


C	16.10.2024	ISSUED FOR PRODUCTION	MCM	TT	GC		
B	13.10.2024	ISSUED FOR PRODUCTION	MCM	TT	GC		
A	30.09.2024	ISSUED FOR PRODUCTION	MCM	TT	GC		
REV.	DATE	DESCRIPTION	MOD.BY	CKD.BY	APP.BY		
REVISIONS							
<div><div>Goltens Singapore Pte Ltd.</div></div>		SHIP					
		JP 88 STORK					
		TITLE					
		PIPING MTO 1”& ABOVE					
SCALE		DRAWN	MCM	DRAWING NUMBER		HULL NUMBER	REV
N.T.S.		CHECKED	TT	GSPL-P1482-PI-0101		--	
SIZE: A4		VERIFIED	GC	DATE:- 16.10.2024		SHEET:- 1 OF 4	

Sl. NO.	DESCRIPTION	DIMENSION	MATERIAL	STANDARD	QUANTITY	UNIT	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	REMARKS
PIPE AND PIPE FITTINGS (CLASS III )									
1	Pipe Seamless, BW	100A Sch40	STPG370	JISG3454	15.14	m.	16	242.18	
2	Pipe Seamless, BW	80A Sch40	STPG370	JISG3454	1.31	m.	11.3	14.75	
3	Pipe Seamless, BW	65A Sch40	STPG370	JISG3454	2.06	m.	9.12	18.75	
4	Pipe Seamless, BW	50A Sch40	STPG370	JISG3454	1.15	m.	5.44	6.26	
5	Pipe Seamless, BW	32A Sch40	STPG370	JISG3454	0.14	m.	3.47	0.47	
6	Elbow 90Deg.SR, BW	100A Sch40	PG 370	JIS B 2312	13.00	Pcs.	2.69	34.97	
7	Elbow 60Deg.SR, BW	100A Sch40	PG 370	JIS B 2312	1.00	Pcs.	2.69	2.69	
8	Elbow 45Deg.SR, BW	100A Sch40	PG 370	JIS B 2312	10.00	Pcs.	2.69	26.9	
9	Elbow 30Deg.SR, BW	100A Sch40	PG 370	JIS B 2312	1.00	Pcs.	2.69	2.69	
10	Elbow 90Deg.SR, BW	80A Sch40	PG 370	JIS B 2312	1.00	Pcs.	1.43	1.43	
11	Elbow 90Deg.SR, BW	65A Sch40	PG 370	JIS B 2312	3.00	Pcs.	0.96	2.88	
12	Elbow 45Deg.SR, BW	65A Sch40	PG 370	JIS B 2312	1.00	Pcs.	0.96	0.96	
13	Elbow 90Deg.SR, BW	50A Sch40	PG 370	JIS B 2312	4.00	Pcs.	0.46	1.84	
14	Elbow 90Deg.SR, BW	32A Sch40	PG 370	JIS B 2312	2.00	Pcs.	0.18	0.36	
15	Reducer Concentric, BW	100Ax80ASch40	PG 370	JIS B 2312	2.00	Pcs.	1.45	2.9	
16	Reducer Concentric, BW	65Ax32ASch40	PG 370	JIS B 2312	1.00	Pcs.	0.63	0.63	
17	Flange SOFF	100A JIS10K	SF390A	JIS B2220	62.00	Pcs.	2.39	148.18	
18	Flange SOFF	80A JIS10K	SF390A	JIS B2220	6.00	Pcs.	2.61	15.66	
19	Flange SOFF	65A JIS10K	SF390A	JIS B2220	8.00	Pcs.	2.6	20.8	
20	Flange SOFF	DN100 PN10	Carbon Steel	EN 1092-1	10.00	Pcs.	4.03	40.3	
21	Flange SOFF	DN80 PN10	Carbon Steel	EN 1092-1	4.00	Pcs.	3.79	15.16	
22	Flange SOFF	DN50 PN10	Carbon Steel	EN 1092-1	6.00	Pcs.	2.47	14.82	
23	Flange SORF	DN100 PN10	Carbon Steel	EN 1092-1	2.00	Pcs.	4.5	9	
24	Flange SORF	DN50 PN10	Carbon Steel	EN 1092-2	1.00	Pcs.	2.47	2.47	
25	Flange SORF	DN32 PN10	Carbon Steel	EN 1092-2	1.00	Pcs.	1.62	1.62	
