

Breaking capacity			
220 V 230 V		A	90
380 V 400 V AC		A	90
500 V		A	64
660 690 V AC		A	42
Short-circuit protection maximum fuse			
Type "2" coordination	gL/gG	A	10
Type "1" coordination	gL/gG	A	20

## AC

AC-1			
Rated operational current			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	22
at 50 °C	$I_{th} = I_e$	A	20
at 55 °C	$I_{th} = I_e$	A	19
enclosed	$I_{th}$	A	16
Notes			At maximum permissible ambient air temperature.
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	50
enclosed	$I_{th}$	A	40
Notes			At maximum permissible ambient air temperature.
AC-3			
Rated operational current			
offen, 3-polig, 50 - 60 Hz			
Notes			At maximum permissible ambient air temperature.
220 V 230 V	$I_e$	A	9
240 V	$I_e$	A	9
380 V 400 V	$I_e$	A	9
415 V	$I_e$	A	9
440V	$I_e$	A	9
500 V	$I_e$	A	6.4
660 V 690 V	$I_e$	A	4.8
Motor rating	P	kWh	
220 V 230 V	P	kW	2.2
240V	P	kW	2.5
380 V 400 V	P	kW	4
415 V	P	kW	4.3
440 V	P	kW	4
500 V	P	kW	4
660 V 690 V	P	kW	4
AC-4			
offen, 3-polig, 50 - 60 Hz			
Notes			At maximum permissible ambient air temperature.
230 V	$I_e$	A	6.6
240 V	$I_e$	A	6.6
400 V	$I_e$	A	6.6
415 V	$I_e$	A	6.6
440 V	$I_e$	A	6.6
500 V	$I_e$	A	5
690 V	$I_e$	A	3.4
Motor rating	P	kWh	
230 V	P	kW	1.5
240 V	P	kW	1.8

400 V	P	kW	3
415 V	P	kW	3.1
440 V	P	kW	3
500 V	P	kW	3
690 V	P	kW	3

## DC

Rated operational current, open	$I_e$		
DC - -1			
12 V	$I_e$	A	20
24 V	$I_e$	A	20
60 V	$I_e$	A	20
110 V	$I_e$	A	20
220 V	$I_e$	A	20
DC - 3			
12 V	$I_e$	A	8
24 V	$I_e$	A	8
60 V	$I_e$	A	4
110 V	$I_e$	A	3
DC - 5			
12 V	$I_e$	A	2.5
24 V	$I_e$	A	2.5
60 V	$I_e$	A	2.5
110 V	$I_e$	A	1.5
220 V	$I_e$	A	0.3
Current heat losses (3- or 4-pole)			
to $I_{th}$		W	3.5
at $I_e$ to AC-3/400 V		W	0.7

## Magnet systems

Voltage tolerance		$\times U_c$	
DC operated	Pick-up	$\times U_c$	0.8 - 1.1
Power consumption			
DC operation			
Power consumption Pick-up = Sealing		VA/ W	2.6
Notes			Smoothed DC voltage or three-phase bridge rectifier
Duty factor		% DF	100
Switching times at 100 % $U_c$			
Make contact		ms	
Closing delay		ms	
Closing delay min.		ms	26
Closing delay max.		ms	35
Opening delay		ms	
Opening delay min.		ms	15
Opening delay max.		ms	25
Closing delay with top mounting auxiliary contact		ms	max. 70
Reversing contactors			
Changeover time at 110 % $U_c$		ms	
Changeover time min.		ms	40
Changeover time max.		ms	50
Arcing time at 690 V AC		ms	max. 12

## Auxiliary contacts

Positive operating contacts to ZH 1/457, including auxiliary contact module			Yes
Rated impulse withstand voltage	$U_{imp}$	V AC	6000