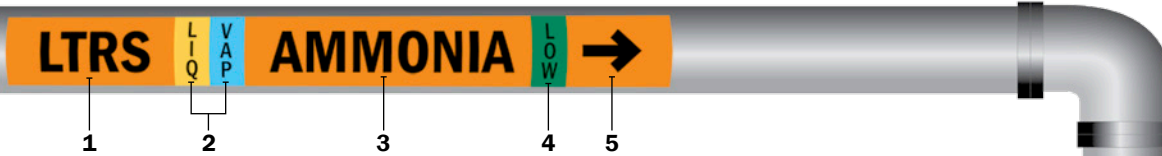


AMMONIA PIPE MARKING GUIDE

This guide follows International Institute of Ammonia Refrigeration (IIAR) Bulletin No. 114, as revised in 2014. Facilities using an older version of the standard may continue to do so, as long as their usage is consistent and documented.

Ammonia Pipe Markers – Five-Part Labels



1. Piping Abbreviation

Identifies the part of the system with text printed in black on an orange background. Abbreviations are recommended; see table of *Piping Abbreviations*. If additional identifying information is needed, include it here.

2. Physical State

- For liquid ammonia, show “LIQ” in black on a yellow band
- For vapor, show “VAP” in black on a sky blue band
- If both states may be present, both elements may appear

3. Pipe Contents

The word “AMMONIA” should be printed in black on an orange background.

4. Pressure Level

- For contents at 70 psig or less, show “LOW” in black on a green band
- For contents above 70 psig, show “HIGH” in black on a red band

5. Flow Direction

Show the direction of flow with directional arrows, printed in black on an orange background. The arrows may appear at one or both ends of the label, and may repeat around the circumference of the pipe if desired.

Pipe Marker Dimensions

Outside Pipe Diameter Including Covering	Minimum Marker Height	Minimum Marker Length	Minimum Height of Letters	Min. Width of State/Press. Bands
Up to 1.25"	32 mm	1" 25 mm	8" 203 mm	.5" 13 mm
1.25" - 2"	32 - 51 mm	1.5" 38 mm	8" 203 mm	.75" 19 mm
2" - 7"	51 - 178 mm	2.5" 64 mm	12" 305 mm	1" 25 mm
7" - 10"	178 - 254 mm	3.5" 89 mm	24" 610 mm	1.5" 38 mm
Over 10"	Over 254 mm	4.5" 114 mm	32" 813 mm	2" 51 mm

Pipe Marker Locations

- Before and after any change in pipe direction. If the pipe ends at equipment or changes direction again within 24 inches (61cm), the label in the short space may be omitted.
- Before and after any wall, ceiling, or floor penetration.
- No farther than 40 feet (12m) apart on extended runs of pipe.
- At least once in each room or area through which the pipe passes.

Piping Abbreviations

Piping Description	Abbr.
Booster Discharge	BD
Booster Suction	BS
Condenser Drain	CD
Economizer Suction	ES
High Pressure Liquid	HPL
High Stage Discharge	HSD
High Stage Suction	HSS
High Temperature Recirculated Liquid	HTRL
High Temperature Recirculated Suction	HTRS
High Temperature Suction	HTS
Hot Gas Defrost	HGD
Intermediate Pressure Liquid	IPL
Liquid Injection Cooling	LIC
Low Stage Suction	LSS
Low Temperature Recirculated Liquid	LTRL
Low Temperature Recirculated Suction	LTRS
Low Temperature Suction	LTS
Medium Temperature Recirculated Liquid	MTRL
Medium Temperature Recirculated Suction	MTRS
Medium Temperature Suction	MTS
Oil Drain	OD
Pump Out	PO
Relief Vent	RV
Sub-Cooled Liquid	SCL
Thermosyphon Return	TSR
Thermosyphon Supply	TSS
Thermosyphon Vent	TSV

System Component Markers – Two-Part Labels



1. Component Identifier

Name the component with black text on an orange background. Abbreviations are acceptable; see the table of *Component Abbreviations*. If additional identifying information is needed, include it here.

