / Brass material remains same.
- To determine kPa. multiply by 6.89

### Installation Instructions

To ensure leak proof tight seal, **PANAM** recommends use of pipe thread sealant on all NPT threads. The most effective sealing method is the use of Teflon tape, Tape should be used on male NPT tapered threads. Clean both male and female tapered threads, wrap tape in direction of male tapered, cut off excess tape.

### Material

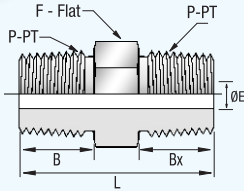
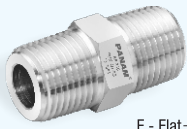
Material	Bar Stock	Forging
316 SS	ASTM A276, ASME SA479, EN 1.4401	ASTM A182, ASME SA182, EN 1.4401
Alloy 400	ASTM B164, ASME SB164	ASTM B564, ASME SB564
Alloy 600	ASTM B166, ASME SB166	ASTM B564, ASME SB564
Brass	ASME B16/ASTM B453	ASTM B283
Carbon Steel	ASTM A108	ASTM A105

### Thread Relevant Standards

NPT Threads	ASME B1.20.1, SAE AS71051
ISO Tapered Threads	ISO 7-1, BS 21, JIS B0203
ISO Parallel Threads	ISO 228, JIS B0202
SAE/MS	ASME B1.1, SAE J475
Metric	ISO 261

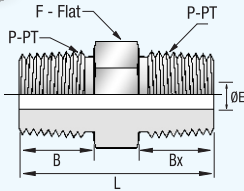
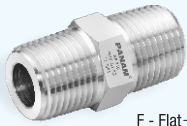
## Instrumentation Pipe Fittings

### Hex Nipple - NPT



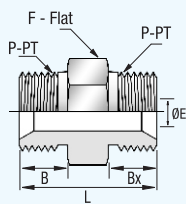
Part No	Pipe Size	Dimensions				
	P-PT, NPT	L	F	B	Bx	E
PHN-1N-SS	1/16	25.6	7.9	9.7	9.7	3.0
PHN-2N-SS	1/8	25.6	11.1	9.7	9.7	4.8
PHN-4N-SS	1/4	35.6	14.3	14.2	14.2	7.1
PHN-6N-SS	3/8	36.3	17.5	14.2	14.2	9.7
PHN-8N-SS	1/2	46.7	22.2	19.1	19.1	11.9
PHN-12N-SS	3/4	46.7	27.0	19.1	19.1	15.7
PHN-16N-SS	1	58.9	34.9	23.9	23.9	22.4
PHN-20N-SS	1 1/4	62.9	44.5	23.9	23.9	28.6
PHN-24N-SS	1 1/2	66.3	50.8	26.2	26.2	34.0
PHN-32N-SS	2	77.7	69.9	26.2	26.2	45.0

### Hex Nipple - ISO Tapered



Part No	Pipe Size	Dimensions				
	P-PT, BSPT	L	F	B	Bx	E
PHN-2R-SS	1/8	25.6	11.1	9.7	9.7	4.8
PHN-4R-SS	1/4	35.6	14.3	14.2	14.2	7.1
PHN-6R-SS	3/8	36.3	17.5	14.2	14.2	9.7
PHN-8R-SS	1/2	46.7	22.2	19.1	19.1	11.9
PHN-12R-SS	3/4	46.7	27.0	19.1	19.1	15.7
PHN-16R-SS	1	58.9	34.9	23.9	23.9	22.4

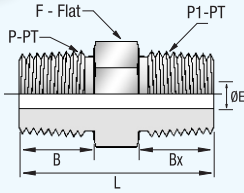
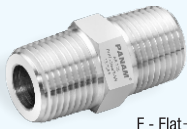
### Hex Nipple - ISO Parallel



Part No	Pipe Size	Dimensions				
	P-PT, BSPP	L	F	B	Bx	E
PHN-2G-SS	1/8	23.5	14.0	8.0	8.0	3.5
PHN-4G-SS	1/4	31.5	19.0	11.0	11.0	4.7
PHN-6G-SS	3/8	34.7	22.0	12.0	12.0	7.9
PHN-8G-SS	1/2	40.7	27.0	14.0	14.0	11.1
PHN-10G-SS	5/8	45.2	30.0	16.0	16.0	14.3
PHN-12G-SS	3/4	45.2	32.0	16.0	16.0	16.7
PHN-16G-SS	1	51.9	41.0	19.0	19.0	22.2
PHN-20G-SS	1 1/4	61.4	50.0	20.0	20.0	28.6
PHN-24G-SS	1 1/2	67.4	55.0	22.0	22.0	33.3
PHN-32G-SS	2	76.4	70.0	25.0	25.0	46.0

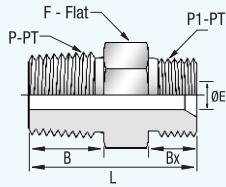
## Instrumentation Pipe Fittings

### Hex Nipple - NPT x ISO Tapered



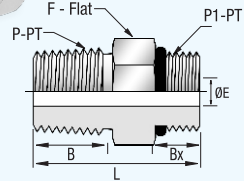
Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, BSPT	L	F	B	Bx	E
PHN-2N-2R-SS	1/8	1/8	25.6	11.1	9.7	9.7	4.8
PHN-4N-4R-SS	1/4	1/4	35.6	14.3	14.2	14.2	7.1
PHN-6N-6R-SS	3/8	3/8	36.3	17.5	14.2	14.2	9.7
PHN-8N-8R-SS	1/2	1/2	46.7	22.2	19.1	19.1	11.9
PHN-12N-12R-SS	3/4	3/4	46.7	27.0	19.1	19.1	15.7
PHN-16N-16R-SS	1	1	58.9	34.9	23.9	23.9	22.4

### Hex Nipple - NPT x ISO Parallel



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, BSPP	L	F	B	Bx	E
PHN-2N-2G-SS	1/8	1/8	24.4	14.0	9.7	8.0	3.5
PHN-4N-4G-SS	1/4	1/4	33.4	19.0	14.2	11.0	4.7
PHN-6N-6G-SS	3/8	3/8	35.1	22.0	14.2	12.0	7.9
PHN-8N-8G-SS	1/2	1/2	43.4	22.0	19.1	14.0	11.0
PHN-12N-12G-SS	3/4	3/4	45.9	30.0	19.1	16.0	16.7
PHN-16N-16G-SS	1	1	54.5	41.0	23.9	19.0	22.2
PHN-20N-20G-SS	1 1/4	1 1/4	63.7	50.0	23.9	20.0	28.6
PHN-24N-24G-SS	1 1/2	1 1/2	68.5	55.0	26.2	22.0	33.3
PHN-32N-32G-SS	2	2	76.4	70.0	26.2	25.0	46.0

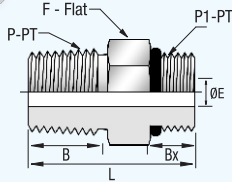
### Hex Nipple - NPT x SAE / MS Straight



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, SAE	L	F	B	Bx	E
PHN-4N-7S-SS	1/4	7/16-20	30.5	14.3	14.2	9.1	5.1
PHN-6N-9S-SS	3/8	9/16-18	32.0	17.5	14.2	9.1	7.1
PHN-8N-12S-SS	1/2	3/4-16	38.9	22.2	19.1	11.2	10.7
PHN-12N-17S-SS	3/4	1 1/16-12	44.4	31.8	19.1	15.0	15.7
PHN-16N-21S-SS	1	1 5/16-12	50.8	38.1	23.9	15.0	22.4

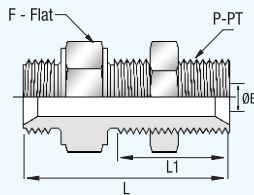
## Instrumentation Pipe Fittings

### Hex Nipple - NPT x Metric



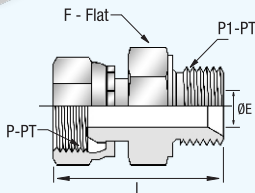
Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, Metric	L	F	B	Bx	E
PHN-4N-8M-SS	1/4	M8 x1	29.0	14.3	14.2	9.0	3.2
PHN-4N-14M-SS	1/4	M14 x1.5	34.2	15.9	14.2	13.0	7.0
PHN-4N-16M-SS	1/4	M16 x 1.5	35.2	17.5	14.2	14.0	7.1
PHN-4N-20M-SS	1/4	M20 x 1.5	37.2	22.2	14.2	16.0	7.1
PHN-6N-14M-SS	3/8	M14 x1.5	34.2	17.5	14.2	13.0	7.0
PHN-6N-20M-SS	3/8	M20 x 1.5	37.2	22.2	14.2	16.0	9.5
PHN-6N-24M-SS	3/8	M24 x 1.5	38.2	25.4	14.2	17.0	9.5
PHN-8N-14M-SS	1/2	M14 x 1.5	39.1	22.2	19.1	13.0	7.2
PHN-8N-20M-SS	1/2	M20 x 1.5	42.0	22.2	19.1	16.0	10.0
PHN-8N-24M-SS	1/2	M24 x 1.5	43.5	25.4	19.1	17.0	11.9
PHN-12N-20M-SS	3/4	M20 x 1.5	42.1	27.0	19.1	16.0	10.8
PHN-12N-27M-SS	3/4	M27 x 2	46.7	38.8	19.1	18.0	15.8
PHN-16N-30M-SS	1	M30 x 2	56.3	34.9	23.9	20.0	19.4

### Bulkhead Union - ISO Parallel



Part No	Pipe Size	Dimensions			
	P-PT, BSPP	L	L1	F	E
PBHU-4G-SS	1/4	46.8	28.0	19.0	4.7
PBHU-6G-SS	3/8	52.5	32.0	22.0	7.9
PBHU-8G-SS	1/2	59.0	35.0	27.0	11.1
PBHU-10G-SS	5/8	61.5	35.0	30.0	14.3
PBHU-12G-SS	3/4	64.5	38.0	32.0	16.7
PBHU-16G-SS	1	71.2	41.0	41.0	22.2
PBHU-20G-SS	1 1/4	82.7	44.0	50.0	28.6
PBHU-24G-SS	1 1/2	90.7	48.0	55.0	33.3

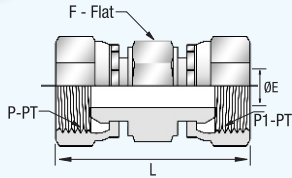
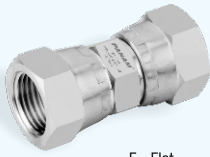
### Swivel Connector - ISO Parallel



