

		CSM-15 Standard	CSM-15 With Super Economiser	CSM-30 Standard	CSM-30 With Super Economiser	CSM-45 Standard	CSM-45 With Super Economiser	CSM-75 Standard	CSM-75 With Super Economiser	CSM-100 Standard	CSM-100 With Super Economiser	CSM-125 Standard	CSM-125 With Super Economiser
BOILER HORSEPOWER	BHP	15	15	30	30	45	45	75	75	100	100	125	125
NET HEAT OUTPUT	kcal/h	126611	126611	253222	253222	379833	379833	632700	632700	843600	843600	1054500	1054500
NET HEAT OUTPUT	kW	147	147	294	294	441	441	736	736	981	981	1226	1226
EQUIVALENT MAXIMUM OUTPUT SATURATED STEAM (from and at 100°C feedwater and 0 barg steam)	kg/h	235	235	469	469	703	703	1174	1174	1565	1565	1956	1956
EQUIVALENT MAXIMUM OUTPUT SATURATED STEAM (at 7 barg and from 100°C feedwater)	kg/h	225	225	450	450	675	675	1125	1125	1500	1500	1875	1875
DESIGN PRESSURE	barg	10	10	10 / 13 / 16 / 20	10 / 13 / 16 / 20	10 / 13 / 16 / 20	10 / 13 / 16 / 20	10 / 13 / 16 / 20 / 31	10 / 13 / 16 / 20 / 31	10 / 13 / 16 / 20 / 31	10 / 13 / 16 / 20 / 31	10 / 13 / 16 / 20 / 31	10 / 13 / 16 / 20 / 31
STEAM MAX OPERATING PRESSURE (determined by design pressure)	barg	7	7	7 / 10 / 13 / 16	7 / 10 / 13 / 16	7 / 10 / 13 / 16	7 / 10 / 13 / 16	7 / 10 / 13 / 16 / 25	7 / 10 / 13 / 16 / 25	7 / 10 / 13 / 16 / 25	7 / 10 / 13 / 16 / 25	7 / 10 / 13 / 16 / 25	7 / 10 / 13 / 16 / 25
STEAM MIN. OPERATING PRESSURE	barg	4	4	4	4	4	4	4	4	4	4	4	4
OIL CONSUMPTION at maximum steam output (See note 1)	kg/h	13,8	13,1	27,6	26,1	41,4	39,2	66,7	64,6	88,9	86,2	112,4	108,8
GAS COMSUMPTION at maximum steam output (See note 3)	Nm³/h	15,9	15,1	31,8	30,1	47,7	45,2	81,3	75,4	103,7	100,5	131,1	126,9
GAS SUPPLY PRESSURE REQUIRED (See notes 3 and 5)	mbarg	25..300	25..300	25..300	25..300	25 or 27,5 - 300	25 or 27,5 - 300	70	77,8	70	70	70	70
WATER CONTENT													
- Filled	l	35	37	76,7	80,3	83,2	87,7	192	235	192	235	192	235
- In operation	l	18,6	20,6	39,5	43,1	42,7	47,2	47	61	47	61	47	61
COMBUSTION EFFICIENCIES (See notes 2 and 4)													
Gas Fired -100% / 25% or 30% load	%	90 / 94	95 / 96	90 / 94	95 / 96	90 / 94	95 / 96	92 / 95	95 / 97	92 / 95	95 / 97	91 / 94	94 / 96
Diesel Oil Fired - 100% / 60 or 50% load	%	90 / 92	95 / 95	90 / 92	95 / 95	90 / 92	95 / 95	93 / 95	96 / 97	93 / 95	96 / 97	92 / 95	95 / 97
FIRING RATE													
- Step fired oil (See note 4)	%	0-60-100	0-60-100	0-60-100	0-60-100	0-60-100	0-60-100	0-50-100	0-50-100	0-50-100	0-50-100	0-50-100	0-50-100
- Modulating gas (See note 4)	%	25-100	25-100	25-100	25-100	25-100	25-100	30-100	30-100	30-100	30-100	30-100	30-100
HEATING SURFACE	m²	7,3	10,3	13,1	18,5	14,2	21,2	19,1	27,5	19,1	27,5	19,1	27,5
ELECTRIC MOTOR (Up to 10 barg)													
- Blower	kW	0,5	0,5	0,5	0,5	0,62	0,62	5,5	5,5	5,5	5,5	7,5	7,5
- Pump	kW	0,37	0,37	0,55	0,55	1,1	1,1	3	3	3	3	3	3
- Electrical Power		230VAC 50Hz 16A	230VAC 50Hz 16A	230VAC 50Hz 16A	230VAC 50Hz 16A	230VAC 50Hz 16A	230VAC 50Hz 16A	400VAC 50Hz	400VAC 50Hz	400VAC 50Hz	400VAC 50Hz	400VAC 50Hz	400VAC 50Hz
APPROXIMATE OVERALL DIMENSIONS													
- Length	mm	1600	1600	1800	1800	1800	1800	2100	2100	2100	2100	2100	2100
- Width	mm	1172	1172	1350	1350	1350	1350	1600	1600	1600	1600	1600	1600
- Height	mm	1710	1710	2237	2237	2460	2460	2200	2497	2200	2497	2200	2497
- Transport Height without burner and safety valve	mm	1710	1710	1936	1936	2058	2058	2200	2497	2200	2497	2200	2497
- Maintenance height above burner	mm	250	250	250	250	250	250	-	-	-	-	-	-
APPROXIMATE WEIGHT													
- Filled	kg	1135	1220	1510	1610	1605	1720	2342	2640	2342	2640	2342	2640
- Empty	kg	1100	1180	1430	1520	1520	1630	2150	2405	2150	2405	2150	2405
EXHAUST GAS													
- STACK CONNECTION (Outer Diameter)	mm	200	200	250	250	250	250	457	457	457	457	457	457
- Recommended diameter of Chimney (Inner diameter) - see note 6	mm	200	200	250	250	300	300	400	400	450	450	500	500
NOISE LEVEL (sound pressure level Lp at 1m) - in free field	dBA	<80	<80	<80	<80	<80	<80	< 85	< 85	< 85	< 85	< 85	< 85

