

3.1 Manufacturer Inspection Certificate

Delivery address

PRZEDSIĘBIORSTWO PRODUKCJI SPRĘŻAREK
"AIRPOL" SPÓŁKA Z OGRANICZONĄ
ODPOWIEDZIALNOŚCIĄ
ul. Nieszawska 15C
61-021 Poznań

Sales order

SODK-204382

Order account

CDK-001387

Date

25-03-2025

Ref. no.

Z20250935

Main Poland			
Serial number	DK1228490352	Classing society	,
Line no.	2.1	Headline 1	
Ext. item no.	ESI0474	Industrial certification	CE, UKCA

Motor specification			
Type name	HMC3 160L-2	Color	RAL 9005 / C3L
Mounting	B35	Explosion protection	No
Efficiency class	IE3	Rain cap	No
Poles	2	Cooling method	IC411
Ingress protection class	IP55	Thermal protection main	PTC 3 x 155°C
Thermal insulation class	F	Thermal protection secondary	None
Temperature rise	B	Anti-condensation heater	None
Electrical insulation	Standard (1350 V @ 0.8 μs)	Temperature detector (PT100)	No (windings)
Bearing type (DE)	DGBB / 6309 / C3 / Closed (2Z)	Temperature detector (PT100)	No (bearings)
Bearing type (NDE)	DGBB / 6309 / C3 / Closed (2Z)	Cable entry (main)	2x M40x1.5 N/A
IEC vibration class	A	Cable entry (accessory)	2x M20x1.5 N/A

Electrical data						
Rated power (kW)	18.5	18.5				
Frequency (Hz)	50	60				
Voltage - VD / VY	400 / 690	480 / 830				
Full load current - VD / VY (A)	31.9 / 18.4	27 / 15.6				
Speed (rpm)	2957	3548				
Power factor (100%)	0.91	0.91				
Efficiency 50% / 75% / 100%	91.4 / 92.5 / 92.4	89.5 / 90.5 / 91.7				
Ist/In	10.69	12.6				
Full load torque (Nm)	59.8	49.8				
Tst/Tn	3.22	3.87				
Tmax/Tn	4.32	5.19				
Duty	S1	S1				
Ambient temp. (°C)	40	40				
Rotor inertia	0.082	0				
Sound pressure level (dBA)	70.9	76				
Winding resist. (ohm)	0.337	0.3366				
Temp. rise winding (K)	58.9	0				
Temp. rise surface (K)	38.6	0				

Based on the routine(RT) and type test report (TTR). Hoyer confirms that motors fulfills following requirements acc. To Standard IEC60034-1

High voltage dielectric test	Motor suitable to withstand (1000V + (2xUn)) for 60 seconds	RT
Insulation resistance measurement	Cold insulation of stator winding is above 30 Megaohm	RT
No load test	No load current value is within 10% of the mean value	RT
Winding resistance measurement	Difference between 3-phase resistance value is within 5% of mean values	RT
Over load test(160% for 120 seconds)	Motor suitable to withstand 1.6x rated torque running for 120 seconds	TTR
Over speed test(120% for 120 seconds)	Motor suitable to withstand 1,2x speed motor running for 120 seconds	TTR

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Date

25-03-2025

Ref. no.

Z20250935

Main Poland			
Serial number	DK1228490356	Classing society	,
Line no.	2.1	Headline 1	
Ext. item no.	ESI0474	Industrial certification	CE, UKCA

Motor specification			
Type name	HMC3 160L-2	Color	RAL 9005 / C3L
Mounting	B35	Explosion protection	No
Efficiency class	IE3	Rain cap	No
Poles	2	Cooling method	IC411
Ingress protection class	IP55	Thermal protection main	PTC 3 x 155°C
Thermal insulation class	F	Thermal protection secondary	None
Temperature rise	B	Anti-condensation heater	None
Electrical insulation	Standard (1350 V @ 0.8 μs)	Temperature detector (PT100)	No (windings)
Bearing type (DE)	DGBB / 6309 / C3 / Closed (2Z)	Temperature detector (PT100)	No (bearings)
Bearing type (NDE)	DGBB / 6309 / C3 / Closed (2Z)	Cable entry (main)	2x M40x1.5 N/A
IEC vibration class	A	Cable entry (accessory)	2x M20x1.5 N/A

Electrical data					
Rated power (kW)	18.5	18.5			
Frequency (Hz)	50	60			
Voltage - VD / VY	400 / 690	480 / 830			
Full load current - VD / VY (A)	31.9 / 18.4	27 / 15.6			
Speed (rpm)	2957	3548			
Power factor (100%)	0.91	0.91			
Efficiency 50% / 75% / 100%	91.4 / 92.5 / 92.4	89.5 / 90.5 / 91.7			
Ist/In	10.69	12.6			
Full load torque (Nm)	59.8	49.8			
Tst/Tn	3.22	3.87			
Tmax/Tn	4.32	5.19			
Duty	S1	S1			
Ambient temp. (°C)	40	40			
Rotor inertia	0.082	0			
Sound pressure level (dBA)	70.9	76			
Winding resist. (ohm)	0.337	0.3366			
Temp. rise winding (K)	58.9	0			
Temp. rise surface (K)	38.6	0			