Part No	Pipe Size		Dimensions		
	P-PT, BSPP	P1PT, BSPP	L	F	E
PSC-4G-SWL-SS	1/4	1/4	36.6	19.0	4.7
PSC-4G-6G-SWL-SS	1/4	3/8	38.5	22.0	4.7
PSC-4G-8G-SWL-SS	1/4	1/2	42.0	27.0	4.7
PSC-6G-4G-SWL-SS	3/8	1/4	38.3	22.0	4.7
PSC-6G-SWL-SS	3/8	3/8	40.0	22.0	7.9
PSC-6G-8G-SWL-SS	3/8	1/2	43.6	27.0	7.9
PSC-8G-6G-SWL-SS	1/2	3/8	43.5	27.0	7.9
PSC-8G-SWL-SS	1/2	1/2	46.1	27.0	11.1
PSC-8G-12G-SWL-SS	1/2	3/4	48.0	32.0	11.1
PSC-12G-8G-SWL-SS	3/4	1/2	48.6	32.0	11.1
PSC-12G-SWL-SS	3/4	3/4	50.0	32.0	16.7
PSC-12G-16G-SWL-SS	3/4	1	54.3	41.0	16.7
PSC-16G-SWL-SS	1	1	57.3	41.0	22.2

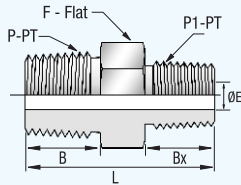
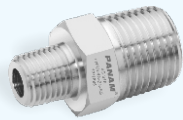
## Instrumentation Pipe Fittings

### Swivel Union - ISO Parallel



Part No	Pipe Size		Dimensions		
	P-PT, BSPP	P-PT1, BSPP	L	F	E
PSU-4G-SWL-SS	1/4	1/4	37.0	19.0	4.7
PSU-6G-4G-SWL-SS	3/8	1/4	38.6	22.0	4.7
PSU-6G-SWL-SS	3/8	3/8	40.5	22.0	7.9
PSU-8G-4G-SWL-SS	1/2	1/4	41.5	27.0	4.7
PSU-8G-6G-SWL-SS	1/2	3/8	42.9	27.0	7.9
PSU-8G-SWL-SS	1/2	1/2	45.8	27.0	11.1
PSU-10G-SWL-SS	5/8	5/8	47.5	30.0	14.3
PSU-12G-8G-SWL-SS	3/4	1/2	48.2	32.0	11.1
PSU-12G-SWL-SS	3/4	3/4	49.5	32.0	16.7
PSU-16G-SWL-SS	1	1	57.5	41.0	22.2
PSU-20G-SWL-SS	1 1/4	1 1/4	66.0	50.0	28.6
PSU-24G-SWL-SS	1 1/2	1 1/2	70.0	60.0	33.3

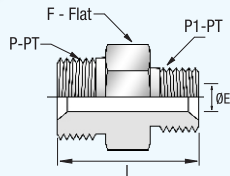
### Hex Reducing Nipple - NPT



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, NPT	L	F	B	Bx	E
PHRN-2N-1N-SS	1/8	1/16	25.6	11.1	9.7	9.7	3.0
PHRN-4N-1N-SS	1/4	1/16	31.0	14.3	14.2	9.7	3.0
PHRN-4N-2N-SS	1/4	1/8	31.0	14.3	14.2	9.7	4.8
PHRN-6N-1N-SS	3/8	1/16	31.8	17.5	14.2	9.7	3.0
PHRN-6N-2N-SS	3/8	1/8	31.8	17.5	14.2	9.7	4.8
PHRN-6N-4N-SS	3/8	1/4	36.3	17.5	14.2	14.2	7.1
PHRN-8N-2N-SS	1/2	1/8	37.3	22.2	19.1	9.7	4.8
PHRN-8N-4N-SS	1/2	1/4	41.9	22.2	19.1	14.2	7.1
PHRN-8N-6N-SS	1/2	3/8	41.9	22.2	19.1	14.2	9.7
PHRN-12N-2N-SS	3/4	1/8	40.4	27.0	19.1	9.7	4.8
PHRN-12N-4N-SS	3/4	1/4	41.9	21.0	19.1	14.2	7.1
PHRN-12N-6N-SS	3/4	3/8	45.2	27.0	19.1	14.2	9.7
PHRN-12N-8N-SS	3/4	1/2	46.7	27.0	19.1	19.1	11.9
PHRN-16N-2N-SS	1	1/8	45.2	34.9	23.9	9.7	4.8
PHRN-16N-4N-SS	1	1/4	49.3	34.9	23.9	14.2	7.1
PHRN-16N-6N-SS	1	3/8	50.0	34.9	23.9	14.2	9.7
PHRN-16N-8N-SS	1	1/2	54.1	34.9	23.9	19.1	11.9
PHRN-16N-12N-SS	1	3/4	54.1	34.9	23.9	19.1	15.7
PHRN-20N-16N-SS	1 1/4	1	62.2	44.5	23.9	23.9	22.4

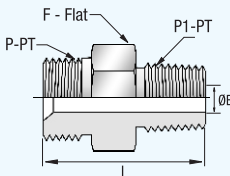
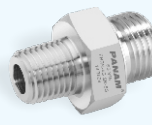
## Instrumentation Pipe Fittings

### Hex Reducing Nipple - ISO Parallel



Part No	Pipe Size		Dimensions		
	P-PT, BSPP	P1-PT, BSPP	L	F	E
PHRN-4G-2G-SS	1/4	1/8	28.0	19.0	3.5
PHRN-6G-4G-SS	3/8	1/4	33.2	22.0	4.7
PHRN-8G-4G-SS	1/2	1/4	36.7	27.0	4.7
PHRN-8G-6G-SS	1/2	3/8	38.2	27.0	7.9
PHRN-10G-8G-SS	5/8	1/2	43.2	30.0	11.1
PHRN-12G-4G-SS	3/4	1/4	39.2	32.0	4.7
PHRN-12G-6G-SS	3/4	3/8	40.7	32.0	7.9
PHRN-12G-8G-SS	3/4	1/2	43.2	32.0	11.1
PHRN-12G-10G-SS	3/4	5/8	45.2	32.0	14.3
PHRN-16G-8G-SS	1	1/2	46.9	41.0	11.1
PHRN-16G-10G-SS	1	5/8	48.9	41.0	14.3
PHRN-16G-12G-SS	1	3/4	48.9	41.0	16.7
PHRN-20G-12G-SS	1 1/4	3/4	57.4	50.0	16.7
PHRN-20G-16G-SS	1 1/4	1	60.4	50.0	22.2
PHRN-24G-16G-SS	1 1/2	1	64.4	55.0	22.2
PHRN-24G-20G-SS	1 1/2	1 1/4	65.4	55.0	28.6
PHRN-32G-24G-SS	2	1 1/2	72.9	70.0	33.3

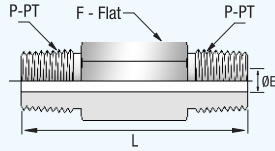
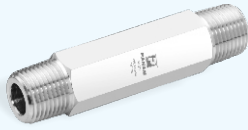
### Hex Reducing Nipple - ISO Parallel x NPT



Part No	Pipe Size		Dimensions		
	P-PT, BSPP	P1-PT, NPT	L	F	E
PHRN-2G-4N-SS	1/8	1/4	28.9	14.0	3.5
PHRN-4G-2N-SS	1/4	1/8	28.9	19.0	3.5
PHRN-4G-6N-SS	1/4	3/8	33.4	19.0	4.7
PHRN-6G-4N-SS	3/8	1/4	35.1	22.0	4.7
PHRN-6G-8N-SS	3/8	1/2	39.9	22.0	7.9
PHRN-8G-6N-SS	1/2	3/8	38.6	27.0	7.9
PHRN-10G-8N-SS	5/8	1/2	45.9	27.0	11.1
PHRN-10G-12N-SS	5/8	3/4	45.9	30.0	14.3
PHRN-12G-8N-SS	3/4	1/2	46.0	32.0	11.1
PHRN-12G-16N-SS	3/4	1	50.8	36.0	16.7
PHRN-16G-12N-SS	1	3/4	49.6	41.0	16.7

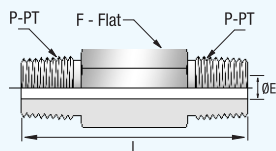
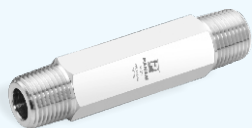


## Hex Long Nipples - NPT



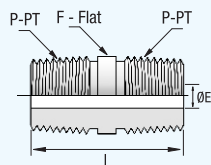
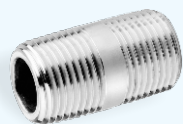
Part No	Pipe Size	Dimensions		
	P-PT, NPT	L	F	E
PHLN-2N-SS-L1.5	1/8	38.1	11.1	4.8
PHLN-2N-SS-L2.0	1/8	50.8	11.1	4.8
PHLN-2N-SS-L2.5	1/8	63.5	11.1	4.8
PHLN-2N-SS-L3.0	1/8	76.2	11.1	4.8
PHLN-4N-SS-L1.5	1/4	38.1	14.3	7.1
PHLN-4N-SS-L2.0	1/4	50.8	14.3	7.1
PHLN-4N-SS-L2.5	1/4	63.5	14.3	7.1
PHLN-4N-SS-L3.0	1/4	76.2	14.3	7.1
PHLN-4N-SS-L4.0	1/4	101.6	14.3	7.1
PHLN-6N-SS-L1.5	3/8	38.1	17.5	9.7
PHLN-6N-SS-L2.0	3/8	50.8	17.5	9.7
PHLN-6N-SS-L2.5	3/8	63.5	17.5	9.7
PHLN-6N-SS-L3.0	3/8	76.2	17.5	9.7
PHLN-6N-SS-L4.0	3/8	101.6	17.5	9.7
PHLN-8N-SS-L2.0	1/2	50.8	22.2	11.9
PHLN-8N-SS-L3.0	1/2	76.2	22.2	11.9
PHLN-8N-SS-L4.0	1/2	101.6	22.2	11.9
PHLN-8N-SS-L6.0	1/2	152.4	22.2	11.9
PHLN-12N-SS-L2.0	3/4	50.8	27.0	15.7
PHLN-12N-SS-L3.0	3/4	76.2	27.0	15.7
PHLN-12N-SS-L4.0	3/4	101.6	27.0	15.7
PHLN-16N-SS-L3.0	1	76.2	34.9	22.4
PHLN-16N-SS-L4.0	1	101.6	34.9	22.4

