DRAWING NO. DRAWING_NO.

REV. REV

## PIPING SYMBOLS

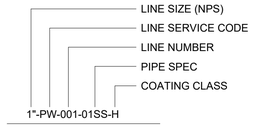
PRIMARY PIPING

SECONDARY PIPING

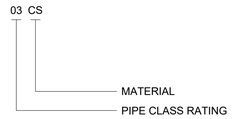
INSULATED PIPING

E — ELECTRICALLY HEAT TRACED PIPING

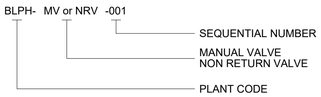
## LINE NOMENCLATURE




## PIPING SPECIFICATION (NOTE 4)




## VALVE IDENTIFICATION CODE




## PIPE CLASS RATING

| | |
|---|---|
| 01 | CLASS 150# ACCORDING TO ASME B31.3 |
| 03 | CLASS 300# ACCORDING TO ASME B31.3 |
| 06 | CLASS 600# ACCORDING TO ASME B31.3 |
| 01H | CLASS 150# ACCORDING TO ASME B31.12 |
| 03H | CLASS 300# ACCORDING TO ASME B31.12 |

## MATERIAL

| | |
|---|---|
| CS | CARBON STEEL |
| SS | STAINLESS STEEL |
| SD | SUPER DUPLEX STAINLESS STEEL |
| GRP | GLASS REINFORCED PLASTIC |

## INSULATION CLASS

| | |
|---|---|
| H | HEAT CONSERVATION |
| P | PERSONNEL PROTECTION |
| E | ELECTRICALLY HEAT TRACED |
| N | NOT INSULATED (PAINTED) |

## PIPING CONNECTORS

DRAWING CONTINUATION ARROW

CONNECTOR NUMBER — DWG NUMBER
TO/FROM EQUIPT NO.

3RD PARTY BATTERY LIMIT

CONTRACTOR | SUPPLIER

TIE-IN LABEL

TP
100

## INSTRUMENTATION CONNECTOR

DRAWING CONTINUATION ARROW

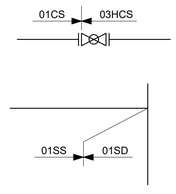
CONNECTOR NUMBER — DWG NUMBER
TO/FROM INSTRUMENT NO.

## VALVES, CONTROL VALVES AND RELIEF VALVES

| SYMBOL | DESCRIPTION |
|---|---|
| | CHECK VALVE |
| | GLOBE VALVE |
| | BUTTERFLY VALVE |
| | NEEDLE VALVE |
| | BALL VALVE |
| | ANGLE VALVE |
| | GATE |
| | 3-WAY |
| | PRESSURE RELIEF VALVE |
| DB | DOUBLE BLOCK AND BLEED VALVE |
| SB | SINGLE BLOCK AND BLEED VALVE |
| | SINGLE BLOCK AND BLEED VALVE (MONOFLANGE) |
| | DOUBLE BLOCK AND BLEED VALVE (MONOFLANGE) |

## PIPING SEGMENT BREAKS & LABELS

PIPE SPEC BREAK
INDICATES CHANGE PIPE SPEC




## SPECIALTY LABELS

SP
0001 — 0001 = SP SEQUENCE NO.

## FITTINGS

| | |
|---|---|
| | FLANGE |
| | CAP |
| | CONCENTRIC REDUCER |
| | ECCENTRIC REDUCER |
| | HOSE CONNECTION |

## SPECIALTY ITEMS

| | | |
|---|---|---|
| BRS | | BIRD SCREEN |
| STR | | Y-TYPE STRAINER |
| | RS | REMOVABLE SPOOL |
| SAM | S | SAMPLE CONNECTION<br>(SAM) SAMPLE STATION<br>NOTE 3 |
| GVC | | GOOSENECK VENT W/MESH<br>NOTE 3 |
| RO | | RESTRICTION ORIFICE<br>NOTE 3 |
| SPS | | SPECTACLE BLIND<br>(BOTTOM CIRCLE DENOTES NORMAL POSITION) |
| VB | | VORTEX BREAKER<br>NOTE 2 |
| MV | | AIR RELEASE VALVE |

