



*Marking Services Incorporated*

## **Engineered** Process Labeling Services

Power Generation  
Oil and Gas  
Petro Chemical  
Pharmaceutical  
Food and Beverage



**Over the last 20 years,**

MSI has pioneered the pipe labeling industry with an innovative turnkey approach to the market. Our specialized products communicate the contents, origin and destination of piping systems—vital to the safe and efficient operation of any facility.



Marking Services Incorporated



- Engineering
- Manufacturing
- Installation
- Maintenance
- P&ID updates
- Value

# 1

We're your single source for all plant labeling.

**MSI's** experience and innovative product solutions provide increased visibility and clarity of information that enhances the safety and efficiency of facilities.

#### THE RIGHT PROCESS

At MSI, our process begins with developing a scope of work based on the needs of our clients. Once the scope is defined, MSI will develop the Bill of Materials required (using a 3D computer design model and P&IDs), determine the proper in-plant location for each marker or sign, and manufacture and install all required labeling materials. Our single source turnkey process guarantees that your plant labeling will match your P&IDs. We go beyond simply printing pipe contents and flow arrows on line labeling, to also include the P&ID line number and FROM/TO information. This comprehensive approach transmits critical information from P&IDs to the field, resulting in smoother commissioning and start-up.

#### THE RIGHT PRODUCT

Our pipe markers are more durable than conventional labeling - they're made to withstand prolonged exposure to direct sunlight, temperatures up to 121°C/250°F, and repeated contact with hydrocarbons & process chemicals. In addition, they can be customized to comply with project specifications and color codes and be installed quickly as a single-piece unit without preparation of the pipe surface. These markers can also be removed for line maintenance, then easily re-installed.



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# engineering

SUCCESS BEGINS WITH PREPARATION

Every successful project begins with the development of a detailed scope of work based on the client's expectation and needs. Selecting the appropriate materials, planning label placement, and determining installation parameters for any facility is considerably more complex than most people think. Our staff of full-time professionals are experienced in the intricacies of developing and implementing a total identification system.

**STEP 1** MSI will develop a *Pipe Marker Line List* using the project P&IDs. This list captures all lines from the drawings and includes all pertinent information for labeling.

**STEP 2** The *Pipe Marker Line List* is reviewed by owner personnel, allowing them to indicate "Pipe Contents" with user-friendly terminology. The owner is not expected to review or edit the "from" and "to" information. When the list is completed, MSI adds marker sizes and proper color-codes for piping systems.

**STEP 3** MSI field engineers walk down all lines to determine specific marker locations. This procedure enables as-built verification, confirms pipe insulation diameters and the marker quantity required for each line.

Engineering

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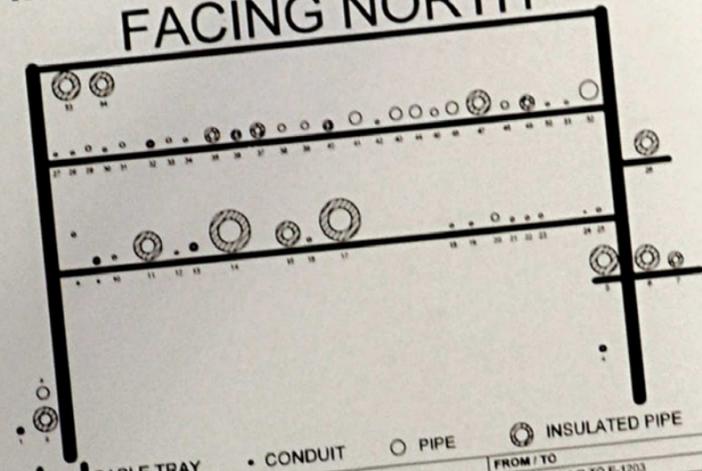
Installation