## Hex Long Nipples - ISO Tapered



Part No	Pipe Size	Dimensions		
	P-PT, BSPT	L	F	E
PHLN-2R-SS-L1.5	1/8	38.1	11.1	4.8
PHLN-2R-SS-L2.0	1/8	50.8	11.1	4.8
PHLN-2R-SS-L2.5	1/8	63.5	11.1	4.8
PHLN-2R-SS-L3.0	1/8	76.2	11.1	4.8
PHLN-4R-SS-L1.5	1/4	38.1	14.3	7.1
PHLN-4R-SS-L2.0	1/4	50.8	14.3	7.1
PHLN-4R-SS-L2.5	1/4	63.5	14.3	7.1
PHLN-4R-SS-L3.0	1/4	76.2	14.3	7.1
PHLN-4R-SS-L4.0	1/4	101.6	14.3	7.1
PHLN-6R-SS-L1.5	3/8	38.1	17.5	9.7
PHLN-6R-SS-L2.0	3/8	50.8	17.5	9.7
PHLN-6R-SS-L2.5	3/8	63.5	17.5	9.7
PHLN-6R-SS-L3.0	3/8	76.2	17.5	9.7
PHLN-6R-SS-L4.0	3/8	101.6	17.5	9.7
PHLN-8R-SS-L2.0	1/2	50.8	22.2	11.9
PHLN-8R-SS-L3.0	1/2	76.2	22.2	11.9
PHLN-8R-SS-L4.0	1/2	101.6	22.2	11.9
PHLN-8R-SS-L6.0	1/2	152.4	22.2	11.9
PHLN-12R-SS-L2.0	3/4	50.8	27.0	15.7
PHLN-12R-SS-L3.0	3/4	76.2	27.0	15.7
PHLN-12R-SS-L4.0	3/4	101.6	27.0	15.7
PHLN-16R-SS-L3.0	1	76.2	34.9	22.4
PHLN-16R-SS-L4.0	1	101.6	34.9	22.4

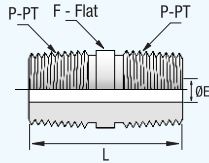
## Close Nipples - NPT



Part No	Pipe Size	Dimensions		
	P-PT, NPT	L	F	E
PCN-1N-SS	1/16	19.1	7.9	3.0
PCN-2N-SS	1/8	19.1	10.3	4.8
PCN-4N-SS	1/4	28.4	13.7	7.1
PCN-6N-SS	3/8	28.4	17.1	9.6
PCN-8N-SS	1/2	38.1	21.3	11.9
PCN-12N-SS	3/4	38.1	26.7	15.7
PCN-16N-SS	1	47.8	33.4	22.4

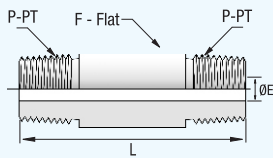
## Instrumentation Pipe Fittings

### Close Nipples - ISO Tapered



Part No	Pipe Size	Dimensions		
	P-PT, BSPT	L	F	E
PCN-1R-SS	1/16	19.1	7.9	3.0
PCN-2R-SS	1/8	19.1	10.3	4.8
PCN-4R-SS	1/4	28.4	13.7	7.1
PCN-6R-SS	3/8	28.4	17.1	9.7
PCN-8R-SS	1/2	38.1	21.3	11.9
PCN-12R-SS	3/4	38.1	26.7	15.7
PCN-16R-SS	1	47.8	33.4	22.4

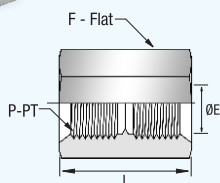
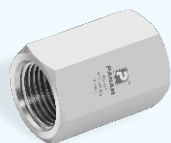
### Long Pipe Nipples - NPT



Part No	Pipe Size	Dimensions		
	P-PT, NPT	L	F	E
PLPN-2N-SS-L1.5	1/8	38.1	10.3	4.8
PLPN-2N-SS-L2.0	1/8	50.8	10.3	4.8
PLPN-2N-SS-L2.5	1/8	63.5	10.3	4.8
PLPN-2N-SS-L3.0	1/8	76.2	10.3	4.8
PLPN-4N-SS-L1.5	1/4	38.1	13.7	7.1
PLPN-4N-SS-L2.0	1/4	50.8	13.7	7.1
PLPN-4N-SS-L2.5	1/4	63.5	13.7	7.1
PLPN-4N-SS-L3.0	1/4	76.2	13.7	7.1
PLPN-4N-SS-L4.0	1/4	101.6	13.7	7.1
PLPN-6N-SS-L1.5	3/8	38.1	17.1	9.7
PLPN-6N-SS-L2.0	3/8	50.8	17.1	9.7
PLPN-6N-SS-L2.5	3/8	63.5	17.1	9.7
PLPN-6N-SS-L3.0	3/8	76.2	17.1	9.7
PLPN-6N-SS-L4.0	3/8	101.6	17.1	9.7
PLPN-8N-SS-L2.0	1/2	50.8	21.3	11.9
PLPN-8N-SS-L3.0	1/2	76.2	21.3	11.9
PLPN-8N-SS-L4.0	1/2	101.6	21.3	11.9
PLPN-8N-SS-L6.0	1/2	152.4	21.3	11.9
PLPN-12N-SS-L2.0	3/4	50.8	26.7	15.7
PLPN-12N-SS-L3.0	3/4	76.2	26.7	15.7
PLPN-12N-SS-L4.0	3/4	101.6	26.7	15.7
PLPN-16N-SS-L3.0	1	76.2	33.4	22.4
PLPN-16N-SS-L4.0	1	101.6	33.4	22.4

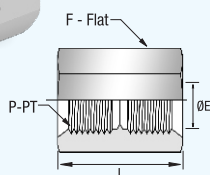
# Instrumentation Pipe Fittings

## Hex Couplings - NPT



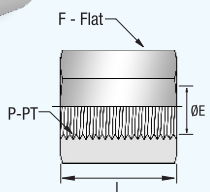
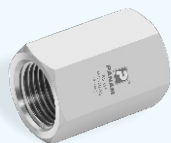
Part No	Pipe Size	Dimensions		
	P-PT, NPT	L	F	E
PHC-1N-SS	1/16	19.8	11.1	4.8
PHC-2N-SS	1/8	20.6	14.3	8.6
PHC-4N-SS	1/4	30.2	19.1	11.4
PHC-6N-SS	3/8	33.3	22.2	15.0
PHC-8N-SS	1/2	39.6	27.0	18.5
PHC-12N-SS	3/4	41.1	33.3	23.9
PHC-16N-SS	1	50.8	41.3	29.7

## Hex Couplings - ISO Tapered



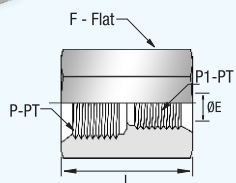
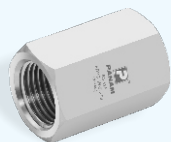
Part No	Pipe Size	Dimensions		
	P-PT, BSPT	L	F	E
PHC-2R-SS	1/8	20.6	14.3	8.4
PHC-4R-SS	1/4	30.2	19.1	11.2
PHC-6R-SS	3/8	33.3	22.2	14.7
PHC-8R-SS	1/2	39.6	27.0	18.3

## Hex Couplings - ISO Parallel



Part No	Pipe Size	Dimensions		
	P-PT, BSPP	L	F	E
PHC-1G-SS	1/16	19.8	11.1	4.8
PHC-2G-SS	1/8	20.6	14.3	8.6
PHC-4G-SS	1/4	30.2	19.1	11.4
PHC-6G-SS	3/8	33.3	22.2	15.0
PHC-8G-SS	1/2	39.6	27.0	18.5
PHC-12G-SS	3/4	41.1	33.3	23.9
PHC-16G-SS	1	50.8	41.3	29.7

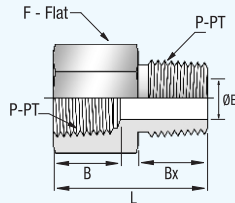
## Reducing Hex Couplings - NPT



Part No	Pipe Size		Dimensions		
	P-PT, NPT	P1-PT, NPT	L	F	E
PRHC-4N-2N-SS	1/4	1/8	31.0	19.1	8.6
PRHC-6N-4N-SS	3/8	1/4	35.1	22.2	11.4
PRHC-8N-2N-SS	1/2	1/8	39.6	27.0	8.6
PRHC-8N-4N-SS	1/2	1/4	44.4	27.0	11.4
PRHC-8N-6N-SS	1/2	3/8	45.2	27.0	15.0
PRHC-12N-4N-SS	3/4	1/4	46.0	33.3	11.4
PRHC-12N-8N-SS	3/4	1/2	52.3	33.3	18.5
PRHC-16N-8N-SS	1	1/2	55.6	41.3	18.5
PRHC-16N-12N-SS	1	3/4	57.2	41.3	23.9

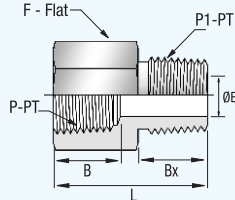
## Instrumentation Pipe Fittings

### Adapters - NPT



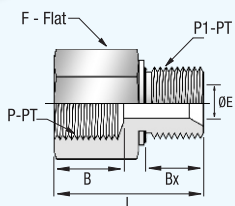
Part No	Pipe Size		Dimensions				
	P-PT, NPT		L	F	B	Bx	E
PA-2N-SS	1/8		27.9	14.3	10.4	9.7	4.8
PA-4N-SS	1/4		35.6	19.1	15.0	14.2	7.1
PA-6N-SS	3/8		38.4	22.2	15.0	14.2	9.6
PA-8N-SS	1/2		49.3	27.0	19.8	19.1	11.9
PA-12N-SS	3/4		51.3	33.3	20.6	19.1	15.7
PA-16N-SS	1		57.9	41.3	25.4	23.9	22.4

### Adapters - NPT x ISO Tapered



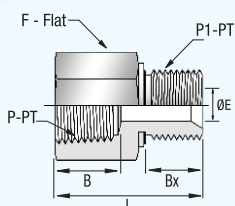
Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, BSPT	L	F	B	Bx	E
PA-2N-2R-SS	1/8	1/8	27.7	14.3	10.4	9.7	4.8
PA-4N-4R-SS	1/4	1/4	36.1	19.1	15.0	14.2	7.1
PA-6N-6R-SS	3/8	3/8	38.1	22.2	15.0	14.2	9.6
PA-8N-8R-SS	1/2	1/2	49.3	27.0	19.8	19.1	11.9
PA-12N-12R-SS	3/4	3/4	51.3	33.3	20.6	19.1	15.7
PA-16N-16R-SS	1	1	58.4	41.3	25.4	23.9	22.4

