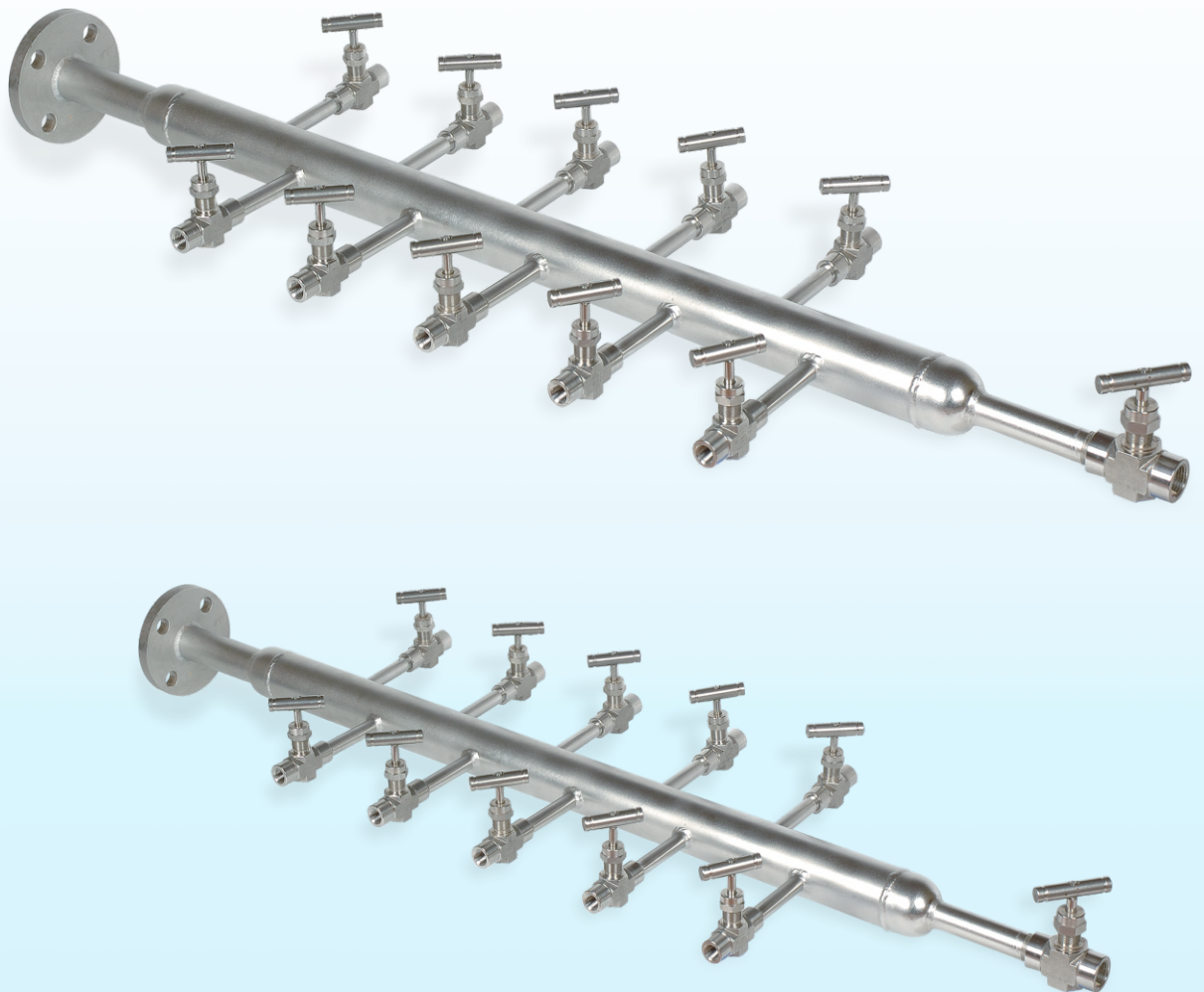


# Air Header



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## Introduction

**PANAM**<sup>®</sup> has emerged as renowned name in Global market for 'Instrumentation Fittings & Valves'. Since its inception in 1998 to present day, **PANAM**<sup>®</sup> has added new product every year and has broadened its product portfolio and its clientele base by supplying to potential customers worldwide. Key core values like Timely Delivery, Quality Consistency, Product Improvisation and after sales service has been instrumental in the phase wise evolution of company. Continuous improvement is the key to success, Customer feedback are taken with positive attitude and product are constantly groomed to a new quality and performance level to cope up with the competition. Our products are known for providing high-quality, high-reliability, low-cost options for the oil and gas industry. Over the year, the company has evolved from a product based company to a complete system solution provider. Over the coming years the entity of the company will attain state of the art operational efficiency for maintaining a competitive edge, with the advent increase in the utilization of its products in oil, gas and power sector.

