



CLIENT: TAMOIL Raffinazione S.p.A.  
PROJECT: MINIMUM INVESTMENT PROJECT  
UNIT: 23- FLARE SYSTEM


CONTRACT: 1-BD-0381A


# Equipment List


Drawing no.: BD0381A-01-23-101  
TAMOIL doc no.:

Revision: C03

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Approved by: F. Croce 



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### EQUIPMENT LIST

General Notes

(A): P&ID Number 23-1-50-xxx  
(B): Requisition BD0381A-xxx

(C): Insulation Type

HC = Heat Conservation  
NI = Not Insulated  
PP = Personnel Protection  
ST = Steam Tracing  
ET = Electrical Tracing  
WW = Winterized  
AI = Acoustic Insulation

(D): PED Category

Category from SEP to IV (to be defined by Vendors)

"Type Of Service" field is indicating the service: continuous, stand-by, intermiltend, spare...



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**EQUIPMENT LIST**

Equipment Number	Equipment Name	Equipment Type	P&ID N° (A)	Requisition (B)	Weight	Size		Electrical Power	Voltage	Material	Duty	Design		Insulation		PED Cat (D)	TOS	Type Of Service	Remarks	Revision
						DIAMETER	LENGTH					Press	Temp (C)	Type	Thick					
						kg	mm					mm	kW	V	MW					
23-EA-51	SLOP COOLER	AIR COOLER	HOLD	HOLD	HOLD	Bare Tube surface area: 200 m <sup>2</sup>		11	400	Header: KCS + 6mmCA Tubes: KCS	2.8	8.2 Half vacuum @ 240°C	310	N.A	N.A.	HOLD	HOLD	N.A.	Plot Area: 22 m <sup>2</sup> 2 Electric Fans Both motors are in operation	C01
23-FR-51	ELEVATED FLARE	ELEVATED	HOLD	HOLD	HOLD	Riser : 1219	180000	N.A.	N.A.	Riser: ASTM A516 gr60 + 6mm CA Tip: SS 310	N.A.	3.6	-29 /343	N.A	N.A.	N.A	HOLD	N.A.	To be provided: - Flare Tip package - Flame front generator and local panel - Pilots and piping - Smokeless steam facility - Velocity Seal - Infrared camera for smokeless operation	C01
23-FR-52	ELEVATED FLARE	ELEVATED	HOLD	HOLD	HOLD	Riser : 1219	180000	N.A.	N.A.	Riser: ASTM A516 gr60 + 6mm CA Tip: SS 310	N.A.	3.6	-29 /343	N.A	N.A.	N.A	HOLD	N.A.	To be provided: - Flare Tip package - Flame front generator and local panel - Pilots and piping - Smokeless steam facility - Velocity Seal - Infrared camera for smokeless operation	C01
23-F-52	GROUND FLARE	DELETED																		C01
23-P-51 A	EXISTING UNITS BLOWN DRUM PUMP	HORIZONTAL & CENTRIFUGAL	HOLD	HOLD	HOLD	Capacity: 30.0 m <sup>3</sup> /h Diff. Head: 47 m		7.5	400	Casing : KCS Impeller : 12 Cr	N.A.	8.2	310	N.A	N.A.	N.A	HOLD	N.A.	Discontinuous service	C02
23-P-51 B	EXISTING UNITS BLOWN DRUM PUMP	HORIZONTAL & CENTRIFUGAL	HOLD	HOLD	HOLD	Capacity: 30.0 m <sup>3</sup> /h Diff. Head: 47 m		N.A.	N.A.	Casing : KCS Impeller : 12 Cr	N.A.	8.2	310	N.A	N.A.	N.A	HOLD	N.A.	Spare pump steam turbine driven	C02
23-P-52	NEW COMPLEX BLOWDOWN DRUM PUMP	HORIZONTAL & CENTRIFUGAL	HOLD	HOLD	HOLD	Capacity: 30.0 m <sup>3</sup> /h Diff. Head: 47 m		7.5	400	Casing : KCS Impeller : 12 Cr	N.A.	8.2	310	N.A	N.A.	N.A	HOLD	N.A.	Discontinuous service	C03
23-P-52 B	NEW COMPLEX BLOWDOWN DRUM PUMP	DELETED																		C03
23-P-53	ELEVATED FLARE SEAL WATER PUMP	HORIZONTAL & CENTRIFUGAL	HOLD	HOLD	HOLD	Capacity: 3.0 m <sup>3</sup> /h Diff. Head: 37 m		3	400	Casing : KCS Impeller : 12 Cr	N.A.	5.1	100	N.A	N.A.	N.A	HOLD	N.A.	Discontinuous service	C02
23-P-54	ELEVATED FLARE SEAL WATER PUMP	HORIZONTAL & CENTRIFUGAL	HOLD	HOLD	HOLD	Capacity: 3.0 m <sup>3</sup> /h Diff. Head: 37 m		3	400	Casing : KCS Impeller : 12 Cr	N.A.	5.1	100	N.A	N.A.	N.A	HOLD	N.A.	Discontinuous service	C02
23-P-55A	DEPRESSURIZATION BLOWDOWN DRUM PUMP	HORIZONTAL & CENTRIFUGAL	HOLD	HOLD	HOLD	Capacity: 30.0 m <sup>3</sup> /h Diff. Head: 47 m		7.5	400	Casing : KCS Impeller : 12 Cr	N.A.	8.2	330	N.A	N.A.	N.A	HOLD	N.A.	Discontinuous service	C02
23-P-55B	DEPRESSURIZATION BLOWDOWN DRUM PUMP	HORIZONTAL & CENTRIFUGAL	HOLD	HOLD	HOLD	Capacity: 30.0 m <sup>3</sup> /h Diff. Head: 47 m		N.A.	N.A.	Casing : KCS Impeller : 12 Cr	N.A.	8.2	330	N.A	N.A.	N.A	HOLD	N.A.	Spare pump steam turbine driven	C02
23-V-51	BLOWDOWN DRUM	HORIZONTAL	HOLD	HOLD	HOLD	5300	19200	N.A.	N.A.	LTCS + 6 mm CA + Gunite up to 500 mm from BTL	N.A.	3.6 Full vacuum @ Amb. T Half vacuum @ 240°C	-29 / 343	PP	HOLD	HOLD	HOLD	N.A.	Fittings: Steam coil	C03