### Adapters - ISO Parallel



Part No	Pipe Size		Dimensions				
	P-PT, BSPP	P1-PT, BSPP	L	F	B	Bx	E
PA-2G-SS	1/8	1/8	27.1	14.0	10.4	7.1	3.5
PA-4G-SS	1/4	1/4	37.1	22.0	15.0	11.2	4.7
PA-6G-SS	3/8	3/8	36.9	23.0	15.0	11.2	7.9
PA-8G-SS	1/2	1/2	45.3	30.0	19.8	14.2	7.9
PA-12G-SS	3/4	3/4	47.3	32.0	20.6	15.7	11.1
PA-16G-SS	1	1	52.2	41.0	25.4	18.3	16.7

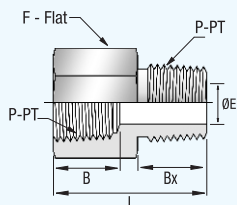
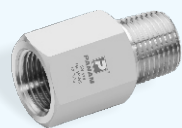
### Adapters - NPT x ISO Parallel



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, BSPP	L	F	B	Bx	E
PA-2N-2G-SS	1/8	1/8	25.1	14.3	9.9	7.1	4.1
PA-4N-4G-SS	1/4	1/4	33.5	19.1	10.4	11.2	5.8
PA-6N-6G-SS	3/8	3/8	35.8	22.2	15.0	11.2	7.9
PA-8N-8G-SS	1/2	1/2	44.2	27.0	15.0	14.2	11.9
PA-12N-12G-SS	3/4	3/4	48.0	33.3	20.6	15.7	15.7
PA-16N-16G-SS	1	1	53.3	41.3	25.4	18.3	19.8

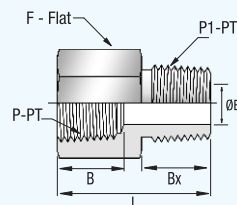
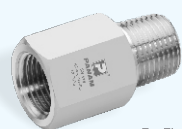
# Instrumentation Pipe Fittings

## Adapters - ISO Tapered



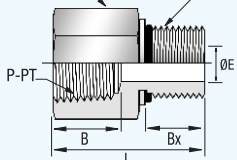
Part No	Pipe Size		Dimensions				
	P-PT, BSPT		L	F	B	Bx	E
PA-2R-SS	1/8		27.7	14.3	10.4	9.7	4.8
PA-4R-SS	1/4		36.1	19.1	15.0	14.2	7.1
PA-6R-SS	3/8		38.1	22.2	15.0	14.2	9.7
PA-8R-SS	1/2		49.5	27.0	19.8	19.1	11.9
PA-12R-SS	3/4		51.3	33.3	20.6	19.1	15.7
PA-16R-SS	1		58.4	41.3	25.4	23.9	22.4

## Adapters - ISO Tapered x NPT



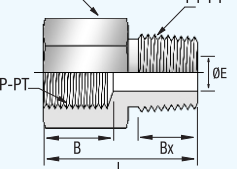
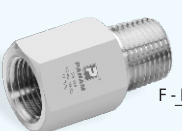
Part No	Pipe Size		Dimensions				
	P-PT, BSPT	P1-PT, NPT	L	F	B	Bx	E
PA-2R-2N-SS	1/8	1/8	27.7	14.3	10.4	9.7	4.8
PA-4R-4N-SS	1/4	1/4	36.3	19.1	15.0	14.2	7.1
PA-6R-6N-SS	3/8	3/8	38.4	22.2	15.0	14.2	9.6
PA-8R-8N-SS	1/2	1/2	49.8	27.0	19.8	19.1	11.9
PA-12R-12N-SS	3/4	3/4	51.3	33.3	20.6	19.1	15.7
PA-16R-16N-SS	1	1	58.4	41.3	25.4	23.9	22.4

## Adapters - NPT x SAE / MS Straight



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, SAE	L	F	B	Bx	E
PA-4N-7S-SS	1/4	7/16-20	33.5	19.1	15.0	9.1	5.1
PA-6N-9S-SS	3/8	9/16-18	35.3	23.8	15.0	9.9	7.1
PA-8N-12S-SS	1/2	3/4-16	44.7	27.0	19.8	11.2	10.7
PA-12N-17S-SS	3/4	1 1/16-12	50.5	34.9	20.6	15.0	16.8
PA-16N-21S-SS	1	1 5/16-12	53.8	41.3	25.4	15.0	21.5

## Adapters - ISO Parallel x NPT

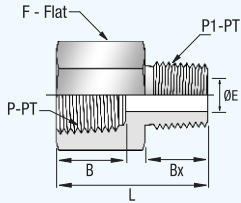
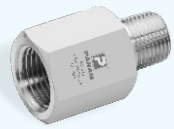


Part No	Pipe Size		Dimensions				
	P-PT, BSPP	P1-PT, NPT	L	F	B	Bx	E
PA-2G-2N-SS	1/8	1/8	21.8	14.3	6.5	9.7	4.5
PA-4G-4N-SS	1/4	1/4	30.2	19.1	12.9	14.2	5.5
PA-6G-6N-SS	3/8	3/8	32.2	23.8	14.2	14.2	6.5
PA-8G-8N-SS	1/2	1/2	42.7	27.0	18.8	19.1	7.0



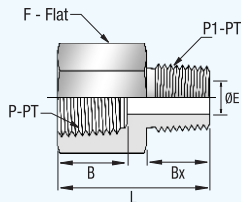
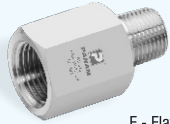
# Instrumentation Pipe Fittings

## Reducing Adapters - NPT



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, NPT	L	F	B	Bx	E
PRA-2N-1N-SS	1/8	1/16	27.7	14.3	10.4	9.7	3.0
PRA-4N-1N-SS	1/4	1/16	30.5	19.1	15.0	9.7	3.0
PRA-4N-2N-SS	1/4	1/8	32.0	19.1	15.0	9.7	4.8
PRA-6N-1N-SS	3/8	1/16	31.8	22.2	15.0	9.7	3.0
PRA-6N-2N-SS	3/8	1/8	33.8	22.2	15.0	9.7	4.8
PRA-6N-4N-SS	3/8	1/4	38.1	22.2	15.0	14.2	7.1
PRA-8N-2N-SS	1/2	1/8	40.0	27.0	19.8	9.7	4.8
PRA-8N-4N-SS	1/2	1/4	44.7	27.0	19.8	14.2	7.1
PRA-8N-6N-SS	1/2	3/8	44.4	27.0	19.8	14.2	9.6
PRA12N-2N-SS	3/4	1/8	39.6	33.3	20.6	9.7	4.8
PRA-12N-4N-SS	3/4	1/4	47.0	33.3	20.6	14.2	7.1
PRA-12N-6N-SS	3/4	3/8	46.2	33.3	20.6	14.2	9.6
PRA-12N-8N-SS	3/4	1/2	51.3	33.3	20.6	19.1	11.9
PRA-16N-2N-SS	1	1/8	46.0	41.3	25.4	9.7	4.8
PRA-16N-4N-SS	1	1/4	49.8	41.3	25.4	14.2	7.1
PRA-16N-6N-SS	1	3/8	50.8	41.3	25.4	14.2	9.6
PRA-16N-8N-SS	1	1/2	54.9	41.3	25.4	19.1	11.9
PRA-16N-12N-SS	1	3/4	55.1	41.3	25.4	19.1	15.7
PRA-20N-12N-SS	1 1/4	1	62.7	54.0	25.4	23.9	22.4

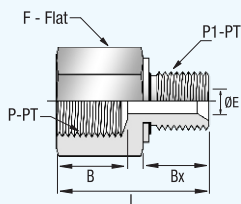
## Reducing Adapters - ISO Tapered



Part No	Pipe Size		Dimensions				
	P-PT, BSPT	P1-PT, BSPT	L	F	B	Bx	E
PRA-4R-2R-SS	1/4	1/8	32.0	19.1	15.0	9.7	4.8
PRA-6R-4R-SS	3/8	1/4	38.1	22.2	15.0	14.2	7.1
PRA-8R-4R-SS	1/2	1/4	44.7	27.0	19.8	14.2	7.1
PRA-8R-6R-SS	1/2	3/8	44.4	27.0	19.8	14.2	9.7

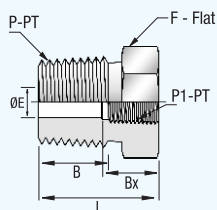
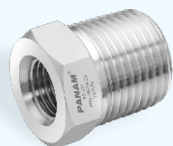
## Instrumentation Pipe Fittings

### Reducing Adapters - ISO Parallel



Part No	Pipe Size		Dimensions				
	P-PT, BSPP	P1-PT, BSPP	L	F	B	Bx	E
PRA-6G-4G-SS	3/8	1/4	37.1	22.0	15.0	11.0	4.7
PRA-8G-4G-SS	1/2	1/4	38.0	27.0	19.8	11.0	4.7
PRA-8G-6G-SS	1/2	3/8	45.3	30.0	19.8	12.0	7.9
PRA-12G-4G-SS	3/4	1/4	40.0	32.0	20.6	11.0	4.7
PRA-12G-6G-SS	3/4	3/8	41.6	32.0	20.6	12.0	7.9
PRA-12G-8G-SS	3/4	1/2	47.3	32.0	20.6	14.0	11.1
PRA-16G-4G-SS	1	1/4	43.0	41.0	25.4	11.0	4.7
PRA-16G-6G-SS	1	3/8	44.6	41.0	25.4	12.0	7.9
PRA-16G-8G-SS	1	1/2	50.3	41.0	25.4	14.0	11.1
PRA-16G-12G-SS	1	3/4	52.2	41.0	25.4	16.0	16.7

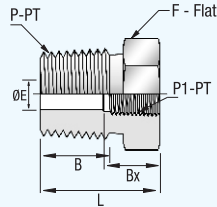
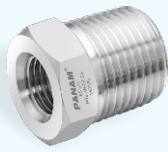
### Reducing Bushings - NPT



