



TECHNICAL SPECIFICATIONS

Built	2001
Classification	Lloyd's Register
Length Overall	197.1 metres
Length between Perps	188.4 metres
Breadth Moulded	32.2 metres
Depth moulded	17.75 metres
Total hold capacity (including hatches)	45708.6 cub/m
Draught Summer	11.517 metres
Deadweight	47,761 tonnes
Gross Tonnage	32,881 tonnes
Net Tonnage	10,246 tonnes
Bow Thruster	1,125 kW
Length of Boom	76.50m
Discharge Rate: Coal / Gypsum / Aggregates	2,500 MT/hr
Iron Ore	3000 MT/hr

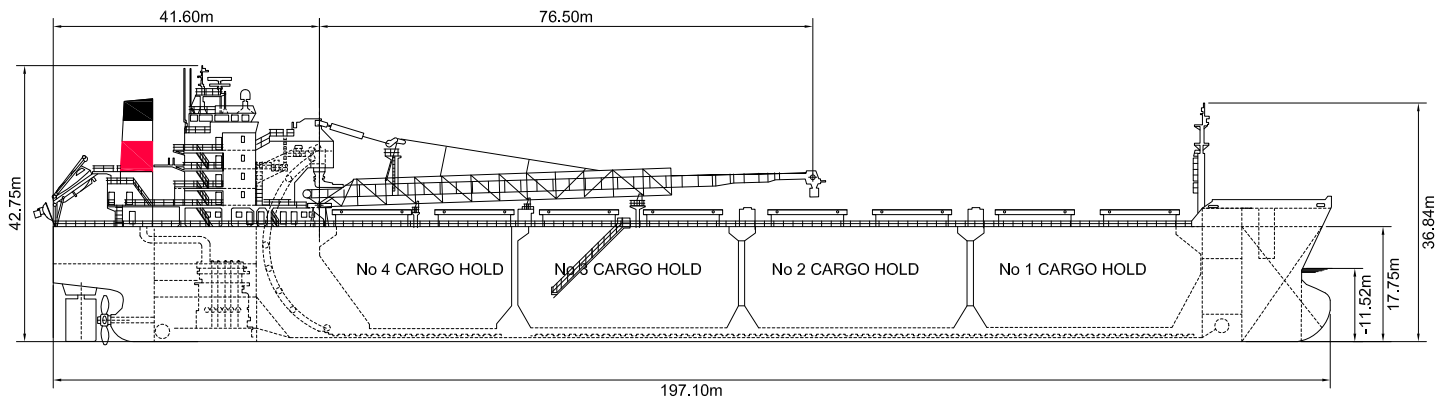
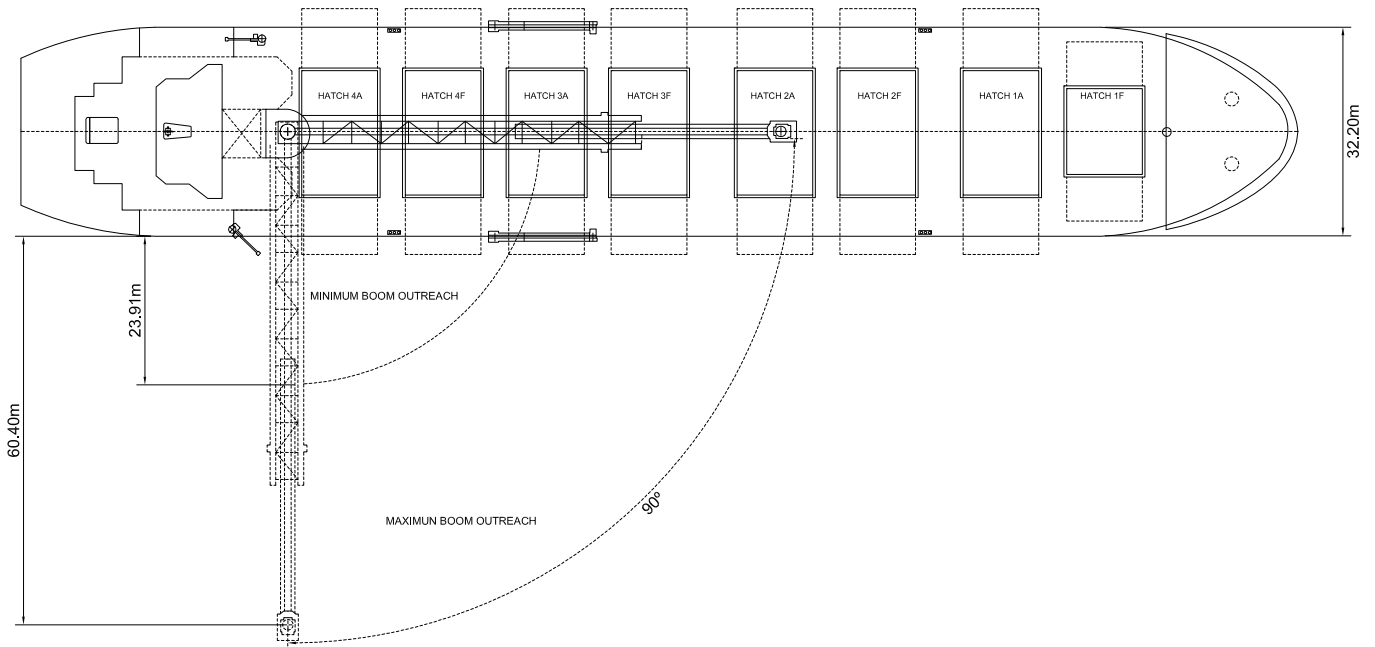
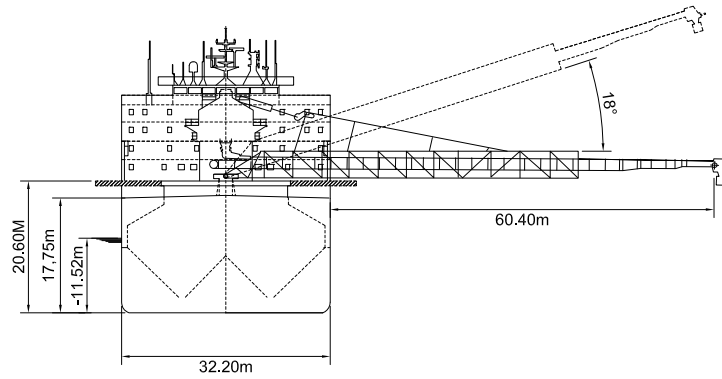
CSL Frontier is a self-unloading bulk carrier with four cargo holds, strengthened for heavy cargoes, loaded through eight hatches.

