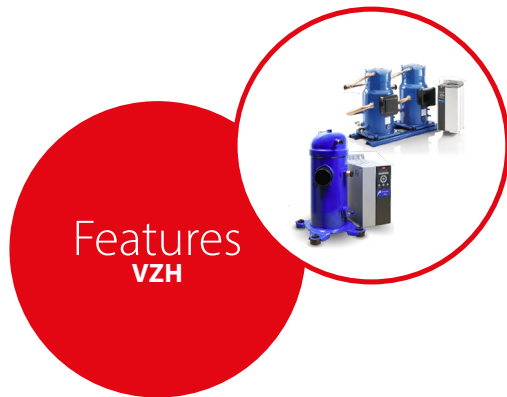


# VZH, Inverter scroll compressor - R410A

Danfoss inverter scroll compressor VZH is the second generation of scroll compressors offering variable speed technology for commercial applications in air conditioning. It allows OEMs to stand out in the commercial HVAC and process cooling marketplaces from 4 – 52 TR (15 – 184 kW) and to exceed the upgraded energy level requirements.

It provides a stepless modulation from  
 VZH088 / 117 / 170: 25 – 100 rps (1500 – 6000 rpm)  
 VZH052 / 065: 16.7 – 110 rps (1000 – 6600 rpm)  
 VZH028 / 035 / 044: 15 – 100 rps (900 – 6000 rpm)  
 depending on the model.

The compressors comes with a pre-qualified drive for a shorter time to market and increased reliability.



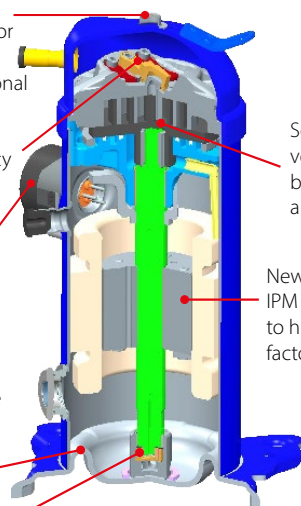
Discharge sensor (dome sensor) for high discharge temperature / reverse rotation / loss of charge monitoring, sensor is fitted into top bracket. Discharge sensor is optional

Intermediate discharge valves for better efficiency at low pressure-ratio

EMC (Electro-Magnetic Compatibility) bracket provided allows for grounding termination of shielded wire-harness, which reduces EMC emissions between drive and compressor

PVE 32 lubricant

Linear control oil pump



VZH 028-044

Lead free polymer bearing with excellent performance under diverse loads and speeds

Oil injection control optimizes the oil circulation

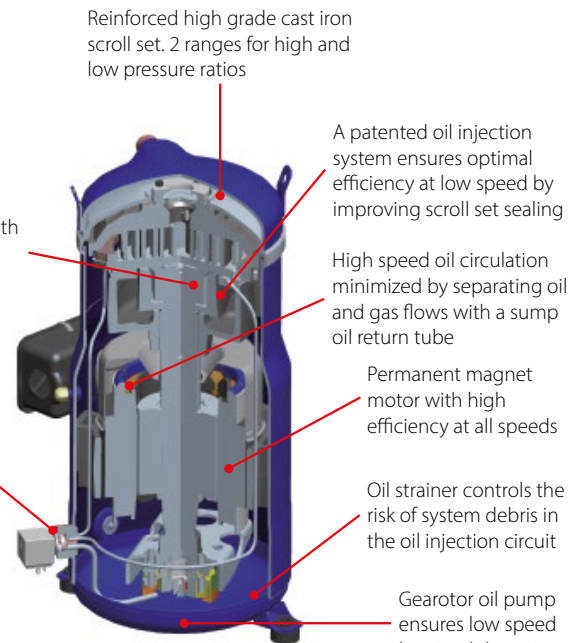
Scrolls with optimized volume ratio lead to better heat pump application

New distributed IPM motor lead to higher power factor

EMC (Electro-Magnetic Compatibility) bracket provided allows for grounding termination of shielded wire-harness, which reduces EMC emissions between drive and compressor

New designed oil cup to minimize oil stirring loss under high liquid level

PVE 32 lubricant ensures better lubrication and efficiency



VZH 088-170

Reinforced high grade cast iron scroll set. 2 ranges for high and low pressure ratios

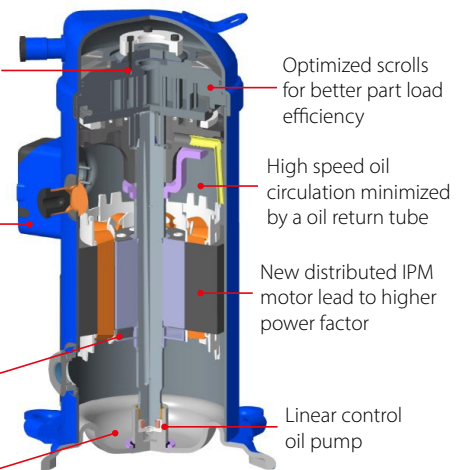
A patented oil injection system ensures optimal efficiency at low speed by improving scroll set sealing

High speed oil circulation minimized by separating oil and gas flows with a sump oil return tube