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, NPT	L	F	B	Bx	E
PRB-2N-1N-SS	1/8	1/16	26.2	11.1	9.7	9.9	4.8
PRB-4N-1N-SS	1/4	1/16	21.8	14.3	14.2	9.9	4.8
PRB-4N-2N-SS	1/4	1/8	26.9	14.3	14.2	10.4	7.1
PRB-6N-1N-SS	3/8	1/16	21.8	17.5	14.2	9.9	4.8
PRB-6N-2N-SS	3/8	1/8	21.8	17.5	14.2	10.4	7.1
PRB-6N-4N-SS	3/8	1/4	30.2	19.1	14.2	15.0	9.7
PRB-8N-2N-SS	1/2	1/8	27.4	22.2	19.1	10.4	7.1
PRB-8N-4N-SS	1/2	1/4	27.4	22.2	19.1	15.0	10.4
PRB-8N-6N-SS	1/2	3/8	35.8	22.2	19.1	15.0	11.9
PRB-12N-2N-SS	3/4	1/8	27.4	27.0	19.1	10.4	7.1
PRB-12N-4N-SS	3/4	1/4	27.4	27.0	19.1	15.0	10.4
PRB-12N-6N-SS	3/4	3/8	27.4	27.0	19.1	15.0	12.7
PRB-12N-8N-SS	3/4	1/2	41.4	27.0	19.1	19.8	15.7
PRB-16N-2N-SS	1	1/8	34.5	34.9	23.9	10.4	7.1
PRB-16N-4N-SS	1	1/4	34.8	34.9	23.9	15.0	10.4
PRB-16N-6N-SS	1	3/8	34.8	34.9	23.9	15.0	12.7
PRB-16N-8N-SS	1	1/2	34.8	34.9	23.9	19.8	15.7
PRB-16N-12N-SS	1	3/4	47.0	34.9	23.9	20.6	22.4

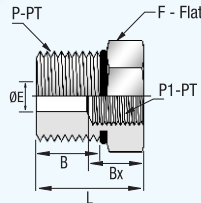
## Instrumentation Pipe Fittings

### Reducing Bushings - NPT x ISO Tapered



Part No	Pipe Size		Dimensions				
	P-PT, NPT	P1-PT, BSPT	L	F	B	Bx	E
PRB-2N-1R-SS	1/8	1/16	26.2	11.1	9.7	9.9	4.8
PRB-4N-1R-SS	1/4	1/16	21.8	14.3	14.2	9.9	4.8
PRB-4N-2R-SS	1/4	1/8	26.9	14.3	14.2	10.4	7.1
PRB-6N-1R-SS	3/8	1/16	21.8	17.5	14.2	9.9	4.8
PRB-6N-2R-SS	3/8	1/8	21.8	17.5	14.2	10.4	7.1
PRB-6N-4R-SS	3/8	1/4	30.2	19.1	14.2	15.0	9.7
PRB-8N-2R-SS	1/2	1/8	27.4	22.2	19.1	10.4	7.1
PRB-8N-4R-SS	1/2	1/4	27.4	22.2	19.1	15.0	10.4
PRB-8N-6R-SS	1/2	3/8	35.8	22.2	19.1	15.0	11.9
PRB-12N-2R-SS	3/4	1/8	27.4	27.0	19.1	10.4	7.1
PRB-12N-4R-SS	3/4	1/4	27.4	27.0	19.1	15.0	10.4
PRB-12N-6R-SS	3/4	3/8	27.4	27.0	19.1	15.0	12.7
PRB-12N-8R-SS	3/4	1/2	41.4	27.0	19.1	19.8	15.7
PRB-16N-2R-SS	1	1/8	34.5	34.9	23.9	10.4	7.1
PRB-16N-4R-SS	1	1/4	34.8	34.9	23.9	15.0	10.4
PRB-16N-6R-SS	1	3/8	34.8	34.9	23.9	15.0	12.7
PRB-16N-8R-SS	1	1/2	34.8	34.9	23.9	19.8	15.7
PRB-16N-12R-SS	1	3/4	47.0	34.9	23.9	20.6	22.4

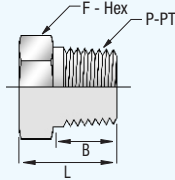
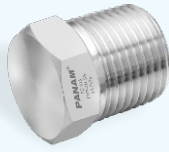
### Reducing Bushing - SAE/ MS



Part No	Pipe Size		Dimensions				
	P-PT, SAE	P1-PT, SAE	L	F	B	Bx	E
PRB-9S-7S-SS	9/16-18	7/16-20	28.4	20.6	9.9	14.0	7.1
PRB-12S-7S-SS	3/4-16	7/16-20	24.9	22.2	11.2	14.0	9.9
PRB-12S-9S-SS	3/4-16	9/16-18	30.2	25.4	11.2	16.0	10.7
PRB-7S-9S-SS	7/8-14	9/16-18	27.9	25.4	12.7	16.0	12.7
PRB-7S-12S-SS	7/8-14	3/4-16	36.1	30.2	12.7	18.0	12.7
PRB-17S-12S-SS	1 1/16-12	3/4-16	32.3	31.8	15.0	18.0	16.5
PRB-21S-17S-SS	1 5/16-12	1 1/16-12	40.9	41.3	15.0	24.0	22.1
PRB-26S-21S-SS	1 5/8-12	1 5/16-12	50.3	54.0	15.0	24.0	27.7
PRB-30S-21S-SS	1 7/8-12	1 5/16-12	50.3	54.0	15.0	24.0	31.2

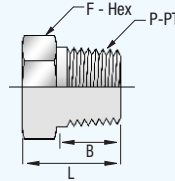
## Instrumentation Pipe Fittings

### Hex Plugs - NPT



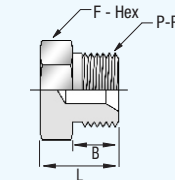
Part No	Pipe Size	Dimensions		
	P-PT, NPT	L	F	B
PHP-1N-SS	1/16	14.2	7.9	9.7
PHP-2N-SS	1/8	14.2	11.1	9.7
PHP-4N-SS	1/4	19.1	14.3	14.2
PHP-6N-SS	3/8	19.8	17.5	14.2
PHP-8N-SS	1/2	24.6	22.2	19.1
PHP-12N-SS	3/4	30.7	27.0	19.1
PHP-16N-SS	1	38.1	34.9	23.9
PHP-20N-SS	1 1/4	38.4	44.5	23.9
PHP-24N-SS	1 1/2	43.7	50.8	26.2
PHP-32N-SS	2	50.8	69.9	26.2

### Hex Plugs - ISO Tapered



Part No	Pipe Size	Dimensions		
	P-PT, BSPT	L	F	B
PHP-1R-SS	1/16	14.2	7.9	9.7
PHP-2R-SS	1/8	14.2	11.1	9.7
PHP-4R-SS	1/4	19.1	14.3	14.2
PHP-6R-SS	3/8	19.8	17.5	14.2
PHP-8R-SS	1/2	24.6	22.2	19.1
PHP-12R-SS	3/4	30.7	27.0	19.1
PHP-16R-SS	1	38.1	34.9	23.9
PHP-20R-SS	1 1/4	38.4	44.5	23.9
PHP-24R-SS	1 1/2	43.7	50.8	26.2
PHP-32R-SS	2	50.8	69.9	26.2

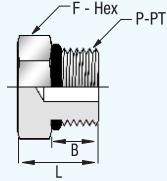
### Hex Plugs - ISO Parallel



Part No	Pipe Size	Dimensions		
	P-PT, BSPP	L	F	B
PHP-2G-SS	1/8	14.3	14.0	8.0
PHP-4G-SS	1/4	18.8	19.0	11.0
PHP-6G-SS	3/8	20.5	22.0	12.0
PHP-8G-SS	1/2	24.0	27.0	14.0
PHP-12G-SS	5/8	24.0	30.0	16.0
PHP-16G-SS	3/4	26.5	32.0	16.0
PHP-16G-SS	1	30.2	41.0	19.0
PHP-16G-SS	1 1/4	38.7	50.0	20.0
PHP-16G-SS	1 1/2	42.7	55.0	22.0
PHP-32G-SS	2	48.2	70.0	25.0

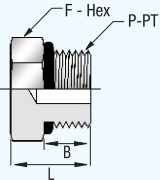
## Instrumentation Pipe Fittings

### Hex Plugs - SAE/MS Straight



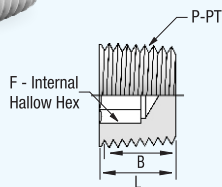
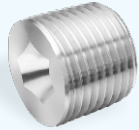
Part No	Pipe Size	Dimensions		
	P-PT, SAE	L	F	B
PHP-7S-SS	7/16-20	19.3	14.3	9.1
PHP-9S-SS	9/16-18	20.8	17.5	9.9
PHP-12S-SS	3/4-16	22.6	22.2	11.2
PHP-17S-SS	1 1/16-12	28.4	31.8	15.0
PHP-21S-SS	1 5/16-12	30.0	38.1	15.0

### Hex Plugs - Metric



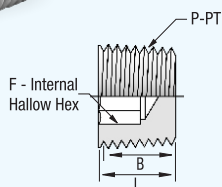
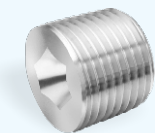
Part No	Pipe Size	Dimensions		
	P-PT, Metric	L	F	B
PHP-14M-SS	M14 x 1.5	21.0	20.6	12.0
PHP-16M-SS	M16 X 1.5	23.0	22.2	12.0
PHP-18M-SS	M18 X 1.5	25.0	23.8	12.0
PHP-20M-SS	M20 X 1.5	26.5	25.4	14.0
PHP-22M-SS	M22 X 1.5	28.8	28.6	14.0
PHP-24M-SS	M24 X 1.5	29.0	35.0	14.0
PHP-27M-SS	M27 X 2	30.0	36.5	16.0

### Hollow Hex Plugs - NPT



Part No	Pipe Size	Dimensions		
	P-PT, NPT	L	F	B
PHHP-1N-SS	1/16	7.6	4.0	7.4
PHHP-2N-SS	1/8	10.4	4.8	7.4
PHHP-4N-SS	1/4	15.5	6.4	12.4
PHHP-6N-SS	3/8	15.0	7.9	11.9
PHHP-8N-SS	1/2	19.3	9.5	16.2
PHHP-12N-SS	3/4	19.8	14.3	16.7
PHHP-16N-SS	1	20.8	15.9	17.7

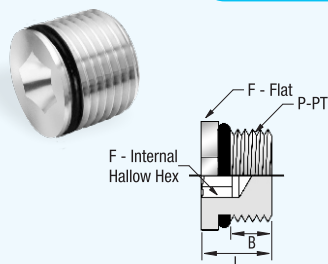
### Hollow Hex Plugs - ISO Tapered



Part No	Pipe Size	Dimensions		
	P-PT, BSPT	L	F	B
PHHP-1R-SS	1/16	7.6	4.0	7.4
PHHP-2R-SS	1/8	10.4	4.8	7.4
PHHP-4R-SS	1/4	15.5	6.4	12.4
PHHP-6R-SS	3/8	15.5	7.9	12.4
PHHP-8R-SS	1/2	19.3	9.5	16.2
PHHP-12R-SS	3/4	19.8	14.3	16.7
PHHP-16R-SS	1	20.8	15.9	17.7