The discharge is gravity fed through the moving hole feeder gate system via two longitudinal conveyor belts feeding to a central C-loop that lifts the cargo onto the telescoping boom conveyor and ashore.

Discharge rate is variable to a maximum of 3000 metric tonnes and 2500 cubic metres per hour for volumetric cargoes.

Using the flexible boom and precise control of the discharge rate makes the vessel suitable for discharge to almost any receiving facility including enclosed hoppers, barges and trucks. The vessel is double hulled, including bunker tanks, and utilises a bow thruster and high-lift rudder to give excellent handling characteristics.

CSL FRONTIER



SELF-UNLOADING BULK CARRIER

AIR DRAFTS (METRES)

Draft Condition	Trim (AT PP)	Draught		Stem	Foremast	Hatches			Cargo Gear	Main Mast	Funnel	Stern	Maximum
		AP	FP			Forward	Midship	Aft					
Height above keel				24.40	36.84	20.60	20.60	20.60	33.80	42.75	37.40	18.40	42.75
Light Ship	5.38	5.62	0.24	24.16	36.19	19.70	17.43	16.28	29.21	37.68	32.12	12.78	37.68
Normal Ballast 50% Bunker	0.92	8.56	7.64	16.76	29.13	12.85	12.46	12.26	25.42	34.28	28.90	9.84	34.28
Fully loaded 50% Bunker	0.00	11.40	11.40	13.00	25.44	9.20	9.20	9.20	22.40	31.35	26.00	7.00	31.35

