



## Drive power loss data disclosure pursuant to COMMISSION REGULATION (EU) 2019/1781

FRENIC-Mini Series												(1) Power loss data at operating points according to Commission Regulation (EU) 2019/1781												(2) IE class	(3) Manufacturer, commercial registration number and address	(4) Product's model identifier <sup>5</sup>	(5) Apparent output power <sup>2</sup> [kVA]	(6) Indicative motor rated power output [kW]	(7) Rated output current <sup>3</sup> [A]	(8) Max. operating temperature [°C]	(9) Rated supply frequency [Hz]	(10) Rated supply voltage [V]	Power loss measurement method
Type <sup>6</sup>	Standby [W]	Standby [%]	Partial load <sup>1</sup> (90, 100) [%]	Partial load <sup>1</sup> (50, 100) [%]	Partial load <sup>1</sup> (0, 100) [%]	Partial load <sup>1</sup> (90, 50) [%]	Partial load <sup>1</sup> (50, 50) [%]	Partial load <sup>1</sup> (0, 50) [%]	Partial load <sup>1</sup> (50, 25) [%]	Partial load <sup>1</sup> (0, 25) [%]																							
FRN0.4C2S-4J○	7.3	0.7%	3.2%	3.2%	3.0%	2.9%	2.8%	2.8%	2.8%	2.8%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0.4C2S-4J○	1.1	0.4	1.5	50°C	50Hz, 60Hz	380 to 480	Input-output													
FRN0.75C2S-4J○	7.5	0.4%	2.5%	2.4%	2.2%	2.1%	2.1%	2.0%	2.1%	2.0%	IE 2		FRN0.75C2S-4J○	1.9	0.75	2.5																	
FRN1.5C2S-4J○	7.3	0.3%	2.2%	2.0%	1.9%	1.7%	1.6%	1.6%	1.5%	1.4%	IE 2		FRN1.5C2S-4J○	2.8	1.5	3.7																	
FRN2.2C2S-4J○	7.8	0.2%	2.0%	1.7%	1.7%	1.4%	1.4%	1.3%	1.2%	1.2%	IE 2		FRN2.2C2S-4J○	4.1	2.2	5.5																	
FRN3.7C2S-4J○	9.2	0.1%	1.9%	1.6%	1.6%	1.3%	1.2%	1.2%	1.0%	1.0%	IE 2		FRN3.7C2S-4J○	6.8	3.7	9																	
FRN5.5C2S-4J○	20.0	0.2%	1.9%	1.7%	1.5%	1.4%	1.3%	1.2%	1.1%	1.1%	IE 2		FRN5.5C2S-4J○	9.9	5.5	13																	
FRN7.5C2S-4J○	19.7	0.2%	1.9%	1.6%	1.5%	1.2%	1.1%	1.0%	0.9%	0.9%	IE 2		FRN7.5C2S-4J○	13	7.5	18																	
FRN11C2S-4J○	21.4	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	IE 2		FRN11C2S-4J○	18	11	24																	
FRN15C2S-4J○	21.6	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.8%	0.8%	0.7%	IE 2		FRN15C2S-4J○	22	15	30																	
FRN0.1C2S-2J○	2.8	0.9%	3.3%	3.2%	3.1%	2.9%	2.8%	2.7%	2.7%	2.7%	IE 2		FRN0.1C2S-2J○	0.3	0.1	0.8																	
FRN0.2C2S-2J○	2.7	0.5%	2.4%	2.3%	1.9%	1.8%	1.9%	1.8%	1.8%	1.9%	IE 2		FRN0.2C2S-2J○	0.57	0.2	1.5																	
FRN0.4C2S-2J○	2.9	0.3%	2.4%	2.1%	2.0%	1.6%	1.7%	1.6%	1.6%	1.5%	IE 2		FRN0.4C2S-2J○	1.1	0.4	3																	
FRN0.75C2S-2J○	2.8	0.1%	2.0%	1.9%	1.6%	1.4%	1.3%	1.1%	1.0%	0.9%	IE 2		FRN0.75C2S-2J○	1.9	0.75	5																	