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## IDENTIFICATION OF PIPE IN RACK ABOVE FACING NORTH



LOC	LEGEND	LINE #	FROM / TO
1	ETHYLENE	32-P-500173-J01-0.75"-C(-10 C)	FROM P-503 A/B TO E-1203
2	ETHYLENE	32-P-500091-J01-8"-C(-10 C)	FROM P-503A/B TO E-513
3	ETHYLENE	32-P-500091-J01-8"-C(-10 C)	FROM P-503A/B TO E-513
4	ETHYLENE	32-P-500158-EJ01-1"-C(-37 C)	FROM S-50001 TO COLD FLARE
5	ETHYLENE	32-P-500090-J01-10"-C(-10 C)	FROM P-503-A TO E-512
6	ETHYLENE	32-P-500162-EB01-8"-C(-24 C)	FROM P-503A/B TO D-524
7	ETHYLENE	32-P-500099-EB01-8"-C(-24 C)	FROM P-503A TO COLD FLARE/T-502
8	MIST OIL		
9	DRINKING WATER		
10	LOW PRESSURE CONDENSATE	32-P-500090-J01-10"-C(-10 C)	FROM P-503-A TO E-512
11	ETHYLENE		
12	LOW PRESSURE CONDENSATE		
13	LOW PRESSURE STEAM		FROM TK-1140 TO E-511
14	PROPANE REFRIGERANT	32-P-520199-DB01-8"-C(-36 C)	FROM E-711 TO TK-1142A/B/C/TK-1152
15	ETHANE	32-P-710042-DA03-3"-N(48 C)	
16	C5+ CUT		FROM P-1102 A/B
17	PROPANE REFRIGERANT	32-P-074005-DA03-2"-N(48 C)	
18	C5/C8 CUT		FROM E-512 TO D-524
19	DMDS	32-P-500093-J01-8"-N(20 C)	FROM E-603A/B TO TK-1152
20	ETHYLENE	32-P-610020-EA11-2"-N(48 C)	FROM P-1115 A/B TO F-601
21	C5+ CUT	32-P-610020-DA03-2"-N(48 C)	FROM E-608 TO D-1411
22	C5+ CUT	32-P-620058-EB01-3"-N(48 C)	
23	HYDROGENATED C3/C5		FROM P-1101 A/B TO FURNACES
24	LOW PRESSURE CONDENSATE	32-P-073004-EB21-3"-N(48 C)	FROM D-524 TO TK-1145A/B/C
25	C3/C4 CUT	32-P-500098-EB11-8"-C(-24 C)	
26	ETHYLENE		
27	INSTRUMENT AIR		
28	COLD FLARE		
29	INSTRUMENT AIR		
30	PLANT AIR		
31	SERVICE WATER		FROM P-1101 A/B TO DOLPHIN
32	ACID	32-P-073001-EB11-4"-N(45 C)	
33	C3/C4 CUT		FROM TK-1140 TO E-404
34	NITROGEN	32-P-120066-DB01-8"-C(-36 C)	FROM D-522 TO E-504
35	ETHANE	32-P-520079-DJ01-4"-C(-48 C)	FROM TK-1140 TO E-510
36	ETHANE	32-P-520198-DB01-8"-C(-36 C)	
37	ETHANE		
38	COOLING WATER RETURN		FROM T-524 TO TK-1146 A/B/C
39	COOLING WATER SUPPLY	32-P-500082-EB01-4"-C(-24 C)	
40	ETHYLENE		
41	FUEL GAS		
42	FUEL GAS		
43	COLD DRAIN		
44	LOW PRESSURE CONDENSATE		FROM P-503A/B TO D-524
45	FIRE WATER		
46	FIRE WATER	32-P-500162-EB01-8"-C(-24 C)	FROM T-502 TO TK-1140
47	ETHYLENE	32-P-520163-EB11-8"-C(-31 C)	
48	COLD DRAIN		FROM P-1102 A/B TO D-330(HOT SECTION)
49	ETHANE	32-P-210035-DA03-2"-N(48 C)	
50	HOT DRAIN		
51	C5/C8 CUT		
52	COLD FLARE		
53	LOW PRESSURE STEAM		
54	LOW PRESSURE STEAM		

PROFILE 101 MARKING SERVICES INC. +1 414 973 1331

Example of an engineered pipe rack profile sign



# manufacturing

## OBJECTIVE

MSI markers transfer pertinent info from the client P&IDs to the actual piping within the facility. The markers identify process line contents, flow direction, origin, destination and line numbers providing critical process-specific information to operations, contractors and maintenance personnel in the event of an emergency.



# Pipe markers

## MATERIALS

MS-995 pipe markers are manufactured for extended life in harsh surroundings such as process chemical plants and marine/offshore environments. Each pipe marker is constructed from printed polyester with an exterior surface of MS-1000 to withstand exposure to direct sunlight, salt water, harsh process chemicals, acids, caustics and hydrocarbons. MS-995 pipe markers can withstand temperatures up to 250°F (121°C). This superior durability allows MSI to guarantee them to last a minimum of five years or we will replace them at no charge.

## MARKER INSTALLATION

Our pre-coiled markers wrap entirely around the pipe diameter and self seal with a permanent lock down strip. Markers for larger pipes are mounted to a rigid carrier which is affixed to the pipe with stainless steel banding.

## STANDARDS

MS-995 pipe markers conform to all of the standards set forth:  
ASME A13.1 "Scheme for the identification of Piping Systems".  
BS1710  
RLCGL/002/2004  
ISO-14726  
NR-26  
IIAR Bulletin #114  
NOM 062



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# Signs and Tags



## SIGNS

MS-215 operations, equipment, safety and GHS signs can be flexible or rigid based on mounting needs. Manufactured for plant environments, MS-215 signs are resistant to chemicals and fading, and are the highest quality material available.

