Vincotech

| **flowPACK 0 3rd gen** | **Output Inverter Application** | **600V/30A** |

General conditions

3phase SPWM		
V_{GEon}	=	**15 V**
V_{GEoff}	=	**-15 V**
R_{gon}	=	**16 Ω**
R_{goff}	=	**16 Ω**

Figure 1	IGBT

Typical average static loss as a function of output current
$P_{loss} = f(I_{out})$

T_j =   150   °C
Mi*cosfi from -1 to 1 in steps of 0,2

Figure 2	FRED

Typical average static loss as a function of output current
$P_{loss} = f(I_{out})$
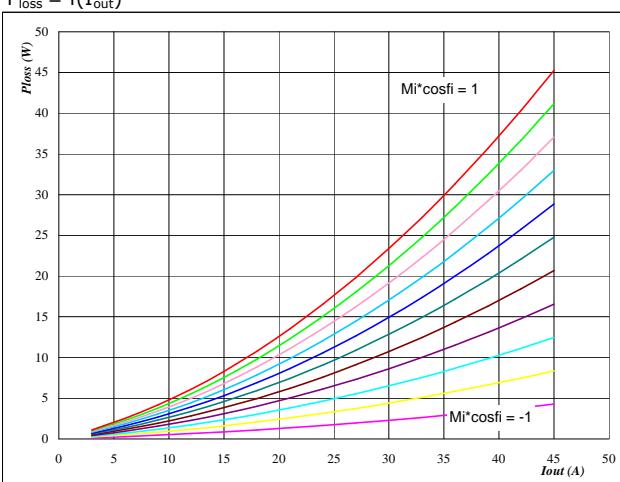
T_j =   150   °C
Mi*cosfi from -1 to 1 in steps of 0,2

Figure 3	IGBT

**Typical average switching loss
as a function of output current** $P_{loss} = f(I_{out})$
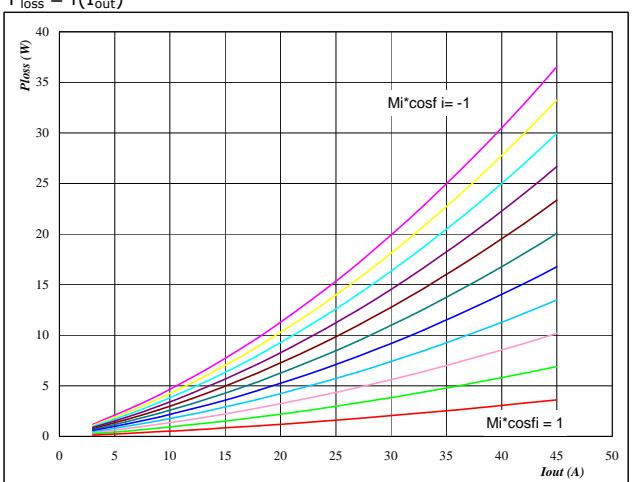
T_j =   150   °C
DC link = 320   V
f_{sw} from   2 kHz to 16 kHz in steps of factor 2

Figure 4	FRED

**Typical average switching loss
as a function of output current** $P_{loss} = f(I_{out})$
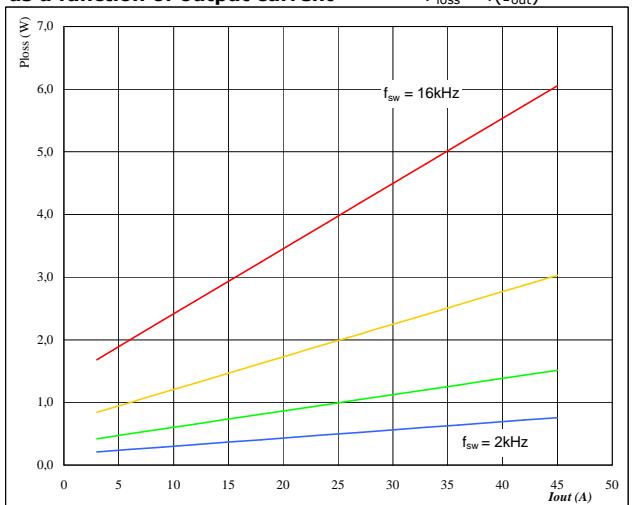
T_j =   150   °C
DC link = 320   V
f_{sw} from   2 kHz to 16 kHz in steps of factor 2