Permanent magnet motor with high efficiency at all speeds

Oil strainer controls the risk of system debris in the oil injection circuit

Gearotor oil pump ensures low speed bearing lubrication



VZH052-065

Optimized scrolls for better part load efficiency

High speed oil circulation minimized by a oil return tube

New distributed IPM motor lead to higher power factor

Linear control oil pump

## Facts

Applications:

- Packaged air conditioning
- Rooftops
- Chillers
- Close controls
- Heat pumps
- Data centers

- Capacity modulation: adapts motor speed to varying load continuously, quickly and smoothly for great comfort and reliability  
 VZH028-044: 15 – 100 rps (900 – 6000 rpm)  
 VZH052-065: 16.7 – 110 rps (1000 – 6600 rpm)  
 VZH088-170: 25 – 100 rps (1500 – 6000 rpm)
- Tight temperature control  $\pm 0.3$  °C
- Pre-qualified compressor and drive package
- Motor's protection is managed by the driver
- Low in rush current

- Advanced energy efficiency cuts the electric bill and easily meets the energy standards
- Improves comfort and process reliability, greater humidity control
- Lowers noise level during part-load operations
- Faster time to market, saves time on development and enhances overall system reliability
- Reduces the size of power back up systems needed
- Reduces installation costs with elimination of components

## Technical data and ordering

### VZH028-044 - Inverter scroll compressor

#### Compressors specifications

Compressor model	Swept volume [cm <sup>3</sup> /rev]	Displacement				Oil charge [l]	Net weight [kg]
		15 rps [m <sup>3</sup> /h]	50 rps [m <sup>3</sup> /h]	60 rps [m <sup>3</sup> /h]	100 rps [m <sup>3</sup> /h]		
VZH028	27.8	1.5	5.0	6.0	10.0	1.1	26
VZH035	34.9	1.9	6.3	7.5	12.6	1.3	27
VZH044	44.5	2.4	8.0	9.6	16.0	1.3	27

### VZH052-065 - Inverter scroll compressor

#### Compressors specifications

Compressor model	Swept volume [cm <sup>3</sup> /rev]	Displacement				Oil charge [l]	Net weight [kg]
		1000 rpm [m <sup>3</sup> /h]	3000 rpm [m <sup>3</sup> /h]	3600 rpm [m <sup>3</sup> /h]	6600 rpm [m <sup>3</sup> /h]		
VZH052	52.1	3.1	9.4	11.3	20.6	1.57	35
VZH065	65.1	3.9	11.7	14.1	25.8	1.57	35

#### Frequency converter specifications

Mains supply voltage	T2: 200 – 240 V ± 10% (3-phase), T4: 380 – 480 V ± 10% (3-phase), T6: 525 – 600 V ± 10% (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Inputs	4 digital (0 – 24 V), 2 analog (0 / ± 10V or 4 – 20 mA, scalable)
Programmable outputs	2 digital (0 – 24 V), 2 analog (0 – 24 V), 2 relay
Protection functions	Over-current protection, low / high current handling
Compressor functions	Pressostat / thermostat function, short cycle protection, oil return management

### VZH 028-065 - Single pack

#### Ordering

Compressor model	Equipment version	G 380-480 V/3ph/50&60 Hz		J 200-240 V/3ph/50&60 Hz		H 525-600 V/3ph/50&60 Hz	
		Compressor Name	Code no.	Compressor name	Code no.	Compressor name	Code no.
VZH028	OSG	VZH028CGANA	120G0061	VZH028CJANA	120G0064	VZH028CHANA	120G0123
VZH035	OSG	VZH035CGANA	120G0060	VZH035CJANA	120G0063	VZH035CHANA	120G0124
	OLS	VZH035CGBNA	120G0073	VZH035CJBNA	120G0076	–	–
VZH044	OSG	VZH044CGANA	120G0059	VZH044CJANA	120G0062	VZH044CHANA	120G0125
	OLS	VZH044CGBNA	120G0072	VZH044CJBNA	120G0075	–	–
VZH052	Single	VZH052CGANB/M	120G0149	VZH052CJANB/M	120G0155	VZH052CHANB/M	120G0147
VZH065	Single	VZH065CGANB/M	120G0152	VZH065CJANB/M	120G0153	VZH065CHANB/M	120G0150

### VZH 028-065 - Industrial pack

#### Ordering

Compressor model	Equipment version	G 380-480 V/3ph/50&60 Hz		J 200-240 V/3ph/50&60 Hz		H 525-600 V/3ph/50&60 Hz	
		Compressor Name	Code no.	Compressor name	Code no.	Compressor name	Code no.
VZH028	OSG	VZH028CGANA/I	120G0138	VZH028CJANA/I	120G0135	VZH028CHANA/I	120G0129
VZH035	OSG	VZH035CGANA/I	120G0139	VZH035CJANA/I	120G0136	VZH035CHANA/I	120G0130
VZH044	OSG	VZH044CGANA/I	120G0140	VZH044CJANA/I	120G0137	VZH044CHANA/I	120G0131
VZH052	Single	VZH052CGANB/I	120G0143	VZH052CJANB/I	120G0142	VZH052CHANB/I	120G0141
VZH065	Single	VZH065CGANB/I	120G0146	VZH065CJANB/I	120G0145	VZH065CHANB/I	120G0144