## TAGS

MS-215 valve, instrument, and equipment tags are constructed with layers of chemical and UV resistant plastic which protect the printing and ensure long life in harsh plant conditions. MS-215 tags may also be bar-coded and allow for systems color-coding. Depending on the application, tags are then installed with a variety of stainless steel fasteners.



Installed control valve tags



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# installation

## OBJECTIVE

**MSI's turnkey approach provides a single source for the implementation of all mechanical identification programs. Our crews are all full time employees who have developed a unique methodology for efficiently labeling plants.**

## MSI INSTALLATION TEAMS:

- serve as a seamless extension of our client's personnel, yet work independently to minimize any disruptions in our client's normal activities.
- have extensive safety training and are provided with the best equipment to ensure that each project is completed safely.
- use their wealth of experience to guarantee all pipe labels, tags and signs are installed in the most appropriate areas to provide maximum visibility for facility operators and maximum value for clients.
- focus solely on labeling, signage and tagging. Our concentrated system allows projects to be completed in an optimal time frame of weeks rather than months.
- take a detailed approach to each project. Special attention is paid to pipe racks, manifolds and valves located in confined or hard to reach areas. This approach greatly simplifies the need for clients to trace lines both on a day-to-day basis and in times of emergency.
- ensure that the client receives the maximum value by guaranteeing any marker they install will last for five years or they will replace and/or reinstall it.
- offer maximum responsiveness with the ability to immediately manufacture any markers needed as a result of punch list changes or other client needs.

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Typical marker installation



Bilingual installation



# maintenance

## OBJECTIVE

**MSI stands behind its services with the most comprehensive maintenance agreement in the industry. Because of the dynamic nature of process plants, changes in design and process piping must be accounted for and integrated with the rest of the facility. Although your facility will be marked properly when MSI is completed with a project, your investment in mechanical identification must be protected into the future.**

## MSI MAINTENANCE AGREEMENT

- An annual inspection can be included for each turnkey project. This is a service offered to each client to insure the markers are performing as they should, and that changes in the process piping are captured.
- MSI's goal is to maintain an up-to-date identification program that can account for change in the piping systems.

An MSI maintenance team confers before beginning work at a typical processing facility



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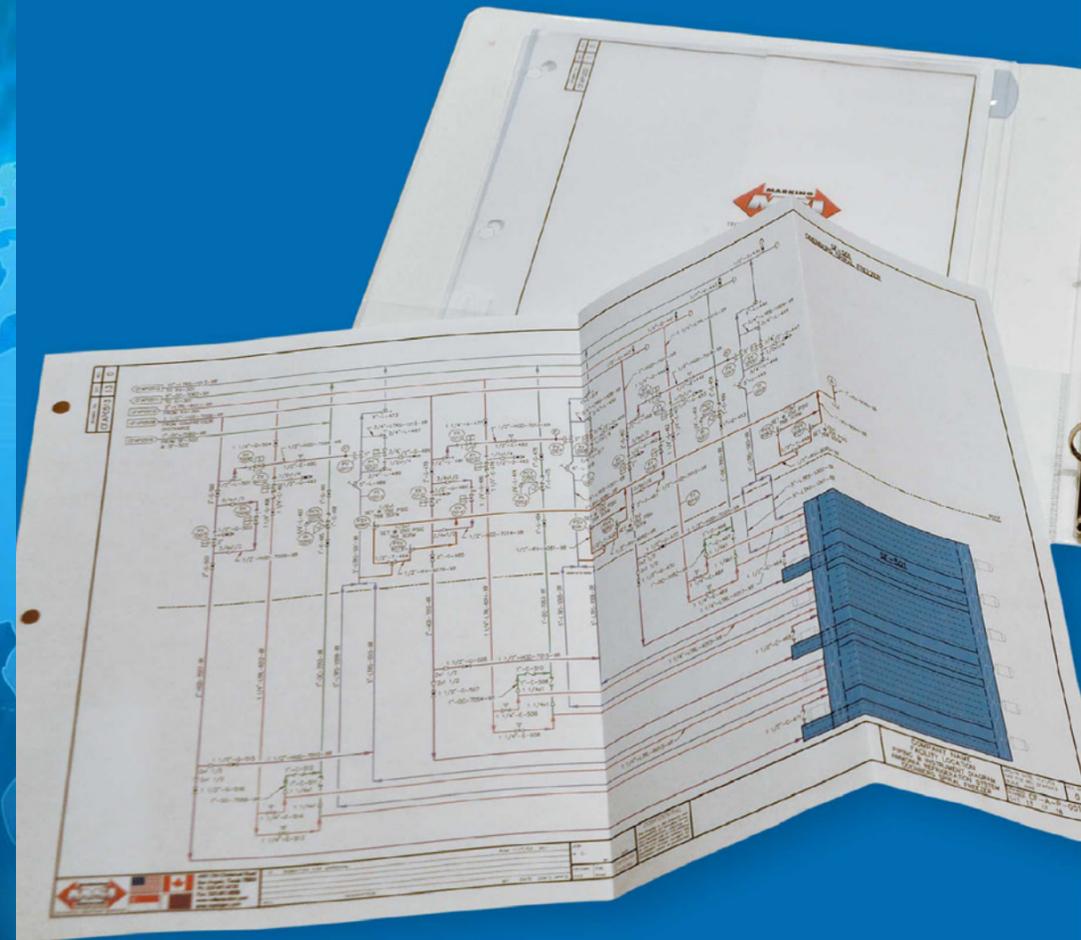
Maintenance