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**EQUIPMENT LIST**

Equipment Number	Equipment Name	Equipment Type	P&ID N° (A)	Requisition (B)	Weight	Size		Electrical Power	Voltage	Material	Duty	Design		Insulation		PED Cat (D)	TOS	Type Of Service	Remarks	Revision
						DIAMETER	LENGTH					Press	Temp (C)	Type	Thick					
						kg	mm					mm	kW	V	MW					
23-V-52	BLOWDOWN DRUM	HORIZONTAL	HOLD	HOLD	HOLD	5300	19200	N.A.	N.A.	LTCS + 6 mm CA + Gunite up to 500 mm from BTL	N.A.	3.6 Full vacuum @ Amb. T Half vacuum @ 240°C	-29 / 343	PP	HOLD	HOLD	HOLD	N.A.	Fittings: Steam coil	C03
23-V-53	SEAL DRUM FOR 23-FR-51	VERTICAL	HOLD	HOLD	HOLD	4600	10500	N.A.	N.A.	LTCS + 6 mm CA	N.A.	3.6 Full vacuum @ Amb. T Half vacuum @ 194°C	-29 / 343	PP+ST	HOLD	HOLD	HOLD	N.A.	Fittings: External Steam Tracing up to 1500 mm above BTL.	C03
23-V-54	SEAL DRUM FOR 23-FR-52	VERTICAL	HOLD	HOLD	HOLD	4600	10500	N.A.	N.A.	LTCS + 6 mm CA	N.A.	3.6 Full vacuum @ Amb. T Half vacuum @ 194°C	-29 / 343	PP+ST	HOLD	HOLD	HOLD	N.A.	Fittings: External Steam Tracing up to 1500 mm above BTL.	C03
23-V-55	SEAL WATER ACCUMULATOR FOR 23-FR-51	VERTICAL	HOLD	HOLD	HOLD	1200	2500	N.A.	N.A.	KCS + 6 mm CA	N.A.	ATM Half vacuum @ 240°C	100	HC+ST	HOLD	HOLD	HOLD	N.A.	External steam tracing to be provided from BTL up to 1900 mm.	C03
23-V-56	SEAL WATER ACCUMULATOR FOR 23-FR-52	VERTICAL	HOLD	HOLD	HOLD	1200	2500	N.A.	N.A.	KCS + 6 mm CA	N.A.	ATM Half vacuum @ 240°C	100	HC+ST	HOLD	HOLD	HOLD	N.A.	External steam tracing to be provided from BTL up to 1900 mm.	C03
23-V-57	FUEL GAS KO DRUM	VERTICAL	HOLD	HOLD	HOLD	800	2200	N.A.	N.A.	CS + 3 mm	N.A.	8.7 Full vacuum @ Amb. T Half vacuum @ 240°C	80	ST	HOLD	HOLD	HOLD	N.A.	External steam tracing to be provided from BTL up to 600 mm.	C03
23-V-58	LP STEAM KO DRUM	DELETED																		C03
23-V-59	HCK DEPRESSURIZATION DRUM	HORIZONTAL	HOLD	HOLD	HOLD	3600	10000	N.A.	N.A.	LTCS + 6 mm CA	N.A.	3.6 Full vacuum @ Amb. T Half vacuum @ 240°C	-29/343	PP	HOLD	HOLD	HOLD	N.A.	Fittings: Steam Coil	C03