# Technical data and ordering

## VZH 028-044 - Frequency converter - Single pack

### Ordering

Compressor model	CDS803 drive		
	Voltage	Description	Code no.
VZH028	T2 200-240 V/3ph/50&60 Hz	CDS803P6K0T2E20H4	134N4260
VZH035		CDS803P7K5T2E20H4	134N4261
VZH044		CDS803P10 KT2E20H4	134L9470
VZH028	T4 380-480 V/3ph/50&60 Hz	CDS803P6K0T4E20H4	134N4262
VZH035		CDS803P7K5T4E20H4	134N4263
VZH044		CDS803P10 KT4E20H4	134L9473

LCP: user interface 120Z0581 (accessory)

## VZH 028-044 - Frequency converter - Industrial pack

### Ordering

Compressor model	CDS803 drive		
	Voltage	Description	Code no.
VZH028	T6 525-600 V/3ph/50&60 Hz	CDS303P7K5T6E20HX	134X8358
VZH035		CDS303P11KT6E20HX	135N3582
VZH044		CDS303P11KT6E20HX	135N3582

LCP: user interface 120Z0581 (accessory)

## VZH 052-065 - Frequency converter

### Ordering

Compressor model	CDS803 drive					
	Voltage	Model & power	IP class	RFI class	Drive name	Code no.
VZH052/ VZH065	T2 200-240 V/3ph/50&60 Hz	CDS303 11kW	IP20	H2	CDS303P11KT2E20H2	135X3360
			IP20	H3	CDS303P11KT2E20H3	135X3371
			IP55	H2	CDS303P11KT2P55H2	135X3361
			IP55	H3	CDS303P11KT2P55H3	135X3372
VZH052	T4 380-480 V/3ph/50&60 Hz	CDS303 11kW	IP20	H2	CDS303P11KT4E20H2	135X3298
			IP20	H3	CDS303P11KT4E20H3	135X3373
			IP55	H2	CDS303P11KT4P55H2	135X3362
			IP55	H3	CDS303P11KT4P55H3	135X3375
VZH065	T4 380-480 V/3ph/50&60 Hz	CDS303 15kW	IP20	H2	CDS303P15KT4E20H2	135X1998
			IP20	H3	CDS303P15KT4E20H3	135X3379
			IP55	H2	CDS303P15KT4P55H2	135X3369
VZH052	T6 525-600 V/3ph/50&60 Hz	CDS303 15kW	IP55	H3	CDS303P15KT4P55H3	135X3380
			IP20	HX	CDS303P15KT6E20HX	135X3543
				HX	CDS303P15KT6P55HX	135X4863
VZH065	T6 525-600 V/3ph/50&60 Hz	CDS303 22kW	IP20	HX	CDS303P22KT6E20HX	135X3560
			IP55	HX	CDS303P22KT6P55HX	135X3559

LCP: user interface 120Z0581 (accessory)

## Technical data and ordering

### VZH 088-170 - Inverter scroll compressor

#### Compressor specifications

Type	Swept volume [cm <sup>3</sup> /rev]	Displacement				Oil charge [dm <sup>3</sup> ]	Net weight [kg]
		25 rps [m <sup>3</sup> /h]	50 rps [m <sup>3</sup> /h]	60 rps [m <sup>3</sup> /h]	100 rps [m <sup>3</sup> /h]		
VZH088	88.4	7.7	15.4	18.6	30.8	3.3	55
VZH117	116.9	10.1	20.3	24.6	40.6	3.6	61
VZH170	170.2	14.8	29.6	35.7	54.2	6.7	112

#### Frequency converter specifications

Mains supply voltage	T2: 200 – 240 V ± 10% (3-phase), T4: 380 – 480 V ± 10% (3-phase), T6: 525 – 600 V ± 10% (3-phase)
Supply frequency	50 / 60 Hz
Output voltage	0 – 100% of supply voltage
Inputs	6 digital (0 – 24 V), 2 analogue (0 ± 10 V or 4 – 20 mA, scalable)
Programmable outputs	2 digital (0 – 24 V), 1 analogue (0 – 24 V), 2 relay
Protection functions	Over-current protection, low / high current handling
Compressor functions	Discharge gas temperature protection, pressostat/thermostat function, short cycle protection, oil return management

### VZH 088-170 - Inverter scroll compressor - Single pack

#### Ordering

Compressor model	Pressure ratio	Equipment version	Technical name	X= motor code		
				G 380-480 V/3ph/ 50&60 Hz	J 200-240 V/3ph/ 50&60 Hz	H 525-600 V/3ph/ 50&60 Hz
VZH088	High	Single	VZH088AXANA	120G0010	120G0012	120G0047
	Low	Single	VZH088BXANA	120G0011	120G0013	120G0049
	High	Manifold	VZH088AXBNA	120G0022	120G0024	120G0048
	Low	Manifold	VZH088BxBNA	120G0023	120G0025	120G0050
VZH117	High	Single	VZH117AXANA	120G0014	120G0016	120G0051
	Low	Single	VZH117BXANA	120G0015	120G0017	120G0053
	High	Manifold	VZH117AXBNA	120G0026	120G0028	120G0052
	Low	Manifold	VZH117BxBNA	120G0027	120G0029	120G0054
VZH170	High	Single	VZH170AXANB	120G0018	120G0020	120G0055
	Low	Single	VZH170BXANB	120G0019	120G0021	120G0057
	High	Manifold	VZH170AXBNB	120G0030	120G0032	120G0056
	Low	Manifold	VZH170BxBNB	120G0031	120G0033	120G0058