26	Blind plate	O.D 134 (100A) X 10mm Thk	SS 400	JIS	2.00	Pcs.	0.77	1.54	
27	Machine bolt with single nut	M 16 x 130	Galvanized Steel, Grade 10.9		30.00	Pcs.			
28	Machine bolt with single nut	M 16 x 125	Galvanized Steel, Grade 10.9		6.00	Pcs.			
29	Machine bolt with single nut	M 16 x 120	Galvanized Steel, Grade 10.9		58.00	Pcs.			
30	Machine bolt with single nut	M 16 x 110	Galvanized Steel, Grade 10.9		88.00	Pcs.			
31	Machine bolt with single nut	M 16 x 105	Galvanized Steel, Grade 10.9		68.00	Pcs.			
32	Machine bolt with single nut	M 16 x 75	Galvanized Steel, Grade 10.9		20.00	Pcs.			
33	Machine bolt with single nut	M 16 x 70	Galvanized Steel, Grade 10.9		48.00	Pcs.			
34	Machine bolt with single nut	M 16 x 65	Galvanized Steel, Grade 10.9		15.00	Pcs.			
35	Machine bolt with single nut	M 16 x 60	Galvanized Steel, Grade 10.9		255.00	Pcs.			
36	Gasket Full Face, PN10, Thk 3mm	DN100	CNAF	JIS	5.00	Pcs.			
37	Gasket Ring Type, PN10, Thk 3mm	DN100	CNAF	JIS	3.00	Pcs.			
38	Gasket Full Face, JIS10K, Thk 3mm	100A	CNAF	JIS	30.00	Pcs.			
39	Gasket Full Face, JIS10K, Thk 3mm	80A	CNAF	JIS	2.00	Pcs.			
40	Gasket Full Face, JIS10K, Thk 3mm	65A	CNAF	JIS	3.00	Pcs.			
41	Gasket Full Face, PN10, Thk 3mm	DN50	CNAF	DIN	3.00	Pcs.			
42	Gasket Ring Type, PN10, Thk 3mm	DN50	CNAF	DIN	2.00	Pcs.			
43	Gasket Ring Type, PN10, Thk 3mm	DN32	CNAF	DIN	2.00	Pcs.			
44	U-Bolt with Double Nuts	100A	Galv. Steel	JIS	12.00	Pcs.	0.8	8	
45	U-Bolt with Double Nuts	80A	Galv. Steel	JIS	2.00	Pcs.	0.3	0.3	
46	U-Bolt with Double Nuts	65A	Galv. Steel	JIS	3.00	Pcs.	0.3	0.6	
47	U-Bolt with Double Nuts	50A	Galv. Steel	JIS	2.00	Pcs.	0.3	0.3	
48	Equal Leg Angle	L 50 x 50 x 6.0	SS400	JIS	10.00	m.	4.47	30.59	
49	Pad	70 x 70 x 8	SS400	JIS	11.00	Pcs.	0.16	1.44	
COMPRESSED AIR SYSTEM									
1	Pipe Seamless, BW	40A Sch40	STPG370	JISG3454	1.5	m.	4.1	6.15	Air Manifold (Spool no CA01-001)
2	Flange SOFF	40A JIS10K	SF390A	JIS B2220	1	Pcs.	2.39		Air Manifold (Spool no CA01-001)
3	Blind Flange	40A JIS10K	SF390A	JIS B2220	1	Pcs.			Air Manifold (Spool no CA01-001)
4	Blind plate	O.D 57 X 6mm Thk	SF390A	JIS B2220	1	Pcs.			Air Manifold (Spool no CA01-001)
5	Threaded boss	15A (1/2)	Carbon Steel	JIS	1	Pcs.			Air Manifold (Spool no CA01-001)
6	Threaded boss	10A (3/8)	Carbon Steel	JIS	1	Pcs.			Air Manifold (Spool no CA01-001)

Sl. NO.	DESCRIPTION	DIMENSION	MATERIAL	STANDARD	QUANTITY	UNIT	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	REMARKS
