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DESIGNATION OF LINES

AAA–BBB–CCC–DDD–EEE–FFF

- INSULATION
- PIPING CLASS
- NOMINAL SIZE
- PROGRESIVE NUMBER
- UNIT NUMBER
- FLUID CODE

TYPE OF INSULATION

ET = ELECTRICAL TRACED AND INSULATED
IH = INSULATION HOT
IP = INSULATION FOR PERSONNEL PROTECTION
IC = INSULATION COLD

DESIGN CONDITIONS

DP | DT

- DESIGN TEMPERATURE (°C)
- DESIGN PRESSURE (barg)

LIMITS FOR PIPELINES

B = LINE NUMBER BREAK
D = DESIGN CONDITIONS
S = PIPE SPECIFICATION

BATTERY LIMIT

B.L. COMP1 | COMP2

B.L. COMP1 | COMP2

LINES

MAIN PROCESS LINE
SECONDARY LINE
INDICATION OF FLOW DIRECTION
INLET OF PRODUCT TO BE PROCESSED
TAG — LEFT SIDE INCOMING
TAG — RIGHT SIDE OUTGOING
INDICATION OF BL (FINAL PRODUCT) (RIGHT SIDE)
INDICATION OF BL (FINAL PRODUCT) (LEFT SIDE)
INDICATION OF BL (AUXILIARY PRODUCT) (RIGHT SIDE)
INDICATION OF BL (AUXILIARY PRODUCT) (LEFT SIDE)

FLUID CODE

PROCESS SERVICES

PG	FLUE GAS

SPECIAL GAS SYSTEMS

GI	NITROGEN (INERT GAS)
O	OXIGEN
OZ	OZON

AIR SYSTEMS

NI	INSTRUMENT AIR
AU	PLANT AIR (UTILITY AIR, PURGE AIR)
NT	PROCESS AIR

BLOW DOWN SYSTEMS

BD	BLOW DOWN
CBD	CLOSED BLOW DOWN
CB	CONTINUOUS BLOW DOWN
IBD	INTERMITTENT BLOW DOWN

CONDENSATE SYSTEMS

CC	COLD CONDENSATE (CLEAN CONDENSATE)
HPC	HIGH PRESSURE CONDENSATE
LPC	LOW PRESSURE CONDENSATE
MPC	MEDIUM PRESSURE CONDENSATE

DRAIN (SEWER) SYSTEMS

CS	CHEMICAL DRAIN
CD	CLOSED DRAIN HEADER
ED	NON OILY SEWER
SC	OILY SEWER

STEAM SYSTEMS

HPS	HIGH PRESSURE STEAM
LLS	LOW LOW PRESSURE STEAM
VJ	LOW PRESSURE STEAM
VM	MEDIUM PRESSURE STEAM

WATER SYSTEMS

AT	DEMINERALIZED WATER
AR	COOLING WATER SUPPLYN
AD	COOLING WATER RETURN
OW	OILY WATER
UW	UTILITY WATER
AF	RAW WATER
PW	PROCESS WATER

FLARE SYSTEMS

EF	FLARE (NORMAL)
AFL	ACID FLARE
CFG	COLD FLARE GAS
CFL	COLD FLARE LIQUID
HPF	HIGH PRESSURE FLARE
LPF	LOW PRESSURE FLARE
WFG	WARM FLARE GAS
WFL	WARM FLARE LIQUID

FUELS

FLO	FLUSHING OIL
FG	FUEL GAS
FO	FUEL OIL
NG	NATURAL GAS
SO	SEAL OIL

SPECIAL CHEMICAL AND SOLVENT SYSTEMS

AD	ACID
AMN	AMINE
AMO	AMMONIA
SA	ANTIFOULING
BZN	BENZENE
PC	25°Be NaOH SOLUTION
CAT	CATALYST
CH	CHEMICALS
SI	CORROSION INHIBITOR
SD	DEZEMULSIFIER
DEA	DI–ETHANOL AMINE
DEL	DI–ETHANOL AMINE LEAN
DER	DI–ETHANOL AMINE RICH
MEA	MONO–ETHANOL AMINE
TOL	TOLUENE