### VZH 088-170 - Inverter scroll compressor - Industrial pack

#### Ordering

Compressor model	Technical name	X= motor code	
		Code G	Code J
VZH088	VZH088AXANA	120G0078	120G0080
	VZH088BXANA	120G0079	120G0081
	VZH088AXBNA	120G0090	120G0092
	VZH088BxBNA	120G0091	120G0093
VZH117	VZH117AXANA	120G0082	120G0084
	VZH117BXANA	120G0083	120G0085
	VZH117AXBNA	120G0094	120G0096
	VZH117BxBNA	120G0095	120G0097
VZH170	VZH170AXANB	120G0086	120G0088
	VZH170BXANB	120G0087	120G0089
	VZH170AXBNB	120G0098	120G0100
	VZH170BxBNB	120G0099	120G0101

### Coils

#### Ordering

Coil model	Code no.
208V-240 V coil + adaptor	120Z0521
24V coil + adaptor	120Z0522

# Technical data and ordering

## VZH voltage code G - 380-480 Volt

### Ordering

Compressor model	Frequency converter				
	Model & power	IP class	RFI class	Coating	Code no
VZH088-G	CDS303 15.0 KW	IP20	H3	No	134G3576
	CDS303 15.0 KW			Yes	134G3577
	CDS303 15.0 KW		H2	No	134F9366
	CDS303 15.0 KW	IP55	H3	Yes	134G3578
	CDS303 15.0 KW			No	134G4008
	CDS303 15.0 KW		H2	Yes	134G4010
	CDS303 15.0 KW		No	134G4012	
	CDS303 15.0 KW		H3	Yes	134G4013
	CDS303 15.0 KW		No	134G3579	
VZH117-G	CDS303 18.5kW	IP20	H3	Yes	134G3580
	CDS303 18.5kW			No	134F9368
	CDS303 18.5kW		H2	Yes	134G3581
	CDS303 18.5kW	IP55	H3	No	134G4015
	CDS303 18.5kW			Yes	134G4016
	CDS303 18.5kW		H2	No	134G4018
	CDS303 18.5kW		Yes	134G4019	
	CDS303 18.5kW		H3	No	134G3582
	CDS303 18.5kW		Yes	134G3583	
VZH170-G	CDS303 22.0 KW	IP20	H2	No	134F9371
	CDS303 22.0 KW			Yes	134G3584
	CDS303 22.0 KW	IP55	H3	No	134G4020
	CDS303 22.0 KW			Yes	134G4021
	CDS303 22.0 KW		H2	No	134G4022
	CDS303 22.0 KW			Yes	134G4023

LCP: user interface 120Z0326 (accessory)

## VZH voltage code H - 525-600 Volt

### Ordering

Compressor model	Frequency converter			
	Model & power	IP class	RFI class	Code no
VZH088-H	CDS303 18.5kW	IP20	HX	134L7237
VZH117-H	CDS303 30 KW	IP20	HX	134L7239
VZH170-H	CDS303 30 KW	IP20	HX	134L7239

