

X52DF-S1.0

External forces and moments

Crankshaft type : Full crank pin

Rating R1 : 1500 kW/Cyl. @ 120 rpm / max. values of Gas/Diesel-Mode

Engine Type			5X52DF-S1.0	6X52DF-S1.0	7X52DF-S1.0	8X52DF-S1.0
Speed			120 rpm	120 rpm	120 rpm	120 rpm
Power			7500 kW	9000 kW	10500 kW	12000 kW
Crank type			FCV2	FCV2	FCV2	FCV2
Massmoments / Forces						
Free Forces						
F1v	[±kN]		0	0	0	0
F1h	[±kN]		0	0	0	0
F2v	[±kN]		0	0	0	0
F4v	[±kN]		0	0	0	0
External Moments						
M1v	[±kNm]		121	0	72	243
M1h	[±kNm]		121	0	72	243
M2v	[±kNm]		1441	1002	291	0
M2v *)	[±kNm]		719	502	-	-
M4v	[±kNm]		9	70	198	80
Lateral H-Moments M_{LH}						
Ord.1	[±kNm]		0	0	0	0
Ord.2	[±kNm]		0	0	0	0
Ord.3	[±kNm]		0	0	0	0
Ord.4	[±kNm]		0	0	0	0
Ord.5	[±kNm]		704	0	0	0
Ord.6	[±kNm]		0	528	0	0
Ord.7	[±kNm]		0	0	404	0
Ord.8	[±kNm]		0	0	0	346
Ord.9	[±kNm]		0	0	0	0
Ord.10	[±kNm]		105	0	0	0
Ord.11	[±kNm]		0	0	0	0
Ord.12	[±kNm]		0	83	0	0
Lateral X-Moments M_{LX}						
Ord.1	[±kNm]		93	0	56	186
Ord.2	[±kNm]		218	152	44	0
Ord.3	[±kNm]		133	240	262	336
Ord.4	[±kNm]		24	184	522	212
Ord.5	[±kNm]		0	0	44	557
Ord.6	[±kNm]		10	0	6	0
Ord.7	[±kNm]		76	0	0	14
Ord.8	[±kNm]		62	43	3	0
Ord.9	[±kNm]		4	73	8	7
Ord.10	[±kNm]		0	19	53	0
Ord.11	[±kNm]		2	0	50	64
Ord.12	[±kNm]		20	0	4	16
Torque variation						
	[±kNm]		705	518.1	405.5	346.5

*) 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 0.325 [kN]

5-8 X52DF-S1.0 / Free external mass moments
Power Related Unbalance (PRU)
 Rating R1 1500 kW/Cyl @ 120 rpm

Crankshaft type: Full crank pin