GENERAL ABBREVIATION

AG	ABOVE GROUND
AMB	AMBIENT
ARV	AUTOMATIC RECIRCULATING VALVE
ATM	ATMOSPHERE
BDV	BLOWDOWN VALVE
BL	BATTERY LIMIT
BMS	BURNER MANAGEMENT SYSTEM
CSC	CAR SEALED CLOSED
CSO	CAR SEALED OPEN
D	DRAIN
DCS	DISTRIBUTED CONTROL SYSTEM
EBV	EMERGENCY BLOCK–IN VALVE
EL	ELEVATION
ESD	EMERGENCY SHUT DOWN
ESV	EMERGENCY SHUT DOWN VALVE
FB	FULL BORE
FC	FAIL CLOSE
FL	FAIL LOCKED
FLC	FAIL LOCKED (TEND TO CLOSE)
FLO	FAIL LOCKED (TEND TO OPEN)
FO	FAIL OPEN
FV	FULL VACUUM
H	HEIGHT
HHLL	HIGH HIGH LIQUID LEVEL
HLL	HIGH LIQUID LEVEL
HP	HIGH PRESSURE
ID	INTERNAL DIAMETER
ISBL	INSIDE BATTERY LIMITS
L	LENGTH
LC	VALVE LOCKED IN CLOSED POSITION
LCS	LOCKED CLOSED FOR SAFETY PRECAUTIONS
LLL	LOW LIQUID LEVEL
LLLL	LOW LOW LIQUID LEVEL
LO	VALVE LOCKED IN OPEN POSITION
LOS	LOCKED OPEN FOR SAFETY PRECAUTIONS
LP	LOW PRESSURE
MOV	MOTOR OPERATED VALVE
MP	MEDIUM PRESSURE
NC	NORMALLY CLOSED
NLL	NORMAL LIQUID LEVEL
NNF	NORMALLY NO FLOW
NO	NORMALLY OPENED
OD	OUTSIDE DIAMETER
OSBL	OUTSIDE BATTERY LIMIT
OVHD	OVERHEAD
PCV	PRESSURE CONTROL VALVE
PSV	PRESSURE SAFETY VALVE
PKU	PACKAGE UNIT
RO	RESTRICTION ORIFICE
S	SHELL
SC	SAMPLE CONNECTION
SP	SET POINT
T	TUBE
TL	TANGENT LINE
TP	TIE–IN POINT
TSO	TIGHT SHUT–OFF
TT	LENGTH TANGENT LINE TO TANGENT LINE
UC	UTILITY CONNECTION
UG	UNDERGROUND
US	UTILITY STATION
V	VENT
W	WIDTH

PIPING FITTINGS

SPACER INSTALLED
BLIND INSTALLED
SPECTACLE BLIND NORMALLY OPEN
SPECTACLE BLIND NORMALLY CLOSE
REMOVABLE SPOOL PIECE
Y–TYPE STRAINER
T–TYPE STRAINER
4"x2" — CONCENTRIC REDUCER
4"x2" — ECCENTRIC REDUCER TOP FLAT
4"x2" — ECCENTRIC REDUCER BOTTOM FLAT
TS — TEMPORARY STRAINER
2% — SLOPE, IF REQUIRED SLOPE INDICATION IN %
BREAK LINE
LINE END WITH FLANGE AND BLIND FLANGE
LINE END WITH CAP
CAP SCREWED
HOSE CONNECTION
BREAK FLANGES IN LINE
LINE ELECTRICAL TRACED
JACKET PIPE
STEAM TRAP
SILENCER (IN LINE)
STATIC MIXER (IN LINE)
ELBOW REMOVABLE SPOOL PIECE
SIGHT GLASS
OUTLET TO ATMOSPHERE
AIR INTAKE
FLAME ARRESTER
FUNNEL–OPEN SYSTEM DRAIN
FUNNEL–CLOSED SYSTEM DRAIN
EXPANSION JOINT
EYE SHOWER
EMERGENCY SHOWER
TIE–IN / NO — TIE–IN MARKER
FLEXIBLE HOSE

VALVE DESIGNATION

BLOCKVALVE, GENERAL
NORMALLY CLOSED
GLOBE VALVE
GATE VALVE
3–WAY BLOCKVALVE
BALL VALVE
SWING CHECK VALVE
GLOBE CHECK VALVE
BUTTERFLY VALVE
NEEDLE VALVE
ANGLE VALVE
MEMBRANE VALVE
PLUG VALVE
GLOBE VALVE (NC)
ANGLE VALVE (NC)

VENT AND DRAIN IDENTIFICATION

VENTS: AP, AP, AV
DRAINS: AP, AP, AV
NOZZLE CODE: A P — PIPING (P)/ EQUIPMENT (V); ASSEMBLY

SAFETY VALVE, SPRINGLOADED

SET @ 16.5 barg — SET PRESSURE [barg]
SIZE 4"x6" — INLET/OUTLET NOMINAL DIAMETER
131–PSV 001–A — TAG NUMBER

SAFETY DEVICE TAG NUMBER:
XXX–PSV–XXXA
- OPTIONAL SUFFIX
- SEQUENTIAL NUMBER
- IDENTIFICATION LETTER
- UNIT NUMBER

RUPTURE DISC

SET @ 16.5 barg — SET PRESSURE [barg]
SIZE 4"x6" — INLET/OUTLET NOMINAL DIAMETER
131–RD 001–A — TAG NUMBER

MISCELLANEOUS

6.50 m — ELEVATION ABOVE GROUND
GROUND

GENERAL NOTES :

NOTES :

5					5								
4					4								
3					3								
2					2								
1					1								
0	ing. A.Stefanescu	ing. C.Radulescu	ing. G.Petrescu	ing. M. Balan	REV.	DESCRIERE	DATA	PROIECTAT	VERIFICAT	APROBAT			
Rev	AUTOMATIZARI	AUTOMATIZARI	MONTAJ	MONTAJ	PROIECTAT	ing. I. Stuparu			DATA: 10.2013				
	TABEL COORDONARE				VERIFICAT	ing. O. Tanasescu			SCARA: %				
					APROBAT	ing. R. Stefanescu							

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COMANDA: 1069/2013
BENEFICIAR: S.C. PETROTEL–LUKOIL S.A.
INSTALATIA: CRACARE CATALITICA/ FCC
TITLU: SCHEMA DE CONDUCTE SI AUTOMATIZARI PIPING AND INSTRUMENT DIAGRAM LEGENDA PIPING SYMBOLOGY
FAZA
NR. 1069.00–30–0200.07 | REV. 00 | FILA 1/1

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