# Technical data and ordering

## VZH - Inverter scroll compressor - VZH028CJ-VZH035CJ-VZH044CJ-VZH052CJ-VZH065CJ

EN12900

Type	[rpm]	[rps]	Te		-30		-25		-20		-15		-10		-5		0		5		10		15		20				
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe		
VZH028CJ	1800	30	5	-	-	1791	0.54	2252	0.519	2798	0.499	3437	0.479	4177	0.46	5027	0.442	-	-	-	-	-	-	-	-	-	-	-	
			25	-	-	1460	0.812	1873	0.804	2351	0.79	2905	0.771	3541	0.747	4269	0.717	5096	0.682	6031	0.643	7081	0.599	8257	0.55	-	-	-	-
			45	-	-	-	-	-	-	1805	1.198	2256	1.218	2772	1.227	3359	1.224	4027	1.21	4783	1.185	5636	1.149	6593	1.103	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	60	5	3009	1.04	3787	1.056	4725	1.042	5840	0.984	7151	0.869	8676	0.68	10435	0.403	-	-	-	-	-	-	-	-	-	-	-	-
			25	2371	1.492	3054	1.527	3863	1.572	4817	1.613	5934	1.634	7232	1.622	8730	1.56	10445	1.436	12396	1.234	14602	0.94	17081	0.539	-	-	-	-
			45	-	-	2284	2.296	2937	2.292	3702	2.323	4597	2.375	5638	2.431	6845	2.479	8235	2.502	9825	2.487	11634	2.419	13680	2.283	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	3761	3.567	4622	3.615	5626	3.68	6789	3.744	8128	3.795	9660	3.818	-	-	-
	6000	100	5	5025	1.96	6302	2.006	7834	1.996	9651	1.917	11784	1.756	14263	1.499	17119	1.131	-	-	-	-	-	-	-	-	-	-	-	-
			25	4004	2.64	5147	2.772	6495	2.887	8075	2.972	9920	3.012	12058	2.994	14520	2.905	17336	2.73	20536	2.456	24150	2.068	28209	1.555	-	-	-	-
			45	-	-	3860	3.845	4978	3.968	6278	4.1	7789	4.225	9540	4.331	11560	4.403	13879	4.429	16527	4.393	19532	4.283	22923	4.084	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	6426	6.069	7912	6.187	9633	6.296	11616	6.383	13888	6.433	16477	6.434	-	-	-
VZH035CJ	1800	30	5	-	-	2268	0.658	2851	0.633	3542	0.608	4350	0.584	5287	0.561	6363	0.539	-	-	-	-	-	-	-	-	-	-	-	
			25	-	-	1848	0.99	2370	0.98	2977	0.964	3677	0.94	4483	0.91	5403	0.874	6450	0.832	7634	0.784	8964	0.73	10452	0.67	-	-	-	-
			45	-	-	-	-	-	-	2284	1.461	2856	1.485	3508	1.496	4252	1.492	5098	1.475	6055	1.445	7134	1.401	8346	1.345	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	60	5	3808	1.268	4794	1.287	5981	1.27	7392	1.2	9052	1.059	10983	0.829	13209	0.491	-	-	-	-	-	-	-	-	-	-	-	-
			25	3002	1.82	3866	1.862	4890	1.917	6098	1.966	7512	1.992	9155	1.977	11050	1.903	13222	1.751	15692	1.505	18484	1.146	21622	0.657	-	-	-	-
			45	-	-	2891	2.799	3718	2.795	4687	2.833	5819	2.895	7137	2.965	8665	3.022	10424	3.051	12437	3.033	14727	2.95	17316	2.784	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	4760	4.349	5851	4.408	7121	4.487	8594	4.566	10289	4.628	12228	4.655	-	-	-
	6000	100	5	6361	2.344	7977	2.398	9916	2.387	12217	2.293	14917	2.1	18055	1.792	21670	1.353	-	-	-	-	-	-	-	-	-	-	-	-
			25	5069	3.157	6516	3.314	8221	3.452	10222	3.553	12557	3.601	15263	3.58	18379	3.473	21944	3.264	25994	2.936	30570	2.473	35708	1.859	-	-	-	-
			45	-	-	4885	4.597	6301	4.745	7947	4.902	9859	5.052	12076	5.178	14633	5.265	17569	5.295	20920	5.253	24723	5.121	29017	4.883	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	8134	7.256	10015	7.397	12193	7.528	14704	7.632	17580	7.692	20857	7.693	-	-	-
VZH044CJ	1800	30	5	-	-	2916	0.824	3666	0.792	4554	0.76	5594	0.731	6799	0.702	8183	0.675	-	-	-	-	-	-	-	-	-	-	-	