**PANAM**<sup>®</sup> is having state of the art manufacturing facility span over an area of 65,000 sqft with a fleet of CNC machines, VMC machines, Semi-Automatic Lathe machines, High pressure test bench with SCADA control, Configuration centre for Transmitters and dedicated R&D Team.

**PANAM**<sup>®</sup> is one of the World's Leading Manufacturers of Instrumentation Fittings, Valves and Manifolds.

**PANAM**<sup>®</sup> Offers a large variety of Air Headers needed for instrumentation installation globally.

**PANAM**<sup>®</sup> Air Headers are used to supply several users with instrumentation air. Besides multiple types of standard styles we also supply the Air Headers in accordance with specific customer demands. An air distribution header is characterized by an inlet on one end, a drain on the other end, with multiple outlets on the sides. Typical air distribution headers are manufactured from a piece of pipe and feature welded or threaded end connections. Typically, an air header has a main isolation valve and several outlets, each with its own isolation valve. For potentially wet gases, such as compressed air or steam, it is best to install the air header vertically with a drain valve at the bottom. Selection can be made from a comprehensive range of pipe styles with a variety of connections and material options, optimizing installation and access opportunities. Continuous product development from time to time necessitate changes in the details contained in this catalogue. **PANAM**<sup>®</sup> reserves the right to make such changes at their discretion and without prior notice.

## Features

- Maximum Number of Outlets are 20.
- Minimum Number of Outlets are 4.
- SS316 as a standard material of construction. Other materials are available upon request.
- Radiographic Testing & Liquid Penetrate Testing of Welds.
- Maximum Working Pressure up to 3000 psig (206 bar).
- Maximum Working Temperature up to 400°C (750°F).
- Leak-tight performance testing for every valve under nitrogen condition at the maximum working pressure.
- Ball Valves & Needle Valves available for distribution lines and drain port.
- A choice of high-quality valves and end connections, all manufactured by **PANAM**<sup>®</sup>.
- Colour coded handles available.
- Distribution lines available upon request.

## Product description

Air Header Manifold with up to 20 Ball Valve or Needle Valve outlets, assembled to manifold body using welded nipple to taper threaded valve connection. We can connect a single isolating valve to the inlet to act as a primary isolate valve allowing the user to totally isolate all the valve style should be clearly specified. Such a requirement must be stated separately at enquiry stage and the valve style should be clearly specified. These additional valve requirements will be structured into the part number at quotation stage.

## Pressure Ratings

The pressure ratings of air header assemblies are based on the ratings of the distribution pipe, inlet flange and the valves selected for the inlet, outlet and drain. The component with the lowest pressure rating at any given temperature limits the pressure rating. The valve with the most restrictive temperature rating limits the temperature rating. The working pressure of the air header manifold assembly will be determined by its component with the lowest pressure rating.

These components may include following:

- a. Inlet Valve or Flange
- b. Distribution Pipe
- c. Outlet Valves
- d. Drain Valve
- e. Threaded or Welded Connection

For pressure temperature ratings of ASME B16.5 flanges, see ASME B16.5 (2013) Table 2-2.3 & Table F2-2.2.

For Pressure temperature ratings of EN 1092-1 flanges, see EN 1092-1 (2007) + A1 (2013) Table G.4.1-4 for PN 16, Table 4.1-5 for PN 25, Table G.4.1-6 for PN 40 & Table G.4.1-8 for PN 100.

## Temperature Ratings

Temperature Ratings: The temperature rating depends on the working temperature of the seat & packing materials of inlet, outlet & drain valves.

- a. Ball Valves with Delrin up to 80°C (175°F)
- b. Ball Valves with PEEK Seats up to 232°C (450°F)
- c. Needle Valves with PTFE Packing up to 232°C (450°F)
- d. Needle Valves with Graphite Packing up to 400°C (750°F)

