

X52DF-2.1

External forces and moments

Crankshaft type : Full crank pin

Rating R1 : 1490 kW/Cyl. @ 105 rpm / max. values of Gas/Diesel-Mode

| Engine Type | | 5X52DF-2.1 | 6X52DF-2.1 | 7X52DF-2.1 |
|---|--------|------------|------------|------------|
| Speed | | 105 rpm | 105 rpm | 105 rpm |
| Power | | 7450 kW | 8940 kW | 10430 kW |
| Crank type | | FCV2 | FCV2 | FCV2 |
| Massmoments / Forces | | | | |
| Free Forces | | | | |
| F1v | [±kN] | 0 | 0 | 0 |
| F1h | [±kN] | 0 | 0 | 0 |
| F2v | [±kN] | 0 | 0 | 0 |
| F4v | [±kN] | 0 | 0 | 0 |
| External Moments | | | | |
| M1v | [±kNm] | 116 | 0 | 69 |
| M1h | [±kNm] | 116 | 0 | 69 |
| M2v | [±kNm] | 1380 | 960 | 279 |
| M2v *) | [±kNm] | 525 | 473 | - |
| M4v | [±kNm] | 9 | 67 | 189 |
| Lateral H-Moments M_{LH} | | | | |
| Ord.1 | [±kNm] | 0 | 0 | 0 |
| Ord.2 | [±kNm] | 0 | 0 | 0 |
| Ord.3 | [±kNm] | 0 | 0 | 0 |
| Ord.4 | [±kNm] | 0 | 0 | 0 |
| Ord.5 | [±kNm] | 912 | 0 | 0 |
| Ord.6 | [±kNm] | 0 | 711 | 0 |
| Ord.7 | [±kNm] | 0 | 0 | 567 |
| Ord.8 | [±kNm] | 0 | 0 | 0 |
| Ord.9 | [±kNm] | 0 | 0 | 0 |
| Ord.10 | [±kNm] | 145 | 0 | 0 |
| Ord.11 | [±kNm] | 0 | 0 | 0 |
| Ord.12 | [±kNm] | 0 | 108 | 0 |
| Lateral X-Moments M_{LX} | | | | |
| Ord.1 | [±kNm] | 97 | 0 | 58 |
| Ord.2 | [±kNm] | 93 | 65 | 19 |
| Ord.3 | [±kNm] | 101 | 182 | 199 |
| Ord.4 | [±kNm] | 30 | 229 | 651 |
| Ord.5 | [±kNm] | 0 | 0 | 54 |
| Ord.6 | [±kNm] | 13 | 0 | 8 |
| Ord.7 | [±kNm] | 106 | 0 | 0 |
| Ord.8 | [±kNm] | 81 | 56 | 4 |
| Ord.9 | [±kNm] | 5 | 92 | 10 |
| Ord.10 | [±kNm] | 0 | 26 | 74 |
| Ord.11 | [±kNm] | 3 | 0 | 64 |
| Ord.12 | [±kNm] | 24 | 0 | 5 |
| Torque variation | [±kNm] | 959.6 | 737.6 | 581.4 |

*) with iELBA applied at FE + DE

The values for other engine ratings are available on request

The resulting lateral guide force at the crosshead can be estimated as follows: FL=MLH x 0.287 [kN]

5-7 X52DF-2.1 / Free external mass moments Power Related Unbalance (PRU) Rating R1 1490 kW/Cyl @ 105 rpm

Crankshaft type: Full crank pin