			25	-	-	2377	1.239	3048	1.227	3828	1.206	4729	1.176	5765	1.139	6949	1.094	8295	1.041	9817	0.98	11527	0.913	13441	0.839	-	-	-	-
			45	-	-	-	-	-	-	2938	1.828	3673	1.858	4512	1.871	5468	1.867	6556	1.846	7787	1.808	9175	1.753	10733	1.682	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	60	5	4897	1.558	6165	1.581	7691	1.561	9507	1.475	11641	1.301	14124	1.018	16986	0.604	-	-	-	-	-	-	-	-	-	-	-	-
			25	3860	2.235	4972	2.288	6289	2.355	7842	2.416	9660	2.448	11773	2.429	14211	2.337	17003	2.152	20180	1.849	23770	1.408	27806	0.807	-	-	-	-
			45	-	-	3718	3.439	4782	3.433	6027	3.48	7483	3.557	9179	3.642	11143	3.713	13405	3.748	15994	3.726	18939	3.624	22269	3.42	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	6122	5.343	7524	5.416	9158	5.512	11052	5.609	13232	5.685	15725	5.718	-	-	-
	6000	100	5	8180	2.932	10259	3	12752	2.986	15711	2.868	19183	2.627	23219	2.242	27868	1.692	-	-	-	-	-	-	-	-	-	-	-	-
			25	6518	3.949	8379	4.146	10572	4.318	13145	4.445	16148	4.505	19628	4.478	23636	4.345	28220	4.083	33429	3.673	39313	3.094	45920	2.326	-	-	-	-
			45	-	-	6283	5.751	8103	5.936	10220	6.132	12679	6.32	15529	6.478	18818	6.586	22593	6.624	26903	6.571	31794	6.406	37316	6.109	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	10460	9.077	12879	9.254	15681	9.418	18909	9.547	22608	9.623	26823	9.624	-	-	-
VZH052CG	1800	30	5	2837	0.87	3679	0.86	4596	0.83	5600	0.78	6702	0.69	7913	0.55	9245	0.34	-	-	-	-	-	-	-	-	-	-	-	
			25	1040	1.47	2070	1.42	3165	1.4	4335	1.39	5592	1.38	6947	1.35	8410	1.29	9993	1.19	11707	1.04	13563	0.81	15573	0.5	-	-	-	-
			45	-	-	-	-	-	-	1836	2.31	3123	2.27	4496	2.25	5965	2.23	7541	2.21	9236	2.17	11060	2.1	13023	1.98	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	60	5	5886	1.82	7488	1.86	9295	1.85	11331	1.77	13624	1.58	16198	1.24	19080	0.73	-	-	-	-	-	-	-	-	-	-	-	-
			25	3224	2.85	4963	2.8	6884	2.82	9013	2.85	11375	2.87	13996	2.86	16900	2.77	20113	2.57	23662	2.23	27570	1.72	31865	1.01	-	-	-	-
			45	-	-	-	-	3195	4.72	5185	4.54	7383	4.45	9816	4.42	12507	4.41	15481	4.4	18764	4.35	22379	4.23	26351	4	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	-	6490	7.07	8906	6.91	11592	6.81	14573	6.74	17869	6.66	-	-	-	-
	6000	100	5	9514	3.41	12058	3.44	15031	3.42	18480	3.31	22454	3.09	27000	2.72	32166	2.16	38000	1.4	-	-	-	-	-	-	-	-	-	-
			25	6474	5.15	9025	5.14	11933	5.17	15247	5.21	19012	5.23	23277	5.2	28089	5.09	33494	4.85	39541	4.47	46277	3.91	53749	3.14	-	-	-	-
			45	-	-	5027	8.14	7619	7.92	10543	7.81	13845	7.77	17571	7.77	21768	7.78	26480	7.77	31755	7.71	37639	7.56	44177	7.29	-	-	-	-
			65	-	-	-	-	-	-	-	-	7220	12.06	10057	11.78	13275	11.61	16916	11.52	21024	11.46	25639	11.42	30806	11.35	-	-	-	-
VZH065CG	1800	30	5	3610	1.07	4658	1.08	5806	1.07	7068	1.02	8461	0.91	9998	0.72	11694	0.41	-	-	-	-	-	-	-	-	-	-	-	
			25	1411	1.89	2669	1.78	4013	1.72	5458	1.71	7020	1.7	8712	1.68	10549	1.62	12546	1.51	14717	1.31	17078	1.01	19643	0.59	-	-	-	-
			45	-	-	-	-	-	-	2378	3.25	3949	3.07	5636	2.95	7454	2.87	9416	2.81	11536	2.74	13830	2.64	16310	2.49	-	-	-	-
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	60	5	7165	2.26	9074	2.26	11282	2.23	13828	2.13	16752	1.92	20092	1.56	23886	1.02	-	-	-	-	-	-	-	-	-	-	-	-
			25	4444	3.65	6484	3.55	8777	3.52	1136																			