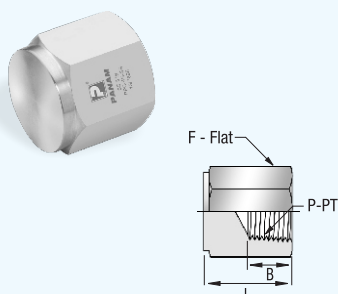
## Instrumentation Pipe Fittings

### Hollow Hex Plugs - SAE/MS Straight



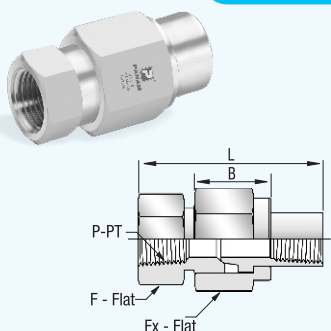
Part No	Pipe Size	Dimensions		
	P-PT, SAE	L	F	B
PHHP-7S-SS	7/16-20	11.4	14.2	9.1
PHHP-9S-SS	9/16-18	12.2	17.5	9.9
PHHP-12S-SS	3/4-16	14.2	22.4	11.2
PHHP-17S-SS	1 1/16-12	19.1	31.8	15.0
PHHP-21S-SS	1 5/16-12	19.1	38.1	15.0

### Pipe Caps - NPT



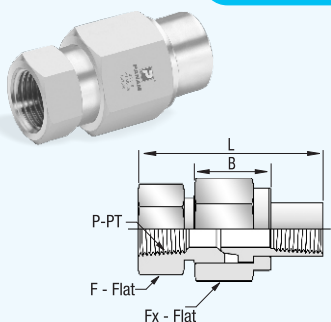
Part No	Pipe Size	Dimensions		
	P-PT, NPT	L	F	B
PPC-1N-SS	1/16	12.7	11.1	9.9
PPC-2N-SS	1/8	19.1	14.3	10.4
PPC-4N-SS	1/4	23.1	19.1	15.0
PPC-6N-SS	3/8	26.2	22.2	15.0
PPC-8N-SS	1/2	34.0	27.0	19.8
PPC-12N-SS	3/4	36.6	33.3	20.6
PPC-16N-SS	1	41.1	41.3	25.4

### Union - NPT



Part No	Pipe Size	Dimensions				
	P-PT, NPT	L	F	Fx	B	E
PU-2N-SS	1/8	46.0	23.8	28.6	10.4	6.8
PU-4N-SS	1/4	59.4	30.2	34.9	15.0	9.1
PU-6N-SS	3/8	63.5	33.3	38.1	15.0	13.2
PU-8N-SS	1/2	68.3	41.3	44.5	19.8	15.7
PU-12N-SS	3/4	79.2	47.6	54.0	20.6	22.4
PU-16N-SS	1	90.4	60.3	63.5	25.4	26.2

### Union - ISO Tapered

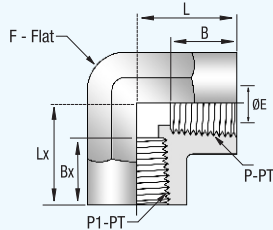


Part No	Pipe Size	Dimensions				
	P-PT, BSPT	L	F	Fx	B	E
PU-2R-SS	1/8	46.0	23.8	28.6	10.4	6.8
PU-4R-SS	1/4	59.4	30.2	34.9	15.0	9.1
PU-6N-SS	3/8	63.5	33.3	38.1	15.0	13.2
PU-8R-SS	1/2	68.3	41.3	44.5	19.8	15.7
PU-12R-SS	3/4	79.2	47.6	54.0	20.6	22.4
PU-16R-SS	1	90.4	60.3	63.5	25.4	26.2



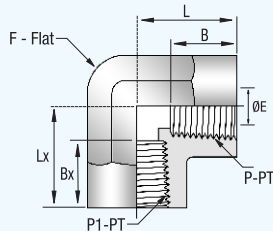
## Instrumentation Pipe Fittings

### Female Elbow - NPT



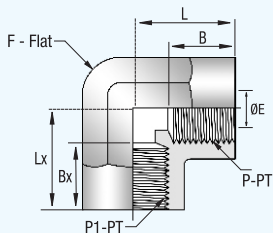
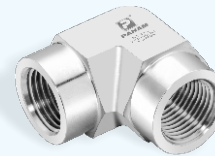
Part No	Pipe Size		Dimensions					
	P-PT, NPT	P1-PT, NPT	L	F	B	E	Lx	Bx
PFE-1N-SS	1/16	1/16	21.8	11.1	9.9	4.8	21.8	9.9
PFE-2N-1N-SS	1/8	1/16	26.4	12.7	10.4	4.8	26.4	9.9
PFE-2N-SS	1/8	1/8	26.4	12.7	10.4	7.1	26.4	10.4
PFE-4N-2N-SS	1/4	1/8	29.7	17.5	15.0	7.1	29.7	10.4
PFE-4N-SS	1/4	1/4	29.7	17.5	15.0	10.4	29.7	15.0
PFE-6N-SS	3/8	3/8	36.1	20.6	15.0	12.7	36.1	15.0
PFE-8N-SS	1/2	1/2	39.6	25.4	19.8	17.1	39.6	19.8
PFE-12N-SS	3/4	3/4	48.8	31.8	20.6	22.4	48.8	20.6
PFE-16N-SS	1	1	48.5	42.9	25.4	28.1	48.5	25.4
PFE-20N-SS	1 1/4	1 1/4	59.8	50.8	25.4	27.7	59.8	25.4
PFE-24N-SS	1 1/2	1 1/2	65.0	63.5	27.7	34.0	65.0	27.7

### Female Elbow - ISO Tapered



Part No	Pipe Size		Dimensions					
	P-PT, BSPT	P1-PT, BSPT	L	F	B	E	Lx	Bx
PFE-1R-SS	1/16	1/16	21.8	11.1	9.9	4.8	21.8	9.9
PFE-2R-1R-SS	1/8	1/16	26.4	12.7	10.4	4.8	26.4	9.9
PFE-2R-SS	1/8	1/8	26.4	12.7	10.4	7.1	26.4	10.4
PFE-4R-2R-SS	1/4	1/8	29.7	17.5	15.0	7.1	29.7	10.4
PFE-4R-SS	1/4	1/4	29.7	17.5	15.0	10.4	29.7	15.0
PFE-6R-SS	3/8	3/8	36.1	20.6	15.0	12.7	36.1	15.0
PFE-8R-SS	1/2	1/2	39.6	25.4	19.8	17.1	39.6	19.8
PFE-12R-SS	3/4	3/4	48.8	31.8	20.6	22.4	48.8	20.6
PFE-16R-SS	1	1	48.5	42.9	25.4	28.1	48.5	25.4
PFE-20R-SS	1 1/4	1 1/4	59.8	50.8	25.4	27.7	59.8	25.4
PFE-24R-SS	1 1/2	1 1/2	65.0	63.5	27.7	34.0	65.0	27.7

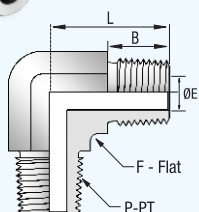
### Female Elbow - ISO Parallel



Part No	Pipe Size		Dimensions					
	P-PT, BSPP	P1-PT, BSPP	L	F	B	E	Lx	Bx
PFE-1G-SS	1/16	1/16	21.8	11.1	9.9	4.8	21.8	9.9
PFE-2G-1G-SS	1/8	1/16	26.4	12.7	10.4	4.8	26.4	9.9
PFE-2G-SS	1/8	1/8	26.4	12.7	10.4	7.1	26.4	10.4
PFE-4G-2G-SS	1/4	1/8	29.7	17.5	15.0	7.1	29.7	10.4
PFE-4G-SS	1/4	1/4	29.7	17.5	15.0	10.4	29.7	15.0
PFE-6G-SS	3/8	3/8	36.1	20.6	15.0	12.7	36.1	15.0
PFE-8G-SS	1/2	1/2	39.6	25.4	19.8	17.1	39.6	19.8
PFE-12G-SS	3/4	3/4	48.8	31.8	20.6	22.4	48.8	20.6
PFE-16G-SS	1	1	48.5	42.9	25.4	28.1	48.5	25.4
PFE-20G-SS	1 1/4	1 1/4	59.8	50.8	25.4	27.7	59.8	25.4
PFE-24G-SS	1 1/2	1 1/2	65.0	63.5	27.7	34.0	65.0	27.7

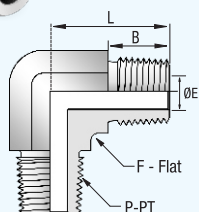
## Instrumentation Pipe Fittings

### Male Elbow - NPT



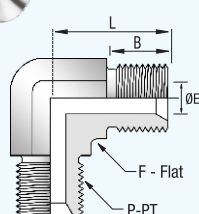
Part No	Pipe Size	Dimensions			
	P-PT, NPT	L	F	B	E
PME-1N-SS	1/16	18.3	9.5	9.7	3.0
PME-2N-SS	1/8	22.4	11.1	9.7	4.8
PME-4N-SS	1/4	26.7	12.7	14.2	7.1
PME-6N-SS	3/8	29.7	17.5	14.2	9.6
PME-8N-SS	1/2	36.8	20.6	19.1	11.9
PME-12N-SS	3/4	40.4	27.0	19.1	15.7
PME-16N-SS	1	50.0	34.9	23.9	22.4

### Male Elbow - ISO Tapered



Part No	Pipe Size	Dimensions			
	P-PT, BSPT	L	F	B	E
PME-1R-SS	1/16	18.3	9.5	9.7	3.0
PME-2R-SS	1/8	22.4	11.1	9.7	4.8
PME-4R-SS	1/4	26.7	12.7	14.2	7.1
PME-6R-SS	3/8	29.7	17.5	14.2	9.6
PME-8R-SS	1/2	36.8	20.6	19.1	11.9
PME-12R-SS	3/4	40.4	27.0	19.1	15.7
PME-16R-SS	1	50.0	34.9	23.9	22.4

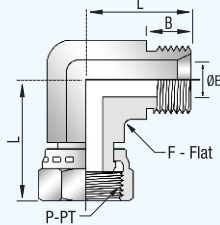
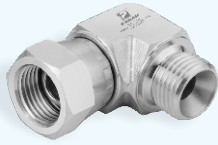
### Male Elbow - ISO Parallel