7	Gasket Full Face, JIS10K, Thk 3mm	40A	CNAF	JIS	3.00	Pcs.			Air Manifold (Spool no CA01-001)
8	U-Bolt with Double Nuts	40A	Galv. Steel		4.00	Pcs.	0.3	0.3	Air Manifold (Spool no CA01-001)
9	Machine bolt with single nut	M16X60	Galvanized Steel, Grade 10.9		12.00	Pcs.			Air Manifold (Spool no CA01-001)
10	Pipe Seamless, BW	20A Sch40	STPG370	JISG3454	1.5	m.	1.74	2.61	
11	Pipe Seamless, BW	15A Sch40	STPG370	JISG3454	24	m.	1.31	31.44	
12	Pipe Seamless, BW	10A Sch40	STPG370	JISG3454	1.5	m.	0.851	1.2765	
13	Socket Weld Flange	15A JIS10K	SF390A	JIS B2220	12	Pcs.			
14	Socket Weld Reducing Tee	20A x 15A	PG370	JIS B2316	2	Pcs.			
15	Socket Weld Elbow 90Deg.	15A (1/2)	PG370	JIS	12	Pcs.			
16	Socket Weld Elbow 45Deg.	15A (1/2)	PG370	JIS	7	Pcs.			
17	Socket weld coupling	15A (1/2)	Carbon Steel	JIS	4	Pcs.			
18	Threaded boss	10A (3/8)	Carbon Steel	JIS	15	Pcs.			
19	Tube	10A (3/8)	C1220T	JIS	100	m.			
20	Tube	8A (1/4)	C1220T	JIS	6	m.			
21	Tube	6A (1/8)	C1220T	JIS	4	m.			
22	Reducer Coupling	1/4(M) to 3/8(F)	Brass		12	Pcs.			
23	Reducer Coupling	1/8(M) to 3/8(F)	Brass		6	Pcs.			
24	Straight Coupling	10A (3/8)	Brass		50	Pcs.			
25	Straight Coupling	8A (1/4)	Brass		20	Pcs.			
26	Straight Coupling	6A (1/8)	Brass		15	Pcs.			
27	Elbow Compression Coupling	10A (3/8)	Brass		20	Pcs.			
28	Elbow Compression Coupling	8A (1/4)	Brass		10	Pcs.			
29	Elbow Compression Coupling	6A (1/8)	Brass		6.00	Pcs.			
30	Thread to compression Coupling	10A (3/8)	Brass		28.00	Pcs.			
31	Thread to compression Coupling	8A (1/4)	Brass		14.00	Pcs.			
32	Thread to compression Coupling	6A (1/8)	Brass		8.00	Pcs.			
33	Stauff clamp assembly with base plate	10A (3/8)	PP/CS		40.00	Pcs.			
34	Stauff clamp assembly with base plate	8A (1/4)	PP/CS		6.00	Pcs.			
35	Stauff clamp assembly with base plate	6A (1/8)	PP/CS		4.00	Pcs.			
36	Gasket Full Face, JIS10K, Thk 3mm	15A	CNAF	JIS	14.00	Pcs.			
37	Machine bolt with single nut	M12X45	Galvanized Steel, Grade 10.9		44.00	Pcs.			
38	U-Bolt with Double Nuts	15A	Galv. Steel		12.00	Pcs.	0.3	0.3	
39	Equal Leg Angle	L 40x40x5.0	SS400		20.00	m.			
FRESH WATER SYSTEM									
1	Pipe Seamless, BW	15A Sch40	STPG370	JIS G3454	24	m	1.31	31.44	
2	Pipe Seamless, BW	32A Sch40	STPG370	JIS G3454	2	m	3.47	6.94	
3	Flange Socket Welded	15A JIS5K	SS 400	JIS B2220	18	Pcs.			
4	Socket Weld Elbow 90Deg.	15A (1/2)	PG370		10	Pcs.			
5	Socket Weld Elbow 45Deg.	15A (1/2)	PG370		6	Pcs.			
