

LINE AND VALVE SYMBOLS

	FLOW DIRECTION
	CONTINUATION OF LINE OR REFERENCE DWG NO.
	HEAT TRACED
	CAPILLARY
	SLOPE (GRAVITY FLOW)
	END CLOSURE (BLIND FLANGE)
	END CLOSURE (HOSE CONNECTION)
	REDUCER
	GROUND OR PAVING SURFACE
	FLEXIBLE HOSE
	GATE VALVE, GENERAL VALVE
	GLOBE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	TEFLON LINED PLUG VALVE
	CHECK VALVE
	ON/OFF VALVE
	DIAPHRAGM VALVE
	CONTROL VALVE
	3-WAY CONTROL VALVE
	PRESSURE REGULATING VALVE
	AIR REGULATOR
	N2 BLANKETING DEVICE
	Y-STRAINER, CONE-STRAINER
	BREATHIER VALVE
	FLAME ARRESTER
	BLIND
	SPECTACLE BLIND
	PRESSURE SAFETY VALVE
	VORTEX FLOW METER
	MASS FLOW METER
	STEAM TRAP
	BLIND FLANGE
	PIPE CAP (THREADED)
	CAMLOCK COUPLER
	QUICK COUPLER
	DAMPER

VALVE CONNECTION SYMBOLS

	THREADED
	FLANGED
	WELDED

PIPE LINE NUMBER

$P - \frac{10107}{(1)} - \frac{500A}{(2)} - \frac{F1}{(3)} A - \frac{H}{(4)} \frac{1100}{(7)}$	(1) FLUID SERVICE NAME (2) LINE SERIAL NUMBER (3) LINE SIZE (4) MATERIAL SPEC. (5) FLANGE RATING (6) INSULATION CODE (7) INSULATION THICKNESS
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FLUID NAME ABBREVIATION

P, CHE	PROCESS FLUID
CWS	COOLING WATER SUPPLY
CWR	COOLING WATER RETURN
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
WW	WASTE WATER
ST	STEAM
CD	STEAM CONDENSATE
IA, AIR	INSTRUMENT AIR
N2	NITROGEN
VG, SCR, SC	VENT GAS
DIW	DEIONIZED WATER
SW	SOFT WATER
CHS	CHILLER WATER SUPPLY
CHR	CHILLER WATER RETURN
HOS	HOT OIL SUPPLY
HOR	HOT OIL RETURN
FO	FUEL OIL
PR	PR. SLURRY
DR	DRAIN

PIPING CLASS & MATERIAL

MATERIAL	
S1	SPS380 (B0\angleD\capP\equiv@O\angleS\anglef\cdot40S)
S2	SPS380 (G\angleO\angleL\angleP\equiv@O\angleS\anglef\cdot40S)
F1	STS304
F2	STS316
TL	TEFLON LINED
TC	TEFLON COATED
A1	SPP
PE	PE/FRP
FLANGE RATING	
A	KS10K
B	KS20K

INSTRUMENT NUMBER DESIGNATION

$PG - \frac{111}{(1)} \frac{111}{(2)}$	(1) INSTRUMENT IDENTIFICATION (2) SERIAL NUMBER
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INSTRUMENT IDENTIFICATION TABLE

LETTER	FIRST LETTER	SUCCESSING LETTERS
A	ANALYSIS, AUTO	ALARM
B	BURNER COMBUSTION	BISTABLE CONTROL
C	CONDUCTIVITY	DIFFERENTIAL, DETECTOR
D	DENSITY	PRIMARY ELEMENT, ELEMENT
E	VOLTAGE(EMF), HEAT ENERGY	RATIO
F	FLOW RATE	GAUGE, GLASS
G	GAUGE, GAS	HIGH, HOLE
H	HAND, HAND-CONTROLLED SHUT-OFF VALVE	INDICATOR
I	CURRENT(ELECTRICAL)	—
J	POWER(MW, MVAR)	CONTROL STATION
K	TIME	LOW, PILOT LIGHT
L	LEVEL	MOTOR OPERATOR
M	MAN, MOTOR	POINT(TEST) CONNECTION
P	PRESSURE, VACUUM	TOTALIZER
Q	QUANTITY, EVENT	RECORD, PRINT, TRENT
R	RADIOACTIVITY, RESTRICT	SWITCH
S	SIGHT, FREQUENCY	TRANSMITTER
T	TEMPERATURE, TEST	MULTIFUNCTION
U	POWER FACTOR	VALVE, DAMPER
W	WEIGHT, FORCE	WELL
X	ON-OFF	PUSH BUTTON
Y	VIBRATION	RELAY, COMPUTE
Z	POSITION, LIMIT	DRIVE, INTERLOCKING

ROTATORY EQUIPMENT SYMBOLS

	GENERAL PUMP
	VACUUM PUMP
	DIAPHRAGM PUMP
	METERING PUMP
	ROTARY PUMP
	OGDEN PUMP
	GEAR PUMP
	VERTICAL PUMP
	DEEPWELL PUMP
	BLOWER

INSTRUMENT LINE SYMBOLS

	DIAPHRAM OR CHEMICAL SEAL
	SIPHON TUBE
	CONNECTION TO PROCESS
	PNEUMATIC SIGNAL
	ELECTRICAL SIGNAL
	SOFTWARE OF DATA LINK

INSTRUMENT SYMBOLS

	LOCAL FIELD DEVICE/TRANSMITTER
	DESK OR PANEL MOUNTED DEVICE
	DCS INSTRUMENT
	INTERLOCK
	VARIABLE VOLTAGE FREQUENCY INVERTER

EQUIPMENT IDENTIFICATION

C	COLUMN
K	COMPRESSOR
F	FILTER, FAN
E	HEAT EXCHANGER
P	PUMP
VP	VACUUM PUMP
T	TANK
D	DRUM
M	MIXER, AGITATOR
CH	CHILLER
R	REACTOR
SC	SCRUBBER
CT	COOLING TOWER
AG	AGITATOR

ABBREVIATIONS FOR DETECTING GAS

ABB	DESCRIPTION
HC	HYDROCARBON
EA	ETHYL ACETATE
FG	FLAMMABLE GAS
MMF	N-METHYLFORMAMIDE

SYMBOL & LEGEND

REV	DATE	DESCRIPTION	BY	CHKD	APPRO	REMARK
1	2008.09.24	FROM CONSTRUCTION	Y.H.J	K.H.M	S.L.J	

OWNER : SHINAM REFINED FUEL CO.,LTD.

CONTRACTOR : -

TITLE : PIPING & INSTRUMENT DIAGRAM SYMBOL AND LEGENDS

JOB NO.	NAME	DWG NO.	SAPF-S&L-000