HATCH AND HOLD SPECIFICATIONS

Hold Number	1		2		3		4		Total
HOLD VOLUMES (CUBIC METRES)									
Maximum Cubic	11905.70		12382.80		12382.80		9037.20		45708.60
HOLD OPENINGS (METRES)									
Hatch Number	1F	1A	2F	2A	3F	3A	4F	4A	
Opening Length	11.20	11.20	11.20	11.20	11.20	11.20	11.20	11.20	
Opening Width	13.40	19.20	19.20	19.20	19.20	19.20	19.20	19.20	
Coaming Height above Keel	19.55	19.55	19.55	19.55	19.55	19.55	19.55	19.55	
HATCH INFORMATION (METRES)									
Description	Side-rolling panels		Side-rolling panels		Side-rolling panels		Side-rolling panels		
Operation	Hydraulic		Hydraulic		Hydraulic		Hydraulic		
Hatch Length	11.47	11.51	11.51	11.51	11.51	11.51	11.51	11.51	
Hatch Width	13.76	19.57	19.57	19.57	19.57	19.57	19.57	19.57	
Hatch Top Height above Keel	20.35	20.35	20.35	20.35	20.35	20.35	20.35	20.35	

CARGO HANDLING EQUIPMENT

Two holds conveyors

Two transfer conveyors

One Boom conveyor

One "C" Loop conveyor

All conveyors are driven by single speed motors, gears and couplings

Discharging is done through hydraulically operated Moving Hole Feeders (MHF), fitted to outlet hoppers in the bottom of cargo holds

Boom Belt — Wide: 1600 mm

Tunnel Belts — Wide: 2000 mm

Transfer Belts — Wide: 2000 mm

"C" Loop Belt — Wide: 2740/2590 mm

Dust Suppression: Water spray systems on the hold, transfer, C-Loop chutes and on the Boom end

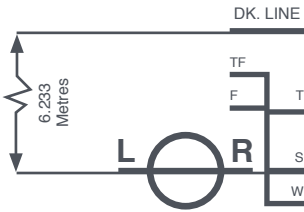
Discharge rate 2500 m³/hr or 3000 mt/hr whichever is first reached

Maximum Boom outreach: 76.20 m (telescopic shuttle conveyor)

SPEED | CONSUMPTION

	SPEED		CONSUMPTION		
	Loaded	Ballast	Loaded	Ballast	Port
At Sea	11.75	12.50	25.75	24.75	N/A
Loading					2.70
Discharge					5.00

CSL FRONTIER



DEADWEIGHT SCALE - M/V CSL FRONTIER

ASSIGNED DRAFT

Season	Draft. (Tonnes)	Displ. (Tonnes)	DWT (Tonnes)
TF	12.011	63.698	51.300
F	11.771	61.888	49.490
T	11.757	61.783	49.385
S	11.517	60.159	47.761
W	11.277	58.744	46.246

DRAFT				Displacement (Tonnes)	TPC (Tonnes)	Deadweight (Tonnes)	DRAFT	
Sea water		Fresh water					Sea water	
(Meters)	(Feet)	(Meters)	(Feet)				(Feet)	(Meters)
	39			62,000		50,000	39	
	38		39	60,000		48,000	38	
11	37		38	58,000	59	46,000	37	11
	36		37	56,000		44,000	36	
	35	11	36	54,000		42,000	35	
10	34		35	52,000	58	40,000	34	10
	33		34	50,000		38,000	33	
	32	10	33	48,000		36,000	32	
9	31		32	46,000	57	34,000	31	9
	30		31	44,000		32,000	30	
	29	9	30	42,000		30,000	29	
8	28		29	40,000	55	28,000	28	8
	27		28	38,000		26,000	27	
	26	8	27	36,000		24,000	26	
7	25		26	34,000	54	22,000	25	7
	24		25	32,000		20,000	24	
	23	7	24	30,000		18,000	23	
6	22		23	28,000	53	16,000	22	6
	21		22	26,000		14,000	21	
	20	6	21	24,000		12,000	20	
5	19		20	22,000	52	10,000	19	5
	18		19	20,000		8,000	18	
	17	5	18	18,000		6,000	17	
4	16		17	16,000	51	4,000	16	4
	15		16	14,000		2,000	15	
	14	4	15	12,000		0,000	14	
3	13		14	10,000	50		13	3
	12		13				12	
	11	3	12				11	
2	10		11		49		10	2
	9		10				9	
	8	3	9				8	
	7		8				7	
			7					

LIGHTSHIP
12,398 tonnes