2. Pressure Level

- For contents at 70 psig or less, show “LOW” in black on a green band
- For contents above 70 psig, show “HIGH” in black on a red band

Component Marker Dimensions

- At least 3.5 inches high
- Lettering at least 2.5 inches high
- Marker length will vary to allow for the length of the component name
- Pressure level band should be at least 1.5 inches wide

Component Abbreviations

Component/Equipment	Abbr.
Accumulator (with/without int. coil)	ACC
Air Cooled Condenser	AC
Air Handling Unit	AHU
Air Unit	AU
Booster Compressor	BC
Controlled Pressure Receiver	CPR
Evaporative Condenser	EC
Heat Exchanger	HEX
High Pressure Receiver	HPR
High Stage Compressor	HSC
High Temperature Recirculator	HTR
Intercooler (with/without int. coil)	IC
Liquid Transfer Unit	LTU
Low Temperature Compressor	LTC
Low Temperature Recirculator	LTR
Low Low Temp Recirculator	LLTR
Oil Pot	OP
Oil Separator	OS
Pilot Receiver	PR
Purger Unit	PRG
Refrigerant Pump	RP
Refrigerated Make-Up Air Unit	RMAU
Rooftop Air Unit	RTU
Surge Drum	SD
Swing Compressor	SWC
Thermosyphon Receiver	TSR
Water Cooled Condenser	WC

IIAR Suggested Pipe Color Scheme

In addition to the detailed labels, it may be helpful to include a color code for refrigeration system pipes. These colors may be applied as paint over the length of the pipe, or as bands of color applied periodically, as sufficient for pipe recognition. IIAR Bulletin No. 114 suggests the color scheme shown at right.

Color	Pipe Designation
Orange	High Pressure Liquid
Yellow	High Pressure Vapor
Sky Blue	Low Pressure, High Temperature Liquid/Vapor
Blue	Low Pressure, Low Temperature Liquid/Vapor
Purple	Low Pressure, Very Low Temperature Liquid/Vapor
Gray	Pressure Relief Vent piping
Green	Nonvolatile, Non-pressurized Process piping

This, or any other pipe coloring scheme, should only be used in conjunction with a clearly posted legend or key describing the color scheme in place.



Create Ammonia Pipe Markers with

DuraLabel[®]

THERMAL TRANSFER PRINTERS

Proper ammonia pipe marking is critical in facility safety and efficiency. Pipes containing ammonia require specialized designs and a durable marker to comply with global industry standards.

DuraLabel offers industrial printers designed to print these labels for compliance and lasting performance in industrial settings.

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Increase visibility from a distance with oversized labels. Create labels and signs up to 9" in width.



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DuraLabel Lobo is a portable thermal transfer printer that gives you the power to create durable labels anywhere, anytime. The Lobo's label stock comes in easy-to-use cartridges of 1/2" to 2" in width and can be changed in seconds.

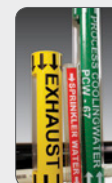


Pipe Marking Accessories

Pipe Grabber™ Sleeves



Clear plastic pipe grabber sleeves provide a clean surface for pipe marking labels, enabling users to identify dirty, oily, rusty pipes. Labels are applied directly on the sleeve, then the sleeve curls tightly around the pipe.

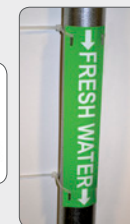


Pipe Grabber Sleeve Sizes:

- 1" x 9" - Fits pipes with diameters 1" - 1.5"
- 1.5" x 9" - Fits pipes with diameters 1.5" - 2.3"
- 2" x 12" - Fits pipes with diameters 2" - 3"
- 3" x 12" - Fits pipes with diameters 3" - 4"
- 4" x 18" - Fits pipes with diameters 4" - 5.2"

DuraTag™, Slot Puncher and Cable Ties

For difficult to label pipes or situations where adhesive labels are not appropriate, we offer the Slot Puncher and Cable Ties. Simply print your custom label onto DuraTag™ Tag Stock, use the Slot Puncher in each corner of your label, and secure to pipe with our Cable Ties.



Heavy-Duty Valve Tags



Label pipes and valves easily with our Heavy-Duty Valve Tags. Tags provide a rigid base for your label, and have pre-drilled holes to hang with cable ties. Great for small pipes as pictured and color-coding valves.



Scan here to learn more about DuraLabel pipe marking solutions!