FRN1.5C2S-2J○	4.0	0.1%	2.2%	1.9%	1.7%	1.2%	1.3%	1.2%	1.1%	1.0%	IE 2		FRN1.5C2S-2J○	3	1.5	8																	
FRN2.2C2S-2J○	3.8	0.1%	2.2%	2.0%	1.8%	1.2%	1.4%	1.3%	1.1%	1.0%	IE 2		FRN2.2C2S-2J○	4.2	2.2	11																	
FRN3.7C2S-2J○	3.6	0.1%	2.1%	1.7%	1.5%	1.1%	1.1%	1.1%	0.9%	0.8%	IE 2		FRN3.7C2S-2J○	6.5	3.7	17																	
FRN5.5C2S-2J○	9.1	0.1%	2.2%	2.1%	1.8%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN5.5C2S-2J○	9.5	5.5	25																	
FRN7.5C2S-2J○	10.0	0.1%	2.3%	1.9%	1.8%	1.3%	1.1%	1.2%	0.8%	1.0%	IE 2		FRN7.5C2S-2J○	12	7.5	33																	
FRN11C2S-2J○	11.7	0.1%	2.5%	2.1%	1.7%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN11C2S-2J○	17	11	47																	
FRN15C2S-2J○	11.4	0.1%	2.5%	2.0%	1.6%	1.7%	1.1%	0.9%	0.8%	0.7%	IE 2		FRN15C2S-2J○	22	15	60																	

FRENIC-Mini Series												(1) Power loss data at operating points according to Commission Regulation (EU) 2019/1781												(2) IE class	(3) Manufacturer, commercial registration number and address	(4) Product's model identifier <sup>5</sup>	(5) Apparent output power <sup>2</sup> [kVA]	(6) Indicative motor rated power output [kW]	(7) Rated output current <sup>3</sup> [A]	(8) Max. operating temperature [°C]	(9) Rated supply frequency [Hz]	(10) Rated supply voltage [V]	Power loss measurement method
Type <sup>5,6</sup>	Standby [W]	Standby [%]	Partial load <sup>1</sup> (90, 100) [%]	Partial load <sup>1</sup> (50, 100) [%]	Partial load <sup>1</sup> (0, 100) [%]	Partial load <sup>1</sup> (90, 50) [%]	Partial load <sup>1</sup> (50, 50) [%]	Partial load <sup>1</sup> (0, 50) [%]	Partial load <sup>1</sup> (50, 25) [%]	Partial load <sup>1</sup> (0, 25) [%]																							
FRN0002C2S-4*○	7.3	0.6%	2.7%	2.7%	2.6%	2.4%	2.4%	2.3%	2.4%	2.3%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0002C2S-4*○	1.3	0.4	1.8	50°C	50Hz, 60Hz	380 to 480	Input-output													
FRN0004C2S-4*○	7.5	0.3%	2.0%	2.0%	1.8%	1.8%	1.7%	1.6%	1.7%	1.6%	IE 2		FRN0004C2S-4*○	2.3	0.75	3.1																	
FRN0005C2S-4*○	7.3	0.2%	1.9%	1.8%	1.7%	1.5%	1.4%	1.4%	1.3%	1.3%	IE 2		FRN0005C2S-4*○	3.2	1.5	4.3																	
FRN0007C2S-4*○	7.8	0.2%	1.7%	1.5%	1.4%	1.2%	1.2%	1.1%	1.0%	1.0%	IE 2		FRN0007C2S-4*○	4.8	2.2	6.3																	
FRN0011C2S-4*○	9.2	0.1%	1.6%	1.4%	1.3%	1.1%	1.0%	1.0%	0.9%	0.9%	IE 2		FRN0011C2S-4*○	8	3.7	10.5																	
FRN0013C2S-4*○	20.0	0.2%	1.9%	1.7%	1.5%	1.4%	1.3%	1.2%	1.1%	1.1%	IE 2		FRN0013C2S-4*○	9.9	5.5	13																	
FRN0018C2S-4*○	19.7	0.2%	1.9%	1.6%	1.5%	1.2%	1.1%	1.0%	0.9%	0.9%	IE 2		FRN0018C2S-4*○	13	7.5	18																	