## EQUIPMENT NOZZLE CONNECTIONS

| | |
|---|---|
| | FLANGED NOZZLE |
| | FLANGED NOZZLE ON SIDE OF VESSEL |
| MW | MANWAY |
| | MANWAY |

## INSTRUMENT LABELS

2F3
SET @ 40 barg — SET PRESSURE

PRV SIZE (INLET, ORIFICE, OUTLET)

## ACTUATORS

| | |
|---|---|
| | DIAPHRAGM ACTUATOR |
| | SINGLE/DOUBLE ACTING CYLINDER ACTUATOR |
| S | SINGLE SOLENOID ACTUATOR |
| S | OFF-LINE 3-WAY SOLENOID VALVE WITH SINGLE ACTUATOR |

## INSTRUMENT SIGNAL LINES

| | |
|---|---|
| | INSTRUMENT TO PROCESS |
| | ELECTRIC |
| 02 | PNEUMATIC |
| | SOFTWARE OR CCS LINK |

## PRIMARY INLINE ELEMENT SYMBOLS

| | |
|---|---|
| | VARIABLE AREA METER |
| | ULTRASONIC |
| | DIAPHRAGM SEAL WITH CAPILLARY |

## OTHER INSTRUMENTATION

| | |
|---|---|
| | INSTRUMENT COMPONENT LABEL SYMBOL WITH NO DATA |
| 10 PV 100 A | 10 = UNIT NUMBER<br>P = MEASURED VARIABLE CODE<br>V = INSTRUMENT TYPE MODIFIER<br>100 = INSTRUMENT SEQUENCE NUMBER<br>A = SUFFIX |
| FV | CONTROL VALVE LABEL |
| 2" FO | CONTROL VALVE WITH NOMINAL DIAMETER AND FAIL ACTION LABEL |
| HH, H, FIC, L, LL | ALARM HIGH HIGH LABEL<br>ALARM HIGH LABEL<br>ALARM LOW LABEL<br>ALARM LOW LOW LABEL |
| FT, M | IF PRIMARY ELEMENT HAS INTEGRAL TRANSMITTER SHOW FT INSTEAD OF FE INSIDE OF TAG |

## INSTRUMENT OR FUNCTION SYMBOLS

| | |
|---|---|
| | FIELD MOUNTED INSTRUMENT |
| | INSTRUMENT MOUNTED ON CENTRAL CONTROL ROOM PANEL |
| | DCS DISPLAY ACCESSIBLE TO OPERATOR |
| | CRITICAL INTERLOCK |
| 02 | VENDOR'S UCP |

## NOTES

1. FOR GENERAL NOTES AND INSTRUMENTATION SIMBOLOGY SEE DRAWINGS: 123A90-DDL-PR-PID-80009 AND 123A90-DDL-PR-PID-80042 RESPECTIVELY.
2. ITEMS ARE SHOWN UNDER SPECIALTY ITEMS FOR SYMBOLOGY REFERENCE ONLY. ITEMS ARE NOT SP ITEMS.
3. ITEMS ARE NOT SPECIALITY ITEMS UNLESS OTHERWISE SPECIFIED.
4. PIPE SPECIFICATION AND PIPING MATERIAL CLASS INDEX AS PER PIPE MATERIAL CLASSES (DOC. N. 123A90-DDL-PP-SP-70000)

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 12/06/2024 | CIM | RZI | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 15/02/2024 | CIM | RZI | DLO | ISSUE FOR ACCEPTANCE (IFA) |
| 00 | 20/10/2023 | CIM | RZI | DLO | ISSUE FOR ACCEPTANCE (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :
BLPH PIPING AND INSTRUMENTATION DIAGRAM
PIPING SYMBOLOGY

| CONTRACT NO./TITLE | CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | SCALE NTS |
|---|---|---|---|
| DRAWN | CHECKED | APPROVED | DATE |

| A1 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90-DDL-PR-PID-80010 | 001 | 02 |

File Name : DRAWING_NO.