Part No	Pipe Size	Dimensions			
	P-PT, BSPP	L	F	B	E
PME-1G-SS	1/8	16.6	11.0	8.0	3.5
PME-2G-SS	1/4	27.8	14.0	11.0	4.7
PME-4G-SS	3/8	31.7	19.0	12.0	7.9
PME-6G-SS	1/2	37.0	22.0	14.0	11.1
PME-8G-SS	5/8	39.0	22.0	16.0	14.3
PME-12G-SS	3/4	41.6	27.0	16.0	16.7
PME-16G-SS	1	49.7	23.0	19.0	22.2

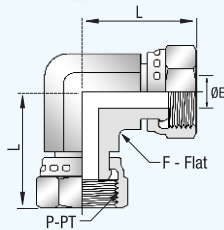
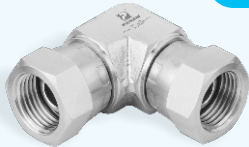
## Instrumentation Pipe Fittings

### Swivel Male Elbow



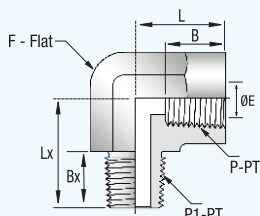
Part No	Pipe Size	Dimensions				
	P-PT, BSPP	L	L1	F	B	E
PME-2G-SWL-SS	1/8	16.6	22.0	11.0	8.0	3.5
PME-4G-SWL-SS	1/4	27.8	31.2	19.0	11.0	4.7
PME-6G-SWL-SS	3/8	31.7	36.2	22.0	12.0	7.9
PME-8G-SWL-SS	1/2	37.0	41.0	27.0	14.0	11.1
PME-10G-SWL-SS	5/8	39.0	41.6	27.0	16.0	14.3
PME-12G-SWL-SS	3/4	41.6	45.3	33.0	16.0	16.7
PME-16G-SWL-SS	1	49.7	53.9	41.0	19.0	22.2
PME-20G-SWL-SS	1 1/4	54.4	60.0	48.0	20.0	28.6
PME-24G-SWL-SS	1 1/2	53.7	63.3	48.0	22.0	33.3

### Swivel Union Elbow



Part No	Pipe Size	Dimensions		
	P-PT, BSPP	F	L	E
PUE-4G-SWL-SS	1/4	14.0	30.5	4.7
PUE-6G-SWL-SS	3/8	19.0	33.0	7.9
PUE-8G-SWL-SS	1/2	22.0	38.8	11.1
PUE-10G-SWL-SS	5/8	22.0	39.4	14.3
PUE-12G-SWL-SS	3/4	27.0	42.3	16.7
PUE-16G-SWL-SS	1	33.0	49.0	22.2
PUE-20G-SWL-SS	1 1/4	41.0	58.2	28.6
PUE-24G-SWL-SS	1 1/2	48.0	63.3	33.3

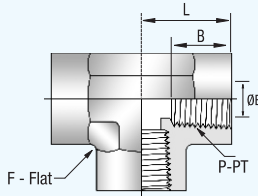
## Street Elbow - NPT



Part No	Pipe Size		Dimensions					
	P-PT, NPT	P1-PT, NPT	L	F	B	E	Lx	Bx
PSE-1N-SS	1/16	1/16	21.8	11.1	9.9	3.0	22.4	9.7
PSE-1N-2N-SS	1/16	1/8	21.8	11.1	9.9	4.8	22.4	9.7
PSE-1N-4N-SS	1/16	1/4	22.4	14.3	9.9	4.8	27.7	14.2
PSE-1N-6N-SS	1/16	3/8	22.4	17.5	9.9	4.8	29.7	14.2
PSE-2N-1N-SS	1/8	1/16	26.4	12.7	10.4	3.0	22.1	9.7
PSE-2N-SS	1/8	1/8	26.4	12.7	10.4	4.8	22.1	9.7
PSE-2N-4N-SS	1/8	1/4	22.4	14.3	10.4	7.1	27.7	14.2
PSE-2N-6N-SS	1/8	3/8	22.4	17.5	10.4	7.1	29.7	14.2
PSE-2N-8N-SS	1/8	1/2	24.1	20.6	10.4	7.1	36.8	19.1
PSE-2N-12N-SS	1/8	3/4	25.4	27.0	10.4	7.1	40.4	19.1
PSE-2N-16N-SS	1/8	1	26.4	34.9	10.4	7.1	50.0	23.9
PSE-4N-2N-SS	1/4	1/8	29.7	17.5	15.0	4.8	25.4	9.7
PSE-4N-SS	1/4	1/4	29.7	17.5	15.0	7.1	29.7	14.2
PSE-4N-6N-SS	1/4	3/8	29.7	17.5	15.0	8.6	29.7	14.2
PSE-4N-8N-SS	1/4	1/2	25.4	20.6	15.0	8.6	36.8	19.1
PSE-4N-12N-SS	1/4	3/4	25.4	27.0	15.0	8.6	40.4	19.1
PSE-4N-16N-SS	1/4	1	41.4	34.9	15.0	8.6	50.0	23.9
PSE-6N-4N-SS	3/8	1/4	36.1	20.6	15.0	7.1	32.0	14.2
PSE-6N-SS	3/8	3/8	36.1	20.6	15.0	9.6	32.0	14.2
PSE-6N-8N-SS	3/8	1/2	36.1	20.6	15.0	11.9	36.8	19.1
PSE-6N-12N-SS	3/8	3/4	31.2	27.0	15.0	11.9	40.4	19.1
PSE-6N-16N-SS	3/8	1	41.4	34.9	15.0	11.9	50.0	23.9
PSE-8N-4N-SS	1/2	1/4	39.6	25.4	19.8	7.1	35.1	14.2
PSE-8N-6N-SS	1/2	3/8	39.6	25.4	19.8	9.6	35.1	14.2
PSE-8N-SS	1/2	1/2	39.6	25.4	19.8	11.9	39.6	19.1
PSE-8N-12N-SS	1/2	3/4	31.2	27.0	19.8	15.7	40.4	19.1
PSE-8N-16N-SS	1/2	1	41.4	34.9	19.8	15.7	50.0	23.9
PSE-12N-SS	3/4	3/4	48.8	31.8	20.6	15.7	42.4	19.1
PSE-12N-16N-SS	3/4	1	41.4	34.9	20.6	22.4	50.0	23.9
PSE-16N-SS	1	1	48.5	42.9	25.4	22.4	49.3	23.9
PSE-20N-SS	1 1/4	1 1/4	60.5	50.8	25.4	31.8	60.5	23.9

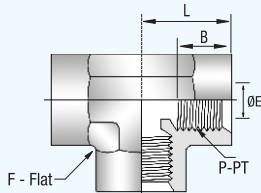
## Instrumentation Pipe Fittings

### Female Tee - NPT



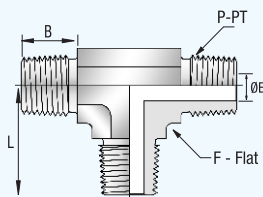
Part No	Pipe Size	Dimensions			
	P-PT, NPT	L	F	B	E
PFT-1N-SS	1/16	21.8	11.1	9.9	4.8
PFT-2N-SS	1/8	26.4	12.7	10.4	8.6
PFT-4N-SS	1/4	29.7	17.5	15.0	11.4
PFT-6N-SS	3/8	36.1	20.6	15.0	15.0
PFT-8N-SS	1/2	39.6	25.4	19.8	18.5
PFT-12N-SS	3/4	48.8	31.8	20.6	23.9
PFT-16N-SS	1	48.5	42.9	25.4	29.7
PFT-20N-SS	1 1/4	59.8	50.8	25.4	37.2
PFT-24N-SS	1 1/2	65.0	63.5	27.7	43.3

### Female Tee - ISO Parallel



Part No	Pipe Size	Dimensions			
	P-PT, BSPP	L	F	B	E
PFT-1G-SS	1/16	21.8	11.1	9.9	4.8
PFT-2G-SS	1/8	26.4	12.7	10.4	8.6
PFT-4G-SS	1/4	29.7	17.5	15.0	11.4
PFT-6G-SS	3/8	36.1	20.6	15.0	15.0
PFT-8G-SS	1/2	39.6	25.4	19.8	18.5
PFT-12G-SS	3/4	48.8	31.8	20.6	23.9
PFT-16G-SS	1	48.5	42.9	25.4	29.7
PFT-20G-SS	1 1/4	59.8	50.8	25.4	37.2
PFT-24G-SS	1 1/2	65.0	63.5	27.7	43.3

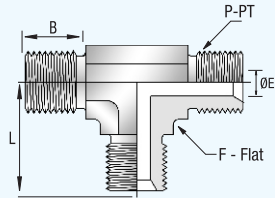
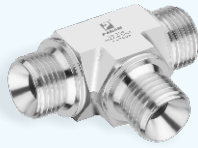
### Male Tee - NPT



Part No	Pipe Size	Dimensions			
	P-PT, NPT	L	F	B	E
PMT-1N-SS	1/16	18.3	9.5	9.7	3.0
PMT-2N-SS	1/8	22.4	11.1	9.7	4.8
PMT-4N-SS	1/4	26.7	12.7	14.2	7.1
PMT-6N-SS	3/8	29.7	17.5	14.2	9.6
PMT-8N-SS	1/2	36.8	20.6	19.1	11.9
PMT-12N-SS	3/4	42.4	27.0	19.1	15.7
PMT-16N-SS	1	49.3	34.9	23.9	22.4
PMT-20N-SS	1 1/4	56.4	42.9	23.9	27.7
PMT-24N-SS	1 1/2	67.1	47.6	26.2	34.0

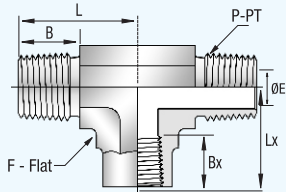
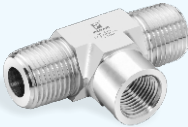
## Instrumentation Pipe Fittings