6	Socket weld coupling	15A (1/2)	PG370		6	Pcs.			
7	Pipe nipple both end threaded	15A (1/2) 150mm	PG370		6	Pcs.			
8	Gasket, JIS5K, Thk 3mm	15A	CNAF		14	Pcs.			
9	Machine bolt with single nut	M 12 x 40	Galvanized Steel, Grade 10.9		52	Pcs.			
10	U-Bolt with Double Nuts	32A	Galv. Steel		4	Pcs.	0.3	0.3	
11	U-Bolt with Double Nuts	15A	Galv. Steel		14	Pcs.	0.3	0.3	
12	Equal Leg Angle	L 40 x 40 x 5.0	SS400	JIS	12	m.	4.47	53.64	
13	Flange Socket Welded	15A JIS10K	SF390	JIS	3	Pcs.			
14	Gasket, JIS10K, Thk 3mm	15A	CNAF		3	Pcs.			
15	Machine bolt with single nut	M 12 x 45	Galvanized Steel, Grade 10.9		12	Pcs.			

SI. NO.	DESCRIPTION	DIMENSION	MATERIAL	STANDARD	QUANTITY	UNIT	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	REMARKS
EQUIPMENT INSTALLATION BOLT									
1	Machine Bolt with Double nut	M12x60	Galvanized Steel, Grade 10.9	JIS	6	Pcs.	0.259	3.108	Filter
2	Machine Bolt with Double nut	M12x60	Galvanized Steel, Grade 10.9	JIS	6	Pcs.	0.259	3.108	Pump
3	Machine Bolt with Double nut	M10x30	Galvanized Steel, Grade 10.9	JIS	10	Pcs.	0.259	3.108	Control Cabinet and Switch Board Cabinet
4	Machine Bolt with Double nut	M8x40	Galvanized Steel, Grade 10.9	JIS	6	Pcs.	0.259	3.108	Log Box
5	Washer	M12	Galvanized Steel	JIS	10	Pcs.			
6	Washer	M10	Galvanized Steel	JIS	10	Pcs.			
7	Washer	M8	Galvanized Steel	JIS	6	Pcs.			
8	45mm Grating Fastening Clp and Bolt set		Galvanized Steel		54	Pcs.			
ESTIMATED MATERIAL FOR HANDRAIL									
1	Pipe Seamless, BW	40A Sch40	STPG370	JIS G3454	20	m.	4.1	82.0	
2	Pipe Seamless, BW	15A Sch40	STPG370	JIS G3454	10	m.	1.31	13.1	
3	Elbow 90Deg.SR, BW	40A Sch40	PG 370	JIS B 2312	14.00	Pcs.	0.46	1.84	

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- Notes:
- 1) For final treatment of pipe and pipe fittings, refer individual piping spool fabrication drawings.
  - 2) MTO estimated based on the current 3D model.
  - 3) Class III pipes and its fittings to be procured as applicable.
  - 4) For the fabrication/ procurement of threadolets, pads etc. Yard piping practice shall be followed.
  - 5) 20% margin considered for Bolts & nuts and Gaskets,Client to confirm before purchase
  - 6) MTO for below DN25 line sizes and tubings are only for reference. Actual to be verified onboard depending on the tie-in locations and tie-in pipe sizes.
  - 7) Additional support to be provided onboard, if required.
  - 8) MTO for fasteners to be verified onboard