# Technical data and ordering

## VZH - Inverter scroll compressor - VZH028CG-VZH035CG-VZH044CG-VZH052CG-VZH065CG

EN12900

Type	[rpm]	[rps]	Te	-30		-25		-20		-15		-10		-5		0		5		10		15		20				
				Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH028CG	1800	30	5	-	-	1791	0.535	2252	0.514	2798	0.494	3437	0.474	4177	0.456	5027	0.438	-	-	-	-	-	-	-	-	-	-	
			25	-	-	1460	0.804	1873	0.796	2351	0.783	2905	0.763	3541	0.739	4269	0.71	5096	0.676	6031	0.636	7081	0.593	8257	0.544	-	-	
			45	-	-	-	-	-	-	1805	1.186	2256	1.206	2772	1.215	3359	1.212	4027	1.198	4783	1.173	5636	1.138	6593	1.092	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	3009	1.03	3787	1.045	4725	1.032	5840	0.975	7151	0.86	8676	0.673	10435	0.399	-	-	-	-	-	-	-	-	-	-	-
			25	2371	1.478	3054	1.512	3863	1.557	4817	1.597	5934	1.618	7232	1.605	8730	1.545	10445	1.422	12396	1.222	14602	0.931	17081	0.533	-	-	
			45	-	-	2284	2.273	2937	2.269	3702	2.3	4597	2.351	5638	2.407	6845	2.454	8235	2.478	9825	2.463	11634	2.395	13680	2.261	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	3761	3.531	4622	3.58	5626	3.643	6789	3.707	8128	3.758	9660	3.78	-	-
	6000	100	5	5025	1.941	6302	1.986	7834	1.976	9651	1.898	11784	1.739	14263	1.484	17119	1.12	-	-	-	-	-	-	-	-	-	-	-
			25	4004	2.614	5147	2.745	6495	2.859	8075	2.942	9920	2.982	12058	2.964	14520	2.876	17336	2.703	20536	2.431	24150	2.048	28209	1.539	-	-	
			45	-	-	3860	3.807	4978	3.929	6278	4.059	7789	4.183	9540	4.288	11560	4.36	13879	4.385	16527	4.349	19532	4.24	22923	4.044	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	6426	6.009	7912	6.126	9633	6.234	11616	6.32	13888	6.37	16477	6.37	-	-
VZH035CG	1800	30	5	-	-	2268	0.652	2851	0.627	3542	0.602	4350	0.578	5287	0.555	6363	0.534	-	-	-	-	-	-	-	-	-	-	
			25	-	-	1848	0.981	2370	0.971	2977	0.954	3677	0.931	4483	0.901	5403	0.866	6450	0.824	7634	0.776	8964	0.723	10452	0.664	-	-	
			45	-	-	-	-	-	-	2284	1.447	2856	1.471	3508	1.481	4252	1.478	5098	1.461	6055	1.431	7134	1.388	8346	1.331	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	3808	1.256	4794	1.274	5981	1.258	7392	1.188	9052	1.049	10983	0.82	13209	0.486	-	-	-	-	-	-	-	-	-	-	-
			25	3002	1.802	3866	1.844	4890	1.898	6098	1.947	7512	1.973	9155	1.958	11050	1.884	13222	1.734	15692	1.49	18484	1.135	21622	0.65	-	-	
			45	-	-	2891	2.771	3718	2.767	4687	2.805	5819	2.867	7137	2.935	8665	2.993	10424	3.021	12437	3.003	14727	2.921	17316	2.757	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	4760	4.306	5851	4.365	7121	4.442	8594	4.52	10289	4.582	12228	4.609	-	-
	6000	100	5	6361	2.321	7977	2.374	9916	2.363	12217	2.27	14917	2.079	18055	1.774	21670	1.339	-	-	-	-	-	-	-	-	-	-	
			25	5069	3.126	6516	3.282	8221	3.418	10222	3.518	12557	3.565	15263	3.544	18379	3.438	21944	3.231	25994	2.907	30570	2.449	35708	1.841	-	-	
			45	-	-	4885	4.551	6301	4.698	7947	4.853	9859	5.002	12076	5.127	14633	5.213	17569	5.243	20920	5.2	24723	5.07	29017	4.835	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	8134	7.184	10015	7.324	12193	7.454	14704	7.556	17580	7.616	20857	7.617	-	-
VZH044CG	1800	30	5	-	-	2916	0.815	3666	0.784	4554	0.753	5594	0.723	6799	0.695	8183	0.668	-	-	-	-	-	-	-	-	-	-	
			25	-	-	2377	1.227	3048	1.214	3828	1.194	4729	1.165	5765	1.128	6949	1.083	8295	1.03	9817	0.971	11527	0.904	13441	0.83	-	-	
			45	-	-	-	-	-	-	2938	1.81	3673	1.84	4512	1.853	5468	1.849	6556	1.828	7787	1.79	9175	1.736	10733	1.666	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	4897	1.543	6165	1.565	7691	1.545	9507	1.46	11641	1.288	14124	1.008	16986	0.598	-	-	-	-	-	-	-	-	-	-	
			25	3860	2.213	4972	2.265	6289	2.332	7842	2.392	9660	2.423	11773	2.405	14211	2.314	17003	2.13	20180	1.831	23770	1.394	27806	0.799	-	-	
			45	-	-	3718	3.405	4782	3.399	6027	3.446	7483	3.522	9179	3.606	11143	3.676	13405	3.711	15994	3.689	18939	3.588	22269	3.386	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	6122	5.29	7524	5.362	9158	5.457	11052	5.553	13232	5.629	15725	5.662	-	-
	6000	100	5	8180	2.903	10259	2.97	12752	2.956	15711	2.84	19183	2.601	23219	2.22	27868	1.675	-	-	-	-	-	-	-	-	-	-	
			25	6518	3.91	8379	4.105	10572	4.276	13145	4.401	16148	4.46	19628	4.434	23636	4.302	28220	4.042	33429	3.637	39313	3.063	45920	2.303	-	-	
			45	-	-	6283	5.694	8103	5.877	10220	6.071	12679	6.257	15529	6.414	18818	6.521	22593	6.559	26903	6.506	31794	6.343	37316	6.049	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	10460	8.988	12879	9.162	15681	9.324	18909	9.453	22608	9.528	26823	9.528	-	-
VZH052CG	1800	30	5	2837	0.86	3679	0.84	4596	0.82	5600	0.77	6702	0.68	7913	0.54	9245	0.33	-	-	-	-	-	-	-	-	-		
			25	1040	1.44	2070	1.4	3165	1.37	4335	1.36	5592	1.35	6947	1.32	8410	1.27	9993	1.17	11707	1.02	13563	0.8	15573	0.49	-	-	
			45	-	-	-	-	-	-	1836	2.27	3123	2.23	4496	2.2	5965	2.19	7541	2.17	9236	2.13	11060	2.06	13023	1.95	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	5886	1.79	7488	1.82	9295	1.82	11331	1.74	13624	1.55	16198	1.22	19080	0.72	-	-	-	-	-	-	-	-	-	-	
			25	3224	2.8	4963	2.75	6884	2.76	9013	2.8	11375	2.82	13996	2.81	16900	2.72	20113	2.52	23662	2.19	27570	1.69	31865	0.99	-	-	
			45	-	-	-	-	3195	4.63	5185	4.46	7383	4.37	9816	4.34	12507	4.33	15481	4.32	18764	4.27	22379	4.15	26351	3.92	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	6490	6.94	8906	6.78	11592	6.68	14573	6.61	17869	6.54	-	-		
	6000	100	5	9514	3.37	12058	3.4	15031	3.38	18480	3.27	22454	3.05	27000	2.68	32166	2.14	38000	1.39	-	-	-	-	-	-	-		
			25	6474	5.08	9025	5.08	11933	5.11	15247	5.15	19012	5.17	23277	5.14	28089	5.03	33494	4.8	39541	4.42	46277	3.87	53749	3.1	-	-	
			45	-	-	5027	8.04	7619	7.83	10543	7.71	13845	7.67	17571	7.68	21768	7.69	26480	7.68	31755	7.62	37639	7.47	44177	7.21	-	-	
			65	-	-	-	-	-	-	-	-	7220	11.91	10057	11.64	13275	11.47	16916	11.38	21024	11.33	25639	11.28	30806	11.22	-	-	
VZH065CG	1800	30	5	3610	1.02	4658	1.03	5806	1.03	7068	0.98	8461	0.88	9998	0.69	11694	0.4	-	-	-	-	-	-	-	-	-		
			25	1411	1.81	2669	1.7																					

