

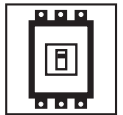
Air circuit breakers (ACBs)

Hager's ACBs conform to standards IEC/EN 60947-2 and to all major international standards and performance categories.

- easy terminal conversion horizontal - vertical
- many built in safety features
- easy inspection and maintenance facilities



Type				HWG	HWN	HWS	HWP
No. of poles				3/4			
Frame				1	2	3	
Rated uninterrupted current at	40°C	A		1000,1250	1250, 1600,2000	2000, 2500, 3200	3200, 4000
Rated operational voltage at	50/60Hz	U _e	V	690			
Rated insulation voltage at	50/60Hz	U _i	V	1000			
Rated impulse withstand voltage		U _{imp}	kV	12			
Utilization category				B			
Compliance				EN60947-2, IEC60947-2, GB14048-2			
Rated ultimate	400/415V - 50/60Hz	I _{cu}	KA	50	65	80	100
Short circuit	500/550V - 50/60Hz	I _{cu}	KA	42	55	70	85
Breaking capacity	660/690V - 50/60Hz	I _{cu}	KA	42	50	50	75
Rated service short circuit breaking capacity		I _{cs}	(% I _{cu})	100%	100%	100%	100%
Rated short time	0.5 Sec	I _{cw}	KA	50	65	80	100
Withstand	1.0 Sec	I _{cw}	KA	42	65	65	70
Capacity	3.0 Sec	I _{cw}	KA	25	26	35	50
Rated short	400/415V - 50/60Hz	I _{cw}	KA	105	143	176	220
Circuit making	500/550V - 50/60Hz	I _{cw}	KA	88	121	154	187
Capacity	660/690V - 50/60Hz	I _{cw}	KA	88	105	121	165
Opening time		N _t	ms	40	40	40	40
Closing time			ms	60	60	60	60
Overload	Current setting	I _r = I _n x...	A	0.4-0.5-0.6-0.7-0.75-0.8-0.85-0.9-0.95-1.0			
	Time delay	T _r at 6 x I _r	Sec	0.5-1-2-4-6-8-12-18-24-30			
Short-circuit	Current setting	I _s = I _n x...	A	0.6-1.0-1.5-2-3-4-6-8-9-10			
	Time delay, Ts OFF		ms	20-100-200-300-400			
	Time delay, Ts ON	10xI _n -I ² t	ms	20-100-200-300-400			
Instantaneous	Current setting	I _p = I _n x...	A	1.5-2-3-4-5-6-8-10-12-MAX			
Mechanical life			no. of cycles	20 000	20 000	15 000	10 000
Frequency of operation		Mechanical	cycles/hour	60			
Electrical life			no. of cycles	10 000	8 000	5 000	5 000
Frequency of operation		Electrical	cycles/hour	40	40	30	20
Pitch I/C - O/G			mm	105			
Pitch	Ph-Ph		mm	100	100	133.3	200
Terminal width			mm	80	80	100	165
Dimensions	Width 3 pole	Fixed	mm	347	347	447	647
	Width 4 pole		mm	447	447	581	847
	Depth		mm	355			
	Height		mm	430			
	Width 3 pole	Drawout	mm	347	347	347	647
	Width 4 pole		mm	447	447	447	847
	Depth		mm	418	421		
	Height		mm	433			
Weight	3 pole	Fixed	kg	39	39	59	86
	4 pole		kg	48	48	71	108
	3 pole	Drawout	kg	70	70	88	124
	4 pole		kg	84	84	106	160



Air circuit breakers (ACBs)

Air circuit breakers supplied standard with:

	fixed	draw-out
Auxilliary contacts (4NO + 4NC)	•	•
Panel door ingress seal (flange for compartment door)	•	•
Contact for closing spring loaded indication	•	•
Cradle of draw-out circuit breaker		•
Operation (racking) crank handle		•
Shroud for on/off buttons (padlockable)	•	•
Safety shutters (padlockable top and bottom)		•
LSI microprocessor protection and control unit (mechanical trip indication)	•	•

current setting $I_r = I_n \times \dots$	A	0.4-0.5-0.6-0.7-0.8-0.85-0.9-0.95-1.0
time delay at $6x I_r$	s	0.5-1-2-4-6-8-12-18-24-30
short circuit $I_s = I_n \times \dots$	A	0.6-1.0-1.5-2-3-4-6-8-9-10
time delay $T_s 10x I_n - I^2 t$	ms	20-100-200-300-400
instantaneous trip $I_p = I_n \times \dots$	A	1.5-2-3-4-5-6-8-10-12-MAX
LED indications		power on, overload, short-circuit, instantaneous, percentage load

(LSIG) control unit including earth fault protection available on request



HWP432C3



HWN320A3

new



HWP432A3



HWN320C3

type	breaking capacity kA rms 415V	description	frame	thermal adjustment	price
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Draw-out type air circuit breakers 3 pole (Supplied with cradle)

HWG310A3	50kA	3 pole air circuit breaker (draw-out)	1	400 - 1000A	
HWG312A3	50kA	3 pole air circuit breaker (draw-out)	1	500 - 1250A	
HWN312A3	65kA	3 pole air circuit breaker (draw-out)	1	500 - 1250A	
HWN316A3	65kA	3 pole air circuit breaker (draw-out)	1	640 - 1600A	
HWN320A3	65kA	3 pole air circuit breaker (draw-out)	1	800 - 2000A	
HWS320A3	80kA	3 pole air circuit breaker (draw-out)	2	800 - 2000A	
HWS325A3	80kA	3 pole air circuit breaker (draw-out)	2	1000 - 2500A	
HWS332A3	80kA	3 pole air circuit breaker (draw-out)	2	1280 - 3200A	
HWP340A3	100kA	3 pole air circuit breaker (draw-out)	3	1600 - 4000A	

Draw-out type air circuit breakers 4 pole (Supplied with cradle)

HWN416A3	65kA	4 pole air circuit breaker (draw-out)	1	640 - 1600A	
HWN420A3	65kA	4 pole air circuit breaker (draw-out)	1	800 - 2000A	
HWS425A3	80kA	4 pole air circuit breaker (draw-out)	2	1000 - 2500A	
HWS432A3	80kA	4 pole air circuit breaker (draw-out)	2	1280 - 3200A	
HWP440A3	100kA	4 pole air circuit breaker (draw-out)	3	1600 - 4000A	

Fixed type air circuit breakers 3 pole

HWG310C3	50kA	3 pole air circuit breaker (fixed type)	1	400 - 1000A	
HWG312C3	50kA	3 pole air circuit breaker (fixed type)	1	500 - 1250A	
HWN312C3	65kA	3 pole air circuit breaker (fixed type)	1	500 - 1250A	
HWN316C3	65kA	3 pole air circuit breaker (fixed type)	1	640 - 1600A	
HWN320C3	65kA	3 pole air circuit breaker (fixed type)	1	800 - 2000A	
HWS320C3	80kA	3 pole air circuit breaker (fixed type)	2	800 - 2000A	
HWS325C3	80kA	3 pole air circuit breaker (fixed type)	2	1000 - 2500A	
HWS332C3	80kA	3 pole air circuit breaker (fixed type)	2	1280 - 3200A	
HWP340C3	100kA	3 pole air circuit breaker (fixed type)	3	1600 - 4000A	

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