NOTES

1) Based on N° 2 fuel oil with a Low Heat Value (LHV) = 42700 kJ/kg - calculated using the announced combustion efficiencies

2) Efficiencies are based on 60°C feed water temperature. Please consult factory for guaranteed values

3) Based on natural gas with Low Heat Value (LHV) > 37000 kJ/Nm³ - calculated using the announced combustion efficiencies

4) No dual fuel burners available till further notice!

5) For all 15, 30 and 45 units with natural gas supply pressures between 150 (min.) and 300 (max.) mbar, a gas pressure regulating valve has to be provided / purchased. For CSM-45 with a natural gas supply pressure below 25 mbar or 27,5 mbar (LHV < 37000 kJ/Nm³) a "low pressure gas train" may

have to be provided / purchased - please consult factory in case of low gas pressures - to be engineered depending on the lower heating value of the natural gas. The larger units as from the 75-model require a constant gas pressure as indicated (and the max. pressure allowed is 500 mbar)

6) The required draft at the stack outlet of the Steam generator should be between 0 and -6 mmWK. Depending on the length and height of the chimney, the diameter might change or a draft regulator should be added.

Connections		CSM-15 Standard	CSM-15 With Super Economiser	CSM-30 Standard	CSM-30 With Super Economiser	CSM-45 Standard	CSM-45 With Super Economiser	CSM-75 Standard	CSM-75 With Super Economiser	CSM-100 Standard	CSM-100 With Super Economiser	CSM-125 Standard	CSM-125 With Super Economiser
Steam outlet	S1	DN25 PN40	DN25 PN40	DN40 PN40	DN40 PN40	DN40 PN40	DN40 PN40	DN65 PN40	DN65 PN40	DN65 PN40	DN65 PN40	DN65 PN40	DN65 PN40
Safety valve outlet **	S2	3/4" R Female	3/4" R Female	1 1/4" R Female	1 1/4" R Female	1 1/4" R Female	1 1/4" R Female	DN40 PN16	DN40 PN16	DN40 PN16	DN40 PN16	DN40 PN16	DN40 PN16
Feed water inlet	S10	1 1/2" R Female	1 1/2" R Female	1 1/2" R Female	1 1/2" R Female	2" NPT Female	2" NPT Female	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16	DN50 PN16
Steam trap outlet	S12	3/4" R Female	3/4" R Female	1" R Female	1" R Female	1" R Female	1" R Female	1" NPT Male	1" NPT Male	1" NPT Male	1" NPT Male	1" NPT Male	1" NPT Male
Drain	S13	3/4" R Female	3/4" R Female	1" R Female	1" R Female	1" R Female	1" R Female	1" NPT Female	1" NPT Female	1" NPT Female	1" NPT Female	1" NPT Female	1" NPT Female
Automatic blowdown outlet	S11	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female	3/8" R Female	3/8" R Female	3/8" R Female	3/8" R Female	3/8" R Female	3/8" R Female
Gas inlet *	S8	1" R Female	1" R Female	1" R Female	1" R Female	1 1/2" R Female *	1 1/2" R Female *	1 1/2" R Female	1 1/2" R Female	1 1/2" R Female	1 1/2" R Female	1 1/2" R Female	1 1/2" R Female
Diesel oil inlet	S8.1	3/8" G	3/8" G	3/8" G	3/8" G	3/8" G	3/8" G	3/4" NPT Female	3/4" NPT Female	3/4" NPT Female	3/4" NPT Female	3/4" NPT Female	3/4" NPT Female
Diesel oil return	S8.2	3/8" G	3/8" G	3/8" G	3/8" G	3/8" G	3/8" G	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female	1/2" NPT Female

* Gas inlet CSM-45 for natural gas pressures < **25 mbar or 27,5** (or lower - see note 5 - to be checked against the heating value of the gas) mbar: 2" R Female

** 1 x safety valve except for CSM-125-1 (10 bar design) or for local rules requiring "n+1" safety valves

All specified values are subject to change without notice.

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