P&ID updates

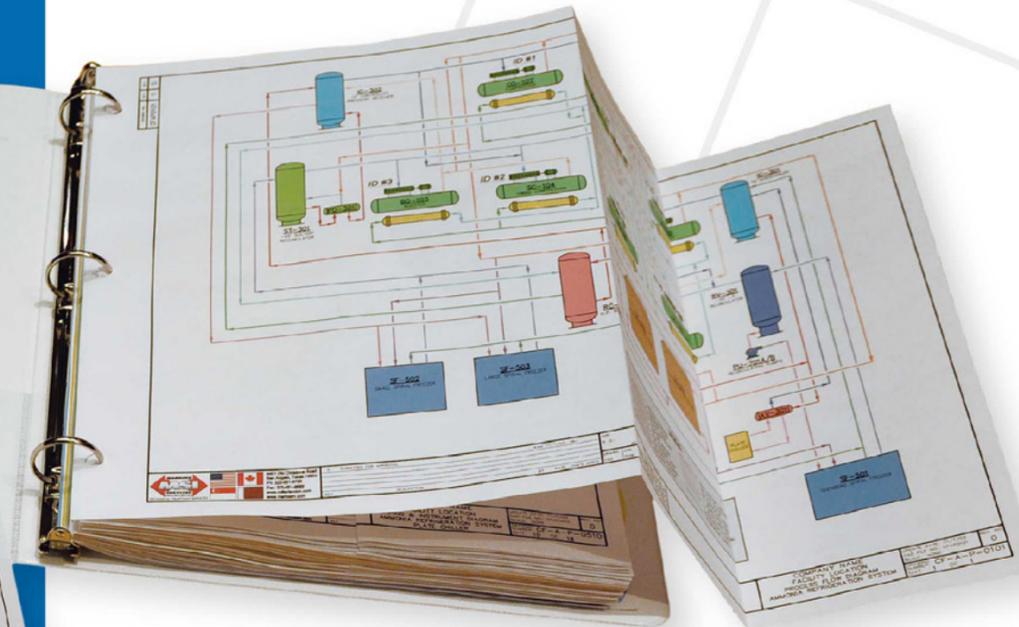
Value

# P&IDs

Accurate P&IDs are an invaluable tool and resource for Process Safety Management (PSM), facility engineers, plant maintenance, and outside contractors in your plant or processing facility.



MSI Technical Drafting Services specializes in creating and updating P&IDs for any process, taking their development to a whole new level. P&IDs created by MSI are much more than drawings. They are tools that not only illustrate your process in detail, but also provide valuable information on equipment, valves, lines and instruments, often referred to as intelligent P&IDs.



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MSI's Technical Drafting Services P&IDs can be created utilizing your existing conventions and specifications or we can create specifications that meet your needs. When drawings have been completed, the information is extracted into a database and reports are generated. These reports provide a head start on the Process Safety Information element of PSM. If your process changes or is expanded, the new drawings can be extracted and a new database can easily be generated to help with Management of Change. The database is available on CD and can also be useful for maintenance, asset management and inventory.

MSI's P&IDs utilize commodity color coding and are easy to follow and understand, allowing your risk assessment or HAZOP team to move quickly through your facility process. Our field engineering personnel physically trace every line and touch every component in scope to ensure accuracy.

# value

**At MSI, we don't simply create markers, signs and tags.**

We enhance the overall safety and efficiency of your facility.

From developing accurate P&IDs to the manufacture and installation of clear, durable markers and tags that effectively communicate valuable information to all who need it. MSI offers you a single, seamless source to help you better manage your facility. That's partnership. That's value. **That's MSI.**



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*Marking Services Incorporated*

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