## Connections

Part	Type	Size	Standard
Inlet Connection	Male NPT	1/2" to 1"	ASME B1.20.1
	Female NPT		BS 21, ISO 1-7/1, EN 10226-1
	Male BSP Tapered		BS 2779, ISO 228-1
	Female BSP Tapered		EN 10272-5 Grade 1.4462
	Tube Socket Weld	1/2" to 2"	Standard <b>PANAM</b> ® Tube Socket Weld Connections
	Pipe Socket Weld	1/2" to 2"	Standard <b>PANAM</b> ® Pipe Socket Weld Connections
	Flange	1" to 2" - Class 150, Class 300, Class 600	ASME B16.5
		Dn25 to DN50 PN16, PN25, PN40 & PN100	EN 1092-1
Distribution Pipe	Seamless Stainless Steel Pipe	1" to 2" - SCH40, SCH80, SCH160 & XXS	ASTM A312
Outlet Connection (Outlet of Needle Valve, Ball Valve)	Male NPT	1/4" to 1"	ASME B1.20.1
	Female NPT		BS 21, ISO 7/1, EN 10226-1
	Male BSP Tapered		
	Female BSP Tapered		
	Male BSP Parallel	BS 2779, ISO 228-1	
	Female BSP Parallel		
	Fractional Tube Fitting	1/4" to 1/2"	Standard <b>PANAM</b> ® Tube Fiting
Metric tube Fitting	6mm, 10mm, 12mm		
Drain Connection (Valve, Plug & Thread)	Male NPT	1/4" to 1/2"	ASME B1.20.1
	Female NPT		BS 21, ISO 7/1, EN 10226-1
	Male BSPT		
	Female BSPT		

1. Size and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
2. Valves at Inlet Connections are available upon request.

## Testing

Every Air Distribution Header assembly is shell tested with nitrogen gas at 250 psig (17.2 bar) to a requirement of no detectable leakage with established leak detection method. Liquid Penetrate Testing of Welds as per ASME BPVC Section V Article 6 & Acceptance as per ASME BPVC Section VIII Division 1 Appendix 8.

Radiographic Testing of Welds as per ASME BPVC Section V Article 2 & Acceptance as per ASME BPVC Section VIII Division 1 UW-51.

## Selection of Air Header

**Branch Outlets:** The first step in selecting an Air Header is determining the number & location of branch outlets. In standard air distribution header, branch outlets are available on both sides. Air Headers with branch outlets on only one side are available upon request.

**Gauge:** Standard **PANAM**® Air Header is not provided with a general purpose pressure gauge but it is available upon request.

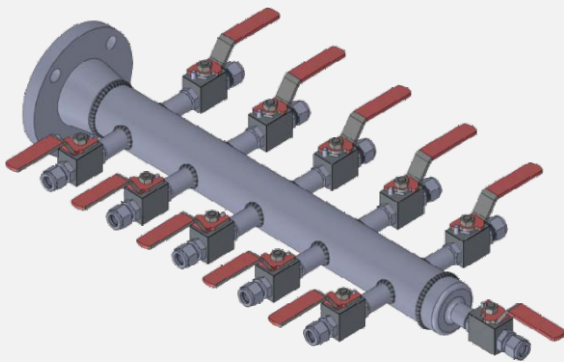
**Drain valve:** The air header can be ordered with or without a drain valve on the opposite end to drain the system.

**Valve selection:** A variety of **PANAM**® valves are available to meet temperature and pressure requirements of specific applications.

a. **PANAM**® Instrumentation Ball Valves

b. **PANAM**® Instrumentation Needle Valves

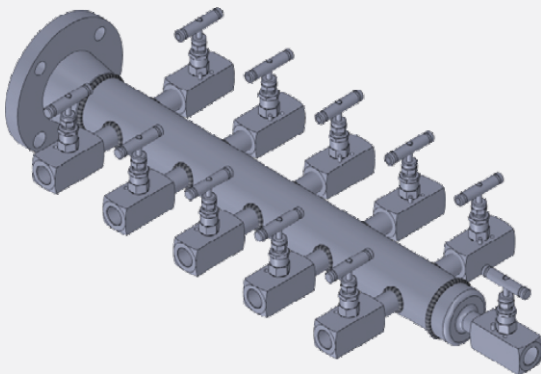
### Ball Valve Series Air Header



#### Standard Material of Construction

Sr.	Component	Material
1	Flange	ASTM A 182 SS316
2	Inlet Valve	Ball Valve - ASTM A479 SS316
3	Inlet Fitting	ASTM A479 SS316
4	Distribution Pipe	ASTM A479 SS316
5	Branch Fitting	ASTM A479 SS316
6	Distribution Valve	Ball Valve - ASTM A479 SS316
7	Drain Valve	Ball Valve - ASTM A479 SS316
8	Plug	ASTM A479 SS316

### Needle Valve Series Air Header



#### Standard Material of Construction

Sr.	Component	Material
1	Flange	ASTM A 182 SS316
2	Inlet Valve	Ball Valve - ASTM A479 SS316
3	Inlet Fitting	ASTM A479 SS316
4	Distribution Pipe	ASTM A479 SS316
5	Branch Fitting	ASTM A479 SS316
6	Distribution Valve	Ball Valve - ASTM A479 SS316
7	Drain Valve	Ball Valve - ASTM A479 SS316
8	Plug	ASTM A479 SS316