23-ST-51	STEAM TURBINE FOR 23-P-51B	BACKPRESSURE	HOLD	HOLD	HOLD	Flow rate: 200 kg/h		N.A.	NA	Casing: CS Impeller: Alloy Steel	5.0 * 10 <sup>3</sup>	15.3	260	HC	HOLD	N.A	HOLD	N.A.		C01
23-ST-52	STEAM TURBINE FOR 23-P-52B	DELETED																		C03
23-ST-55	STEAM TURBINE FOR 23-P-55B	BACKPRESSURE	HOLD	HOLD	HOLD	Flow rate: 200 kg/h		N.A.	N.A.	Casing: CS Impeller: Alloy Steel	5.0 * 10 <sup>3</sup>	15.3	260	HC	HOLD	N.A	HOLD	N.A.		C02



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						DIAMETER	LENGTH					Press	Temp (C)	Type	Thick					
						kg	mm					mm	kW	V	MW					
PF-2	ACID FLARE	ELEVATED	G-SP-58 2/2	-	HOLD	Riser : 406	180000	N.A.	N.A.	HOLD		3.6	180	N.A.	N.A.	N.A.	HOLD	N.A.	TO BE RELOCATED in a common structure with the new flares. A new stack 180 m height will be provided.	C02
PP-2301A	PV-2301 BLOWDOWN DRUM PUMP	HORIZONTAL & CENTRIFUGAL	G-SP-58 1/2	0241B-1311/D	120+230 =350	Capacity: 8.0 m³/h Diff. Head: 42 m		7.5	400	-	N.A.	43	455	N.A.	N.A.	N.A.	HOLD	N.A.	TO BE RELOCATED : Electric motor driven	C03
PP-2301B	PV-2301 BLOWDOWN DRUM PUMP	HORIZONTAL & CENTRIFUGAL	G-SP-58 1/2	0241B-1311/D	120+230 =350	Capacity: 8.0 m³/h Diff. Head: 42 m		N.A.	N.A.	-	N.A.	43	455	N.A.	N.A.	N.A.	HOLD	N.A.	TO BE RELOCATED : Steam turbine driven	C03
PV-2301	BLOWDOWN DRUM	HORIZONTAL	G-SP-58 1/2	-	HOLD	Volume : 64 m³		N.A.	N.A.	HOLD	N.A.	HOLD	HOLD	HOLD	HOLD	HOLD	HOLD	N.A.	TO BE RELOCATED with the associated instrumentation.	C03
PV-515	GUARDIA IDRAULICA K. O DRUM	HORIZONTAL	G-SP-58 2/2	-	HOLD	HOLD	HOLD	N.A.	N.A.	HOLD	N.A.	HOLD	HOLD	N.A.	N.A.	HOLD	HOLD	N.A.	TO BE RELOCATED / VERIFIED Existing Equipment to be relocated with the associated pump.	C02
PP-XXX	PUMP FOR K.O. DRUM PV-515	HORIZONTAL & CENTRIFUGAL	G-SP-58 2/2	-	HOLD	HOLD		HOLD	HOLD	-	N.A.	HOLD	HOLD	N.A.	N.A.	N.A.	HOLD	N.A.	TO BE RELOCATED : Electric motor driven	C03