FRN0024C2S-4*○	21.4	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	IE 2		FRN0024C2S-4*○	18	11	24																	
FRN0030C2S-4*○	21.6	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.8%	0.8%	0.7%	IE 2		FRN0030C2S-4*○	22	15	30																	
FRN0001C2S-2*○	2.8	0.9%	3.3%	3.2%	3.1%	2.9%	2.8%	2.7%	2.7%	2.7%	IE 2		FRN0001C2S-2*○	0.3	0.1	0.8																	
FRN0002C2S-2*○	2.7	0.5%	2.4%	2.3%	1.9%	1.8%	1.9%	1.8%	1.8%	1.8%	IE 2		FRN0002C2S-2*○	0.57	0.2	1.5																	
FRN0004C2S-2*○	2.9	0.2%	2.0%	1.8%	1.7%	1.3%	1.4%	1.3%	1.4%	1.3%	IE 2		FRN0004C2S-2*○	1.3	0.4	3.5																	
FRN0006C2S-2*○	2.8	0.1%	1.9%	1.8%	1.5%	1.3%	1.2%	1.1%	1.0%	0.9%	IE 2		FRN0006C2S-2*○	2	0.75	5.5																	
FRN0010C2S-2*○	4.0	0.1%	1.9%	1.6%	1.4%	1.0%	1.2%	1.0%	0.9%	0.9%	IE 2		FRN0010C2S-2*○	3.5	1.5	9.2																	
FRN0012C2S-2*○	3.8	0.1%	2.1%	1.8%	1.7%	1.1%	1.3%	1.2%	1.0%	1.0%	IE 2		FRN0012C2S-2*○	4.5	2.2	12																	
FRN0020C2S-2*○	3.6	0.1%	1.9%	1.6%	1.4%	1.0%	1.0%	0.9%	0.8%	0.8%	IE 2		FRN0020C2S-2*○	7.2	3.7	19.1																	
FRN0025C2S-2*○	9.1	0.1%	2.2%	2.1%	1.8%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN0025C2S-2*○	9.5	5.5	25																	
FRN0033C2S-2*○	10.0	0.1%	2.3%	1.9%	1.8%	1.3%	1.1%	1.2%	0.8%	1.0%	IE 2		FRN0033C2S-2*○	12	7.5	33																	
FRN0047C2S-2*○	11.7	0.1%	2.5%	2.1%	1.7%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN0047C2S-2*○	17	11	47																	
FRN0060C2S-2*○	11.4	0.1%	2.5%	2.0%	1.6%	1.7%	1.1%	0.9%	0.8%	0.7%	IE 2		FRN0060C2S-2*○	22	15	60																	

1. Operating point (x, y): x - percentage output frequency, y - percentage Torque-producing current.  
 2. Apparent output power is calculated by assuming the output rated voltage as 440 V(-4).  
 3. Apparent output power is calculated by assuming the output rated voltage as 220 V(-2).  
 4. Power losses in % of the rated apparent output power[kVA].  
 5. "\*" mark represents the destination code. (A: Asia / C: China / E: Europe / U: USA)  
 6. "○" mark represents variations in order code. (letter(s) and/ or number(s), or blank)



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Type <sup>6</sup>	Standby [W]	Standby [%]	Partial load <sup>1</sup> (90, 100) [%]	Partial load <sup>1</sup> (50, 100) [%]	Partial load <sup>1</sup> (0, 100) [%]	Partial load <sup>1</sup> (90, 50) [%]	Partial load <sup>1</sup> (50, 50) [%]	Partial load <sup>1</sup> (0, 50) [%]	Partial load <sup>1</sup> (50, 25) [%]	Partial load <sup>1</sup> (0, 25) [%]											
FRN0.4C2E-4*○	7.3	0.7%	3.2%	3.2%	3.0%	2.9%	2.8%	2.8%	2.8%	2.8%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0.4C2E-4○	1.1	0.4	1.5	50°C	380 to 480	Input-output		
