

X92DF-2.0

External forces and moments

Rating R1 : 5320 kW/Cyl. @ 80 rpm / max. values Gas/Diesel Mode

Engine Type	6X92DF-2.0	7X92DF-2.0	8X92DF-2.0	8X92DF-2.0	8X92DF-2.0
Speed	80 rpm	80 rpm	80 rpm	80 rpm	80 rpm
Power	31920 kW	37240 kW	42560 kW	42560 kW	42560 kW
Firing order	regular	regular	irregular	irregular	regular
Crank type	FCV3-S	FCV3-S	FCV3-S	FCV6-S	FCV1-L / FCV3-S
Crankshaft type	1-part	1-part	1-part	1-part	2-part
Massmoments / Forces					
Free Forces					
F1v [±kN]	0	0	16	16	25
F1h [±kN]	0	0	16	16	53
F2v [±kN]	0	0	6	6	0
F4v [±kN]	0	0	47	47	0
External Moments					
M1v [±kNm]	0	486	1316	1308	975
M1h [±kNm]	0	510	1146	1154	381
M2v *) [±kNm]	6906	2005	315	315	327
M4v [±kNm]	479	1362	547	547	569
Lateral H-Moments M_{LH}					
Ord.1 [±kNm]	0	0	1	1	6
Ord.2 [±kNm]	0	0	1	1	0
Ord.3 [±kNm]	0	0	44	44	41
Ord.4 [±kNm]	0	0	445	445	0
Ord.5 [±kNm]	0	0	211	211	3
Ord.6 [±kNm]	3378	0	10	10	0
Ord.7 [±kNm]	0	2660	18	18	0
Ord.8 [±kNm]	0	0	2191	2191	2217
Ord.9 [±kNm]	0	0	11	11	0
Ord.10 [±kNm]	0	0	3	3	0
Ord.11 [±kNm]	0	0	56	56	0
Ord.12 [±kNm]	506	0	136	136	0
Lateral X-Moments M_{LX}					
Ord.1 [±kNm]	0	347	855	855	204
Ord.2 [±kNm]	1253	364	57	57	80
Ord.3 [±kNm]	1565	1712	2180	2180	2609
Ord.4 [±kNm]	1247	3543	1424	1424	1474
Ord.5 [±kNm]	0	302	3797	3797	4444
Ord.6 [±kNm]	0	42	69	69	21
Ord.7 [±kNm]	0	0	286	286	17
Ord.8 [±kNm]	299	23	128	128	0
Ord.9 [±kNm]	489	55	68	68	8
Ord.10 [±kNm]	137	391	33	33	5
Ord.11 [±kNm]	0	340	417	417	510
Ord.12 [±kNm]	0	26	93	93	106
Torque variation [±kNm]	3505	2728	2634	2634	2293

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force at the crosshead can be calculated as follows: FL=MLH x 0.192 [kN]

X92DF-2.0

External forces and moments

Rating R1 : 5320 kW/Cyl. @ 80 rpm / max. values Gas/Diesel Mode

Engine Type		9X92DF-2.0	10X92DF-2.0	11X92DF-2.0	12X92DF-2.0	12X92DF-2.0
Speed		80 rpm	80 rpm	80 rpm	80 rpm	80 rpm
Power		47880 kW	53200 kW	58520 kW	63840 kW	63840 kW
Firing order		irregular	irregular	irregular	irregular	irregular
Crank type		FCV1-L / FCV3-S	FCV1-L / FCV3-S	FCV4-L / FCV3-S	FCV4-L / FCV3-S	FCV4-L / FCV2-S
Crankshaft type		2-part	2-part	2-part	2-part	2-part
Massmoments / Forces						
Free Forces						
F1v	[±kN]	43	85	62	57	56
F1h	[±kN]	45	74	29	62	62
F2v	[±kN]	72	29	10	38	38
F4v	[±kN]	48	14	24	26	26
External Moments						
M1v	[±kNm]	869	154	128	969	1195
M1h	[±kNm]	815	185	325	1803	1576
M2v *)	[±kNm]	2439	1607	2382	775	775
M4v	[±kNm]	732	768	317	1293	1293
Lateral H-Moments M_{LH}						
Ord.1	[±kNm]	75	162	99	123	123
Ord.2	[±kNm]	25	19	27	7	7
Ord.3	[±kNm]	40	34	169	104	104
Ord.4	[±kNm]	442	118	220	243	243
Ord.5	[±kNm]	603	223	1424	1343	1343
Ord.6	[±kNm]	131	116	1064	195	195
Ord.7	[±kNm]	72	55	171	790	790
Ord.8	[±kNm]	84	16	310	160	160
Ord.9	[±kNm]	1647	107	79	63	63
Ord.10	[±kNm]	27	1346	75	62	62
Ord.11	[±kNm]	25	80	1038	63	63
Ord.12	[±kNm]	30	5	31	907	907
Lateral X-Moments M_{LX}						
Ord.1	[±kNm]	583	126	145	933	933
Ord.2	[±kNm]	453	291	438	140	140
Ord.3	[±kNm]	3090	3875	4848	5390	5390
Ord.4	[±kNm]	1902	1989	821	3341	3341
Ord.5	[±kNm]	1869	302	962	1285	1285
Ord.6	[±kNm]	2808	695	420	482	482
Ord.7	[±kNm]	431	2543	297	499	499
Ord.8	[±kNm]	197	239	2113	994	994
Ord.9	[±kNm]	20	54	541	1574	1574
Ord.10	[±kNm]	104	16	60	386	386
Ord.11	[±kNm]	55	33	294	243	243
Ord.12	[±kNm]	419	27	119	79	79
Torque variation	[±kNm]	2414	1791	3025	2657	2657

* No engine fitted 2nd order balancer available. If reduction of M2v is needed, an external compensator has to be applied.

The values for other engine ratings are available on request

The resulting lateral guide force at the crosshead can be calculated as follows: FL=MLH x 0.192 [kN]

6-12 X92DF-2.0 / Free external mass moments
Power related unbalance (PRU)
Rating R1 5320 kW/Cyl. @ 80 rpm