## Ordering Information

### P-AR-16-40-4-NM-4-4-MN-Y-V-4-MN-SG

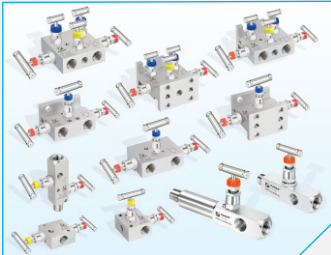
PANAM		AR	Pipe Size		Wall Thickness		Inlet Size		Inlet Type	
AR	Air Receiver	16	NPS 1 (DN25)	40	SCH40	4	1/4"	NM	Male NPT	
		32	NPS 2 (DN50)	80	SCH80	8	1/2"	NF	Female NPT	
				160	SCH160	12	3/4"	RM	Male BSPT	
				XXS	XXS	16	1"	RF	Female BSPT	
						20	1-1/4"	GM	Male BSPP	
						24	1-1/2"	GF	Female BSPP	
						32	2"	PSW	Pipe Socket Weld	
						DN 8	DN 8	TSW	Tube Socket Weld	
						DN 15	DN 15	150SR	Class 150 Serrated Flange (ASME B16.5)	
						DN 20	DN 20	150SM	Class 150 Smooth Flange (ASME B16.5)	
						DN 25	DN 25	300SR	Class 300 Serrated Flange (ASME B16.5)	
						DN 32	DN 32	300SM	Class 300 Smooth Flange (ASME B16.5)	
						DN 40	DN 40	600SR	Class 600 Serrated Flange (ASME B16.5)	
						DN 50	DN 50	600SM	Class 600 Smooth Flange (ASME B16.5)	
								900SR	Class 900 Serrated Flange (ASME B16.5)	
								900SM	Class 900 Smooth Flange (ASME B16.5)	
								1500SR	Class 1500 Serrated Flange (ASME B16.5)	
								1500SM	Class 1500 Smooth Flange (ASME B16.5)	
								PN16SR	PN 16 RF Serrated Flange (EN1092-1)	
								PN16SM	PN 16 RF Smooth Flange (EN1092-1)	
								PN25SR	PN 25 RF Serrated Flange (EN1092-1)	
								PN25SM	PN 25 RF Smooth Flange (EN1092-1)	
								PN40SR	PN 40 RF Serrated Flange (EN1092-1)	
								PN40SM	PN 40 RF Smooth Flange (EN1092-1)	
								PN100SR	PN 40 RF Serrated Flange (EN1092-1)	
								PN100SM	PN 40 RF Smooth Flange (EN1092-1)	

### 4-4-MN-Y-V-4-MN-SG

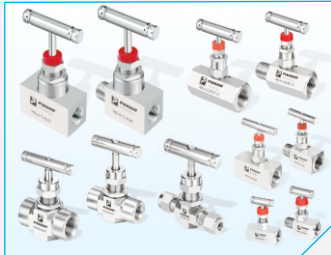
Outlet Qty.	Outlet Size		Outlet Type		Plug After Outlets		Drain Connection		Drain Size		Drain Type	Special Req.	
4	4	1/4"	MN	Male NPT	Y	Yes	V	Valve	4	1/4"	Same as Outlet Type	SG	NACE
6	8	1/2"	NF	Female Elbow	N	No	P	Plug	8	1/2"			
8	12	3/4"	RM	Male BSPT			T	Thread	12	3/4"			
10	16	1"	RF	Female BSPT			N	No Drain	16	1"			
12	M06	6 MM	GM	Male BSPP									
14	M10	10 MM	GF	Female BSPP									
16	M12	12 MM	CT	Compression Tube Fittings									
18													
20													



## Other Products



Valve Manifolds & Gauge Root Valves



Needle Valves



Ball Valves & Check Valves



Relief Valves



Filters



Tube Fittings



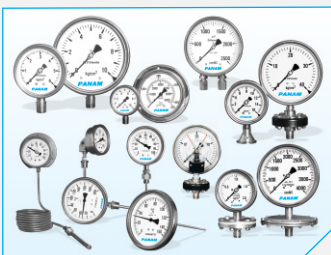
Pipe Fittings



37° JIC Fittings (Flare Fittings)



Thermowells



Pressure, Temperature & Diaphragm Gauges



Pressure Transmitters



Pressure Regulators



Double Block & Bleed Valves



Air Header & Condensate Pots



Industrial Valves



***PANAM ENGINEERS LTD.***

An ISO 9001:2015 Company

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