flowPACK 0 3rd gen   **Output Inverter Application**   **600V/30A**

Figure 5	Phase

**Typical available 50Hz output current
as a function Mi*cosfi** $I_{out} = f(Mi*cosfi)$
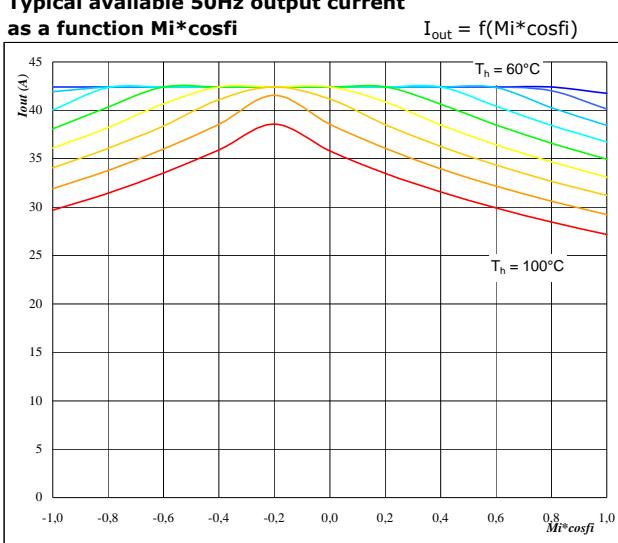
$T_j =$ 150 °C
DC link = 320 V
$f_{sw} =$ 16 kHz
T_h from 60 °C to 100 °C in steps of 5 °C

Figure 6	Phase

**Typical available 50Hz output current
as a function of switching frequency** $I_{out} = f(f_{sw})$

$T_j =$ 150 °C
DC link = 320 V
Mi*cosfi = 0,8
T_h from 60 °C to 100 °C in steps of 5 °C

Figure 7	Phase

**Typical available 50Hz output current as a function of
Mi*cosfi and switching frequency** $I_{out} = f(f_{sw}, Mi*cosfi)$

Iout (A)

- 39,0-42,0
- 36,0-39,0
- 33,0-36,0
- 30,0-33,0
- 27,0-30,0
- 24,0-27,0
- 21,0-24,0
- 18,0-21,0
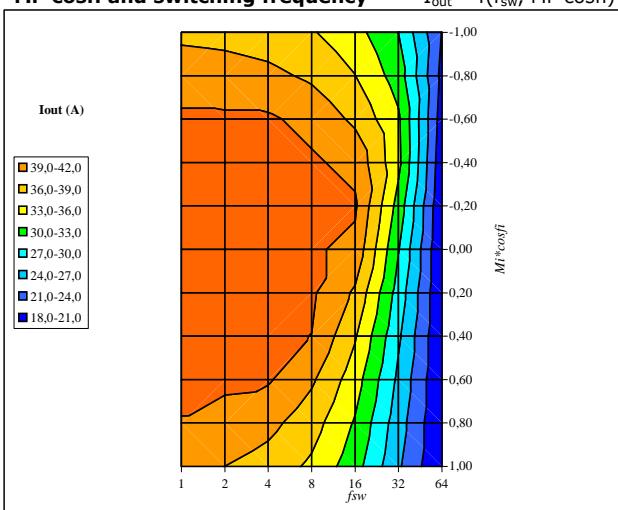
$T_j =$ 150 °C
DC link = 320 V
$T_h =$ 90 °C

Figure 8	Phase
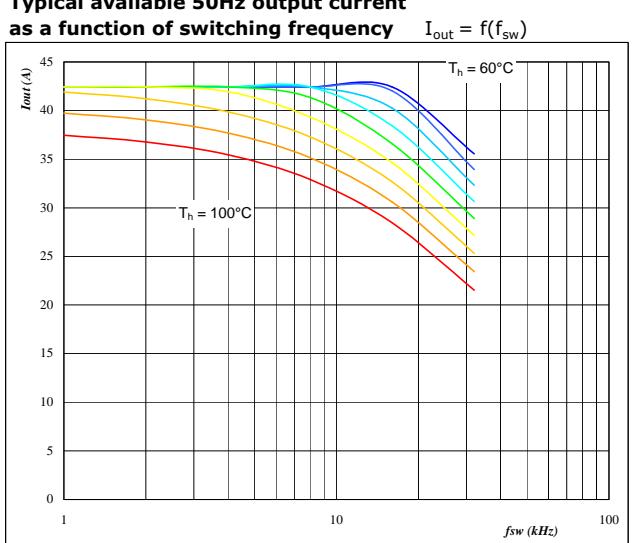
**Typical available 0Hz output current as a function
of switching frequency** $I_{outpeak} = f(f_{sw})$
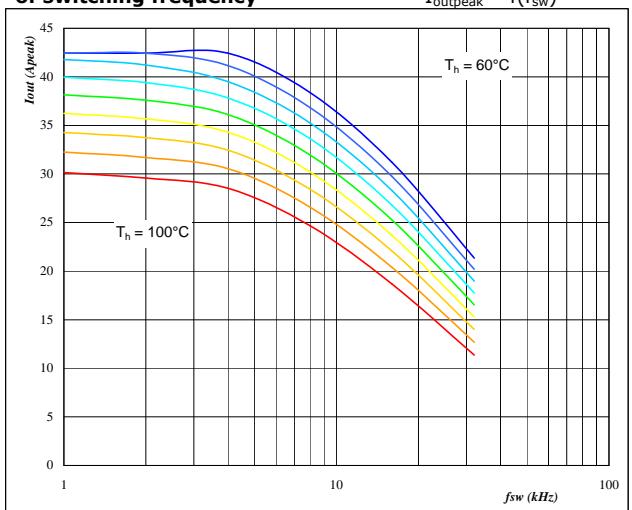
$T_j =$ 150 °C
DC link = 320 V
T_h from 60 °C to 100 °C in steps of 5 °C
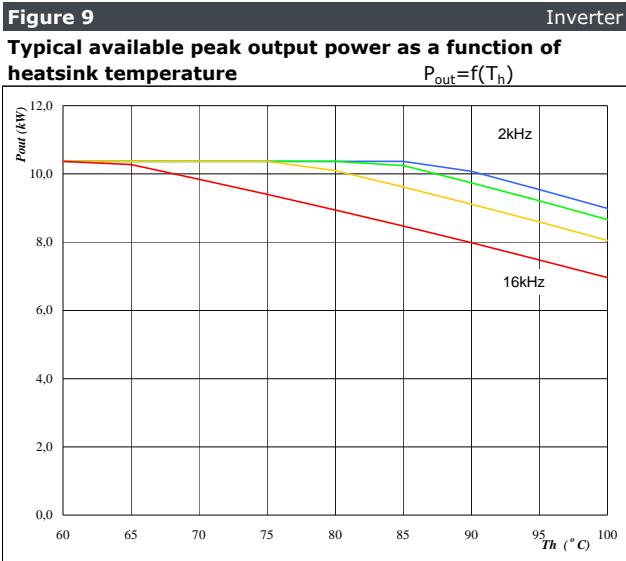
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Figure 9   Inverter