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						DIAMETER	LENGTH					Press	Temp (C)	Type	Thick					
						kg	mm					mm	kW	V	MW					
N.A.	TORCIA	ELEVATED	G-SP-58 1/2	-	HOLD	610	60000	-	-	-	-	-	-	-	-	-	HOLD	N.A.	TO BE DISMANTLED	C00
PF-1	FLARE STACK	ELEVATED	G-SP-58 2/2	-	HOLD	915	120000	-	-	-	-	-	-	-	-	-	HOLD	N.A.	TO BE DISMANTLED with the associated accessories	C00
PP-2302A	SLOP PUMP	HORIZONTAL & CENTRIFUGAL	G-SP-58 2/2	-	HOLD	Capacity: 30 m³/h		-	-	-	-	-	-	-	-	-	HOLD	N.A.	TO BE DISMANTLED ; Steam Turbine driven	C00
PP-2302B	SLOP PUMP	HORIZONTAL & CENTRIFUGAL	G-SP-58 2/2	-	HOLD	Capacity: 30 m³/h		-	-	-	-	-	-	-	-	-	HOLD	N.A.	TO BE DISMANTLED ; Electric motor driven	C00
PV-2302	SEPARATORE H2S	VERTICAL	G-SP-58 1/2	-	HOLD	Volume : 1.5 m³		-	-	-	-	-	-	-	-	-	HOLD	TO BE DISMANTLED ; Steam Turbine	TO BE DISMANTLED with the associated instrumentation and piping	C00
PV-2303	BLOWDOWN DRUM	HORIZONTAL	G-SP-58 2/2	-	HOLD	3600	14000	-	-	-	-	3.6	343	-	-	-	HOLD	N.A.	TO BE DISMANTLED with the associated instrumentation and piping	C00
PV-2304	SEAL DRUM	VERTICAL	G-SP-58 2/2	-	HOLD	3000	4800	-	-	-	-	3.6	343	-	-	-	HOLD	N.A.	TO BE DISMANTLED with the associated instrumentation and piping	C00
PV-2305	SEAL DRUM	VERTICAL	G-SP-58 1/2	-	HOLD	2400	7750	-	-	-	-	N.A	N.A	-	-	-	HOLD	N.A.	TO BE DISMANTLED with the associated instrumentation and piping	C00
PV-2306	K.O. DRUM PER FUEL GAS	VERTICAL	G-SP-58 2/2	-	HOLD	500	1400	-	-	-	-	-	-	-	-	-	HOLD	N.A.	TO BE DISMANTLED with the associated instrumentation and piping	C00
PV-2307	F.G. K.O. DRUM	VERTICAL	G-SP-58 1/2	-	HOLD	N.A.	N.A.	-	-	-	-	-	-	-	-	-	HOLD	N.A.	TO BE DISMANTLED with the associated instrumentation and piping	C00