Based on the routine(RT) and type test report (TTR). Hoyer confirms that motors fulfills following requirements acc. To Standard IEC60034-1

High voltage dielectric test	Motor suitable to withstand (1000V + (2xUn)) for 60 seconds	RT
Insulation resistance measurement	Cold insulation of stator winding is above 30 Megaohm	RT
No load test	No load current value is within 10% of the mean value	RT
Winding resistance measurement	Difference between 3-phase resistance value is within 5% of mean values	RT
Over load test(160% for 120 seconds)	Motor suitable to withstand 1.6x rated torque running for 120 seconds	TTR
Over speed test(120% for 120 seconds)	Motor suitable to withstand 1,2x speed motor running for 120 seconds	TTR

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Ref. no.

Z20250935

Main Poland			
Serial number	DK1128212439	Classing society	,
Line no.	2.1	Headline 1	
Ext. item no.	ESI0474	Industrial certification	CE, UKCA

Motor specification			
Type name	HMC3 160L-2	Color	RAL 9005 / C3L
Mounting	B35	Explosion protection	No
Efficiency class	IE3	Rain cap	No
Poles	2	Cooling method	IC411
Ingress protection class	IP55	Thermal protection main	PTC 3 x 155°C
Thermal insulation class	F	Thermal protection secondary	None
Temperature rise	B	Anti-condensation heater	None
Electrical insulation	Standard (1350 V @ 0.8 μs)	Temperature detector (PT100)	No (windings)
Bearing type (DE)	DGBB / 6309 / C3 / Closed (2Z)	Temperature detector (PT100)	No (bearings)
Bearing type (NDE)	DGBB / 6309 / C3 / Closed (2Z)	Cable entry (main)	2x M40x1.5 N/A
IEC vibration class	A	Cable entry (accessory)	2x M20x1.5 N/A

Electrical data						
Rated power (kW)	18.5	18.5				
Frequency (Hz)	50	60				
Voltage - VD / VY	400 / 690	480 / 830				
Full load current - VD / VY (A)	31.9 / 18.4	27 / 15.6				
Speed (rpm)	2957	3548				
Power factor (100%)	0.91	0.91				
Efficiency 50% / 75% / 100%	91.4 / 92.5 / 92.4	89.5 / 90.5 / 91.7				
Ist/In	10.69	12.6				
Full load torque (Nm)	59.8	49.8				
Tst/Tn	3.22	3.87				
Tmax/Tn	4.32	5.19				
Duty	S1	S1				
Ambient temp. (°C)	40	40				
Rotor inertia	0.082	0				
Sound pressure level (dBA)	70.9	76				
Winding resist. (ohm)	0.337	0.3366				
Temp. rise winding (K)	58.9	0				
Temp. rise surface (K)	38.6	0				

Based on the routine(RT) and type test report (TTR). Hoyer confirms that motors fulfills following requirements acc. To Standard IEC60034-1

High voltage dielectric test	Motor suitable to withstand (1000V + (2xUn)) for 60 seconds	RT
Insulation resistance measurement	Cold insulation of stator winding is above 30 Megaohm	RT
No load test	No load current value is within 10% of the mean value	RT
Winding resistance measurement	Difference between 3-phase resistance value is within 5% of mean values	RT
Over load test(160% for 120 seconds)	Motor suitable to withstand 1.6x rated torque running for 120 seconds	TTR
Over speed test(120% for 120 seconds)	Motor suitable to withstand 1,2x speed motor running for 120 seconds	TTR

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Order account

CDK-001387

Date

25-03-2025

Ref. no.

Z20250935

Main Poland			
Serial number	DK1128212436	Classing society	,
Line no.	2.1	Headline 1	
Ext. item no.	ESI0474	Industrial certification	CE, UKCA

Motor specification			
Type name	HMC3 160L-2	Color	RAL 9005 / C3L
Mounting	B35	Explosion protection	No
Efficiency class	IE3	Rain cap	No
Poles	2	Cooling method	IC411
Ingress protection class	IP55	Thermal protection main	PTC 3 x 155°C
Thermal insulation class	F	Thermal protection secondary	None
Temperature rise	B	Anti-condensation heater	None
Electrical insulation	Standard (1350 V @ 0.8 μs)	Temperature detector (PT100)	No (windings)
Bearing type (DE)	DGBB / 6309 / C3 / Closed (2Z)	Temperature detector (PT100)	No (bearings)
Bearing type (NDE)	DGBB / 6309 / C3 / Closed (2Z)	Cable entry (main)	2x M40x1.5 N/A
IEC vibration class	A	Cable entry (accessory)	2x M20x1.5 N/A