Typical available peak output power as a function of heatsink temperature $P_{out}=f(T_h)$

T_j =   150   °C
DC link = 320   V
Mi =   1
cosfi =   0,80
f_{sw} from   2 kHz to 16 kHz in 2 steps

Figure 10   Inverter

Typical efficiency as a function of output power
efficiency=$f(P_{out})$

T_j =   150   °C
DC link = 320   V
Mi =   1
cosfi =   0,80
f_{sw} from   2 kHz to 16 kHz in steps of factor 2

Figure 11   Inverter

Typical available overload factor as a function of motor power and switching frequency $P_{peak}/P_{nom}=f(P_{nom},f_{sw})$

Switching frequency (kHz)	3,00 / 2,21	5,00 / 3,68	7,50 / 5,52	10,00 / 7,36
1	395	237	158	118
2	388	233	155	116
4	375	225	150	113
8	351	211	140	0
16	308	185	123	0

Motor nominal power (HP/kW)
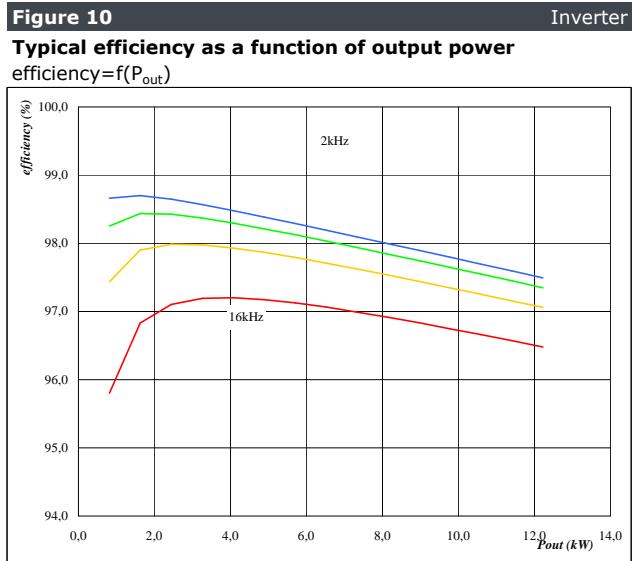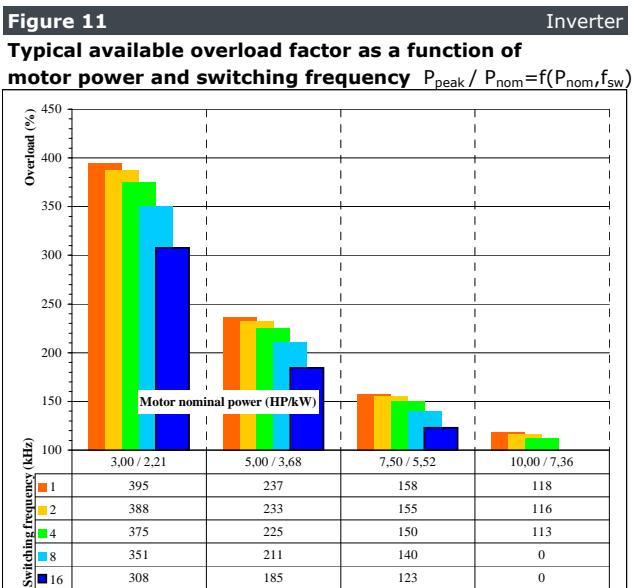
T_j =   150   °C
DC link = 320   V
Mi =   1
cosfi =   0,8
f_{sw} from   1 kHz to 16 kHz in 2 steps
T_h =   90   °C
Motor eff = 0,85