### Male Tee - ISO Parallel



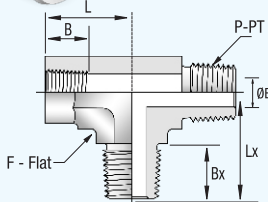
Part No	Pipe Size	Dimensions			
	P-PT, BSPP	L	F	B	E
PMT-2G-SS	1/8	16.6	11.0	8.0	3.5
PMT-4G-SS	1/4	27.8	19.0	11.0	4.7
PMT-6G-SS	3/8	31.7	22.0	12.0	7.9
PMT-8G-SS	1/2	37.0	27.0	14.0	11.1
PMT-10G-SS	5/8	39.0	27.0	16.0	14.3
PMT-12G-SS	3/4	41.9	33.0	16.0	16.7
PMT-16G-SS	1	49.7	41.0	19.0	22.2
PMT-20G-SS	1 1/4	54.4	48.0	20.0	28.6
PMT-24G-SS	1 1/2	53.7	48.0	22.0	33.3

### Female Branch Tee - NPT



Part No	Pipe Size	Dimensions					
	P-PT, NPT	L	F	B	E	Lx	Bx
PFBT-1N-SS	1/16	18.3	11.1	9.7	3.0	21.8	9.9
PFBT-2N-SS	1/8	22.1	12.7	9.7	4.8	26.4	10.4
PFBT-4N-SS	1/4	29.7	17.5	14.2	7.1	29.7	15.0
PFBT-6N-SS	3/8	32.0	20.6	14.2	9.6	36.1	15.0
PFBT-8N-SS	1/2	39.6	25.4	19.1	11.9	39.6	19.8
PFBT-12N-SS	3/4	42.4	31.8	19.1	15.7	48.8	20.6
PFBT-16N-SS	1	49.3	42.9	23.9	22.4	48.5	25.4

### Female Run Tee - NPT

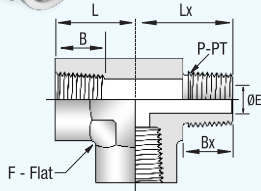


Part No	Pipe Size	Dimensions					
	P-PT, NPT	L	F	B	E	Lx	Bx
PFRT-1N-SS	1/16	21.8	11.1	9.9	3.0	18.3	9.7
PFRT-2N-SS	1/8	26.4	12.7	10.4	4.8	22.1	9.7
PFRT-4N-SS	1/4	29.7	17.5	15.0	7.1	29.7	14.2
PFRT-6N-SS	3/8	36.1	20.6	15.0	9.6	32.0	14.2
PFRT-8N-SS	1/2	39.6	25.4	19.8	11.9	39.6	19.1
PFRT-12N-SS	3/4	48.8	31.8	20.6	15.7	42.4	19.1
PFRT-16N-SS	1	48.5	42.9	25.4	22.4	49.3	23.9



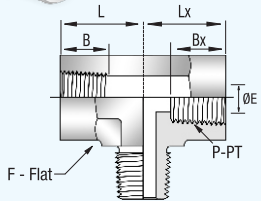
## Instrumentation Pipe Fittings

### Street Tee - NPT



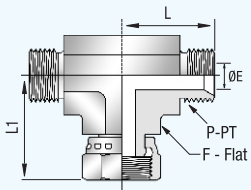
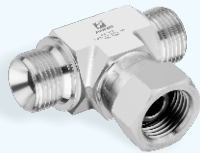
Part No	Pipe Size	Dimensions					
	P-PT, NPT	L	F	B	E	Lx	Bx
PST-1N-SS	1/16	21.8	11.1	9.9	3.0	18.3	9.7
PST-2N-SS	1/8	26.4	12.7	10.4	4.8	22.1	9.7
PST-4N-SS	1/4	29.7	17.5	15.0	7.1	29.7	14.2
PST-6N-SS	3/8	36.1	20.6	15.0	9.6	32.0	14.2
PST-8N-SS	1/2	39.6	25.4	19.8	11.9	39.6	19.1
PST-12N-SS	3/4	48.8	31.8	20.6	15.7	42.4	19.1
PST-16N-SS	1	48.5	42.9	25.4	22.4	49.3	23.9

### Branch Tee - NPT



Part No	Pipe Size	Dimensions					
	P-PT, NPT	L	F	B	E	Lx	Bx
PBT-1N-SS	1/16	21.8	11.1	9.9	3.0	18.3	9.7
PBT-2N-SS	1/8	26.4	12.7	10.4	4.8	22.1	9.7
PBT-4N-SS	1/4	29.7	17.5	15.0	7.1	29.7	14.2
PBT-6N-SS	3/8	36.1	20.6	15.0	9.6	32.0	14.2
PBT-8N-SS	1/2	39.6	25.4	19.8	11.9	39.6	19.1
PBT-12N-SS	3/4	48.8	31.8	20.6	15.7	42.4	19.1
PBT-16N-SS	1	48.5	42.9	25.4	22.4	49.3	23.9

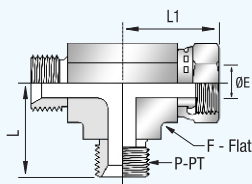
### Swivel Branch Tee



Part No	Pipe Size	Dimensions			
	P-PT, BSPP	L	L1	F	E
PBT-2G-SWL-SS	1/8	16.6	22.0	11.0	3.5
PBT-4G-SWL-SS	1/4	27.8	31.2	19.0	4.7
PBT-6G-SWL-SS	3/8	31.7	36.2	27.0	7.9
PBT-8G-SWL-SS	1/2	37.0	41.0	27.0	11.1
PBT-10G-SWL-SS	5/8	39.0	41.6	27.0	14.3
PBT-12G-SWL-SS	3/4	41.6	45.3	33.0	16.7
PBT-16G-SWL-SS	1	49.7	53.9	41.0	22.2
PBT-20G-SWL-SS	1 1/4	54.4	60.0	48.0	28.6

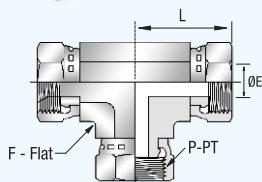
## Instrumentation Pipe Fittings

### Swivel Run Tee



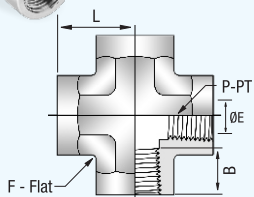
Part No	Pipe Size	Dimensions			
	P-PT, BSPP	L	L1	F	E
PRT-2G-SWL-SS	1/8	16.6	22.0	11.0	3.5
PRT-4G-SWL-SS	1/4	27.8	31.2	19.0	4.7
PRT-6G-SWL-SS	3/8	31.7	36.2	27.0	7.9
PRT-8G-SWL-SS	1/2	37.0	41.0	27.0	11.1
PRT-10G-SWL-SS	5/8	39.0	41.6	27.0	14.3
PRT-12G-SWL-SS	3/4	41.6	45.3	33.0	16.7
PRT-16G-SWL-SS	1	49.7	53.9	41.0	22.2
PRT-20G-SWL-SS	1 1/4	54.4	60.0	48.0	28.6

### Swivel Union Tee



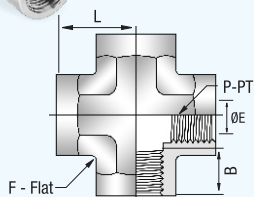
Part No	Pipe Size	Dimensions		
	P-PT, BSPP	L	F	E
PUT-4G-SWL-SS	1/4	30.5	14.0	4.7
PUT-6G-SWL-SS	3/8	33.0	19.0	7.9
PUT-8G-SWL-SS	1/2	38.8	22.0	11.0
PUT-10G-SWL-SS	5/8	39.4	22.0	14.3
PUT-12G-SWL-SS	3/4	42.3	27.0	16.7
PUT-16G-SWL-SS	1	49.0	33.0	22.2
PUT-20G-SWL-SS	1 1/4	58.2	41.0	28.6

### Female Cross - NPT



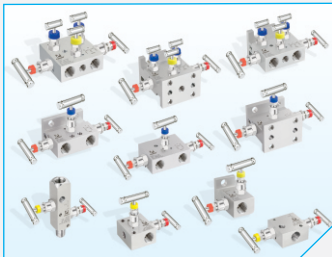
Part No	Pipe Size	Dimensions			
	P-PT, NPT	L	F	B	E
PC-1N-SS	1/16	21.8	11.1	9.9	4.8
PC-2N-SS	1/8	26.4	12.7	10.4	8.6
PC-4N-SS	1/4	29.7	17.5	15.0	11.4
PC-6N-SS	3/8	36.1	20.6	15.0	15.0
PC-8N-SS	1/2	39.6	25.4	19.8	18.5
PC-12N-SS	3/4	48.8	31.8	20.6	23.9
PC-16N-SS	1	48.5	42.9	25.4	29.7

### Female Cross - ISO Tapered

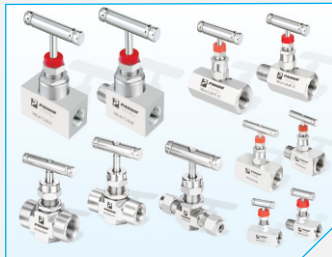


Part No	Pipe Size	Dimensions			
	P-PT, BSPT	L	F	B	E
PC-1R-SS	1/16	21.8	11.1	9.9	4.8
PC-2R-SS	1/8	26.4	12.7	10.4	8.6
PC-4R-SS	1/4	29.7	17.5	15.0	11.4
PC-6R-SS	3/8	36.1	20.6	15.0	15.0
PC-8R-SS	1/2	39.6	25.4	19.8	18.5
PC-12R-SS	3/4	48.8	31.8	20.6	23.9
PC-16R-SS	1	48.5	42.9	25.4	29.7

## Other Products



2, 3 & 5 Valve Manifolds



Needle Valves



Ball Valves



Check Valves



Relief Valves



Tube Fittings



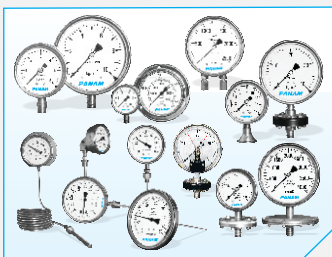
Pipe Fittings



Thermowells



Gauge Root Valves



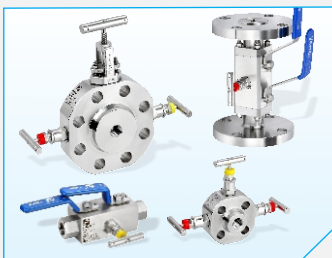
Pressure, Temperature & Diaphragm Gauges



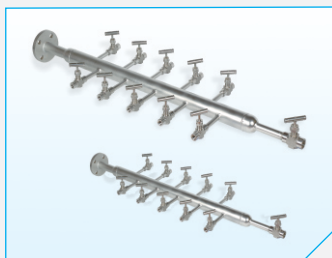
Pressure Transmitters



Pressure Regulators



Double Block & Bleed Valves



Air Header



Industrial Valves



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