Electrical data						
Rated power (kW)	18.5	18.5				
Frequency (Hz)	50	60				
Voltage - VD / VY	400 / 690	480 / 830				
Full load current - VD / VY (A)	31.9 / 18.4	27 / 15.6				
Speed (rpm)	2957	3548				
Power factor (100%)	0.91	0.91				
Efficiency 50% / 75% / 100%	91.4 / 92.5 / 92.4	89.5 / 90.5 / 91.7				
Ist/In	10.69	12.6				
Full load torque (Nm)	59.8	49.8				
Tst/Tn	3.22	3.87				
Tmax/Tn	4.32	5.19				
Duty	S1	S1				
Ambient temp. (°C)	40	40				
Rotor inertia	0.082	0				
Sound pressure level (dBA)	70.9	76				
Winding resist. (ohm)	0.337	0.3366				
Temp. rise winding (K)	58.9	0				
Temp. rise surface (K)	38.6	0				

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High voltage dielectric test	Motor suitable to withstand (1000V + (2xUn)) for 60 seconds	RT
Insulation resistance measurement	Cold insulation of stator winding is above 30 Megaohm	RT
No load test	No load current value is within 10% of the mean value	RT
Winding resistance measurement	Difference between 3-phase resistance value is within 5% of mean values	RT
Over load test(160% for 120 seconds)	Motor suitable to withstand 1.6x rated torque running for 120 seconds	TTR
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Z20250935

Main Poland			
Serial number	DK1228490355	Classing society	,
Line no.	2.1	Headline 1	
Ext. item no.	ESI0474	Industrial certification	CE, UKCA

Motor specification			
Type name	HMC3 160L-2	Color	RAL 9005 / C3L
Mounting	B35	Explosion protection	No
Efficiency class	IE3	Rain cap	No
Poles	2	Cooling method	IC411
Ingress protection class	IP55	Thermal protection main	PTC 3 x 155°C
Thermal insulation class	F	Thermal protection secondary	None
Temperature rise	B	Anti-condensation heater	None
Electrical insulation	Standard (1350 V @ 0.8 μs)	Temperature detector (PT100)	No (windings)
Bearing type (DE)	DGBB / 6309 / C3 / Closed (2Z)	Temperature detector (PT100)	No (bearings)
Bearing type (NDE)	DGBB / 6309 / C3 / Closed (2Z)	Cable entry (main)	2x M40x1.5 N/A
IEC vibration class	A	Cable entry (accessory)	2x M20x1.5 N/A

Electrical data						
Rated power (kW)	18.5	18.5				
Frequency (Hz)	50	60				
Voltage - VD / VY	400 / 690	480 / 830				
Full load current - VD / VY (A)	31.9 / 18.4	27 / 15.6				
Speed (rpm)	2957	3548				
Power factor (100%)	0.91	0.91				
Efficiency 50% / 75% / 100%	91.4 / 92.5 / 92.4	89.5 / 90.5 / 91.7				
Ist/In	10.69	12.6				
Full load torque (Nm)	59.8	49.8				
Tst/Tn	3.22	3.87				
Tmax/Tn	4.32	5.19				
Duty	S1	S1				
Ambient temp. (°C)	40	40				
Rotor inertia	0.082	0				
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High voltage dielectric test	Motor suitable to withstand (1000V + (2xUn)) for 60 seconds	RT
Insulation resistance measurement	Cold insulation of stator winding is above 30 Megaohm	RT
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Main			
Serial number	DK1228490354	Classing society	
Line no.	2.1	Headline 1	
Ext. item no.	ESI0474	Industrial certification	CE, UKCA

Motor specification			
Type name	HMC3 160L-2	Color	RAL 9005 / C3L
Mounting	B35	Explosion protection	No
Efficiency class	IE3	Rain cap	No
Poles	2	Cooling method	IC411
Ingress protection class	IP55	Thermal protection main	PTC 3 x 155°C
Thermal insulation class	F	Thermal protection secondary	None
Temperature rise	B	Anti-condensation heater	None
Electrical insulation	Standard (1350 V @ 0.8 μs)	Temperature detector (PT100)	No (windings)
Bearing type (DE)	DGBB / 6309 / C3 / Closed (2Z)	Temperature detector (PT100)	No (bearings)
Bearing type (NDE)	DGBB / 6309 / C3 / Closed (2Z)	Cable entry (main)	2x M40x1.5 N/A
IEC vibration class	A	Cable entry (accessory)	2x M20x1.5 N/A

Electrical data					
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