FRN0.75C2E-4*○	7.5	0.4%	2.5%	2.4%	2.2%	2.1%	2.1%	2.0%	2.1%	2.0%	IE 2		FRN0.75C2E-4○	1.9	0.75	2.5					
FRN1.5C2E-4*○	7.3	0.3%	2.2%	2.0%	1.9%	1.7%	1.6%	1.6%	1.5%	1.4%	IE 2		FRN1.5C2E-4○	2.8	1.5	3.7					
FRN2.2C2E-4*○	7.8	0.2%	2.0%	1.7%	1.7%	1.4%	1.4%	1.3%	1.2%	1.2%	IE 2		FRN2.2C2E-4○	4.1	2.2	5.5					
FRN3.7C2E-4*○	9.2	0.1%	1.9%	1.6%	1.6%	1.3%	1.2%	1.2%	1.0%	1.0%	IE 2		FRN3.7C2E-4○	6.8	3.7	9					
FRN5.5C2E-4*○	20.0	0.2%	1.9%	1.7%	1.4%	1.3%	1.2%	1.1%	1.1%	1.1%	IE 2		FRN5.5C2E-4○	9.9	5.5	13					
FRN7.5C2E-4*○	19.7	0.2%	1.9%	1.6%	1.5%	1.2%	1.1%	1.0%	0.9%	0.9%	IE 2		FRN7.5C2E-4○	13	7.5	18					
FRN11C2E-4*○	21.4	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	IE 2		FRN11C2E-4○	18	11	24					
FRN15C2E-4*○	21.6	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.8%	0.8%	0.7%	IE 2		FRN15C2E-4○	22	15	30					
FRN0.1C2E-2*○	2.8	0.8%	3.3%	3.2%	3.1%	2.9%	2.8%	2.7%	2.7%	2.7%	IE 2		FRN0.1C2E-2○	0.3	0.1	0.8					
FRN0.2C2E-2*○	2.7	0.5%	2.4%	2.3%	1.9%	1.8%	1.9%	1.8%	1.8%	1.8%	IE 2		FRN0.2C2E-2○	0.57	0.2	1.5					
FRN0.4C2E-2*○	2.9	0.3%	2.4%	2.1%	2.0%	1.6%	1.7%	1.6%	1.6%	1.5%	IE 2		FRN0.4C2E-2○	1.1	0.4	3					
FRN0.75C2E-2*○	2.8	0.1%	2.0%	1.9%	1.6%	1.4%	1.3%	1.1%	1.0%	0.9%	IE 2		FRN0.75C2E-2○	1.9	0.75	5					
FRN1.5C2E-2*○	4.0	0.1%	2.2%	1.9%	1.7%	1.2%	1.3%	1.2%	1.1%	1.0%	IE 2		FRN1.5C2E-2○	3	1.5	8					
FRN2.2C2E-2*○	3.8	0.1%	2.2%	2.0%	1.8%	1.2%	1.4%	1.3%	1.1%	1.0%	IE 2		FRN2.2C2E-2○	4.2	2.2	11					
FRN3.7C2E-2*○	3.6	0.1%	2.1%	1.7%	1.5%	1.1%	1.1%	1.1%	0.9%	0.8%	IE 2		FRN3.7C2E-2○	6.5	3.7	17					
FRN5.5C2E-2*○	9.1	0.1%	2.2%	2.1%	1.8%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN5.5C2E-2○	9.5	5.5	25					
FRN7.5C2E-2*○	10.0	0.1%	2.3%	1.8%	1.8%	1.3%	1.1%	1.2%	0.8%	1.0%	IE 2		FRN7.5C2E-2○	12	7.5	33					
FRN11C2E-2*○	11.7	0.1%	2.5%	2.1%	1.7%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN11C2E-2○	17	11	47					
FRN15C2E-2*○	11.4	0.1%	2.5%	2.0%	1.6%	1.7%	1.1%	0.9%	0.8%	0.7%	IE 2		FRN15C2E-2○	22	15	60					

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Type <sup>6,6</sup>	Standby [W]	Standby [%]	Partial load <sup>1</sup> (90, 100) [%]	Partial load <sup>1</sup> (50, 100) [%]	Partial load <sup>1</sup> (0, 100) [%]	Partial load <sup>1</sup> (90, 50) [%]	Partial load <sup>1</sup> (50, 50) [%]	Partial load <sup>1</sup> (0, 50) [%]	Partial load <sup>1</sup> (50, 25) [%]	Partial load <sup>1</sup> (0, 25) [%]											
FRN0002C2E-4*○	7.3	0.6%	2.7%	2.7%	2.6%	2.4%	2.4%	2.3%	2.4%	2.3%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0002C2E-4*○	1.3	0.4	1.8	50°C	380 to 480	Input-output		
FRN0004C2E-4*○	7.5	0.3%	2.0%	2.0%	1.8%	1.8%	1.7%	1.6%	1.7%	1.6%	IE 2		FRN0004C2E-4*○	2.3	0.75	3.1					
FRN0005C2E-4*○	7.3	0.2%	1.9%	1.8%	1.7%	1.5%	1.4%	1.4%	1.3%	1.3%	IE 2		FRN0005C2E-4*○	3.2	1.5	4.3					
FRN0007C2E-4*○	7.8	0.2%	1.7%	1.5%	1.4%	1.2%	1.2%	1.1%	1.0%	1.0%	IE 2		FRN0007C2E-4*○	4.8	2.2	6.3					
FRN0011C2E-4*○	9.2	0.1%	1.6%	1.4%	1.3%	1.1%	1.0%	1.0%	0.9%	0.9%	IE 2		FRN0011C2E-4*○	8	3.7	10.5					
FRN0013C2E-4*○	20.0	0.2%	1.9%	1.7%	1.5%	1.4%	1.3%	1.2%	1.1%	1.1%	IE 2		FRN0013C2E-4*○	9.9	5.5	13					
FRN0018C2E-4*○	19.7	0.2%	1.9%	1.6%	1.5%	1.2%	1.1%	1.0%	0.9%	0.9%	IE 2		FRN0018C2E-4*○	13	7.5	18					
FRN0024C2E-4*○	21.4	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	IE 2		FRN0024C2E-4*○	18	11	24					
FRN0030C2E-4*○	21.6	0.1%	1.9%	1.6%	1.3%	1.1%	1.0%	0.8%	0.8%	0.7%	IE 2		FRN0030C2E-4*○	22	15	30					
FRN0001C2E-2*○	2.8	0.9%	3.3%	3.2%	3.1%	2.9%	2.8%	2.7%	2.7%	2.7%	IE 2		FRN0001C2E-2*○	0.3	0.1	0.8					
FRN0002C2E-2*○	2.7	0.5%	2.4%	2.3%	1.9%	1.8%	1.9%	1.8%	1.8%	1.8%	IE 2		FRN0002C2E-2*○	0.57	0.2	1.5					
FRN0004C2E-2*○	2.9	0.3%	2.4%	2.1%	2.0%	1.6%	1.7%	1.6%	1.6%	1.5%	IE 2		FRN0004C2E-2*○	1.3	0.4	3.5					
FRN0006C2E-2*○	2.8	0.1%	2.0%	1.9%	1.6%	1.4%	1.3%	1.1%	1.0%	0.9%	IE 2		FRN0006C2E-2*○	2	0.75	5.5					
FRN0010C2E-2*○	4.0	0.1%	2.2%	1.9%	1.7%	1.2%	1.3%	1.2%	1.1%	1.0%	IE 2		FRN0010C2E-2*○	3.5	1.5	9.2					
FRN0012C2E-2*○	3.8	0.1%	2.2%	2.0%	1.8%	1.2%	1.4%	1.3%	1.1%	1.0%	IE 2		FRN0012C2E-2*○	4.5	2.2	12					
FRN0020C2E-2*○	3.6	0.1%	2.1%	1.7%	1.5%	1.1%	1.1%	1.1%	0.9%	0.8%	IE 2		FRN0020C2E-2*○	7.2	3.7	19.1					
FRN0025C2E-2*○	9.1	0.1%	2.2%	2.1%	1.8%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN0025C2E-2*○	9.5	5.5	25					
FRN0033C2E-2*○	10.0	0.1%	2.3%	1.9%	1.8%	1.3%	1.1%	1.2%	0.8%	1.0%	IE 2		FRN0033C2E-2*○	12	7.5	33					
FRN0047C2E-2*○	11.7	0.1%	2.5%	2.1%	1.7%	1.3%	1.1%	1.0%	0.8%	0.7%	IE 2		FRN0047C2E-2*○	17	11	47					
FRN0060C2E-2*○	11.4	0.1%	2.5%	2.0%	1.6%	1.7%	1.1%	0.9%	0.8%	0.7%	IE 2		FRN0060C2E-2*○	22	15	60					

1. Operating point (x, y): x - percentage output frequency, y - percentage Torque-producing current.  
 2. Apparent output power is calculated by assuming the output rated voltage as 440 V(-4).  
 3. Apparent output power is calculated by assuming the output rated voltage as 220 V(-2).  
 4. Power losses in % of the rated apparent output power[kVA].  
 5. "\*" mark represents the enclosure code. (S: Standard type / E: EMC filter built in type)  
 6. "\*" mark represents the destination code. (A: Asia / C: China / E: Europe / K: South Korea / U: USA)  
 7. "○" mark represents variations in order code. (letter(s) and/ or number(s), or blank)