# Technical data and ordering

## VZH - Inverter scroll compressor - VZH028CJ-VZH035CJ-VZH044CJ-VZH052CJ-VZH065CJ

ARI

Type	[rpm]	[rps]	Te	-30		-25		-20		-15		-10		-5		0		5		10		15		20		
				Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH028CJ	1800	30	5	-	-	1894	0.54	2380	0.519	2954	0.499	3626	0.479	4405	0.46	5298	0.442	-	-	-	-	-	-	-	-	
			25	-	-	1568	0.812	2009	0.804	2521	0.79	3111	0.771	3790	0.747	4565	0.717	5445	0.682	6440	0.643	7557	0.599	8805	0.55	
			45	-	-	-	-	-	-	1990	1.198	2484	1.218	3048	1.227	3690	1.224	4418	1.21	5242	1.185	6171	1.149	7212	1.103	
	3600	60	5	3183	1.04	4004	1.056	4992	1.042	6167	0.984	7546	0.869	9150	0.68	10999	0.403	-	-	-	-	-	-	-	-	-
			25	2550	1.492	3280	1.527	4145	1.572	5164	1.613	6356	1.634	7740	1.622	9336	1.56	11162	1.436	13237	1.234	15582	0.94	18215	0.539	
			45	-	-	2526	2.296	3244	2.292	4082	2.323	5062	2.375	6200	2.431	7518	2.479	9034	2.502	10767	2.487	12737	2.419	14963	2.283	
	6000	100	5	5317	1.96	6663	2.006	8277	1.996	10191	1.917	12435	1.756	15043	1.499	18044	1.131	-	-	-	-	-	-	-	-	-
			25	4305	2.64	5528	2.772	6969	2.887	8657	2.972	10625	3.012	12905	2.994	15527	2.905	18525	2.73	21928	2.456	25770	2.068	30082	1.555	
			45	-	-	4269	3.845	5497	3.968	6922	4.1	8576	4.225	10491	4.331	12697	4.403	15226	4.429	18111	4.393	21383	4.283	25074	4.084	
	VZH035CJ	1800	30	5	-	-	2398	0.658	3012	0.633	3740	0.608	4590	0.584	5576	0.561	6707	0.539	-	-	-	-	-	-	-	-
				25	-	-	1985	0.99	2543	0.98	3191	0.964	3939	0.94	4797	0.91	5778	0.874	6893	0.832	8151	0.784	9565	0.73	11146	0.67
				45	-	-	-	-	-	-	2519	1.461	3145	1.485	3858	1.496	4670	1.492	5593	1.475	6636	1.445	7811	1.401	9129	1.345
3600		60	5	4029	1.268	5069	1.287	6319	1.27	7806	1.2	9552	1.059	11583	0.829	13922	0.491	-	-	-	-	-	-	-	-	-
			25	3227	1.82	4152	1.862	5247	1.917	6537	1.966	8046	1.992	9798	1.977	11817	1.903	14129	1.751	16756	1.505	19724	1.146	23057	0.657	
			45	-	-	3198	2.799	4106	2.795	5168	2.833	6407	2.895	7849	2.965	9517	3.022	11436	3.051	13630	3.033	16123	2.95	18941	2.784	
6000		100	5	6730	2.344	8434	2.398	10478	2.387	12900	2.293	15741	2.1	19041	1.792	22841	1.353	-	-	-	-	-	-	-	-	-
			25	5449	3.157	6998	3.314	8821	3.452	10958	3.553	13449	3.601	16335	3.58	19655	3.473	23449	3.264	27758	2.936	32621	2.473	38079	1.859	
			45	-	-	5403	4.597	6958	4.745	8763	4.902	10856	5.052	13279	5.178	16072	5.265	19274	5.295	22926	5.253	27067	5.121	31739	4.883	
VZH044CJ		1800	30	5	-	-	3083	0.824	3874	0.792	4809	0.76	5903	0.731	7171	0.702	8625	0.675	-	-	-	-	-	-	-	-
				25	-	-	2553	1.239	3271	1.227	4104	1.206	5065	1.176	6169	1.139	7431	1.094	8864	1.041	10483	0.98	12301	0.913	14333	0.839
				45	-	-	-	-	-	-	3239	1.828	4044	1.858	4961	1.871	6006	1.867	7192	1.846	8533	1.808	10045	1.753	11740	1.682
	3600	60	5	5182	1.558	6518	1.581	8127	1.561	10038	1.475	12284	1.301	14896	1.018	17904	0.604	-	-	-	-	-	-	-	-	-
			25	4150	2.235	5340	2.288	6748	2.355	8407	2.416	10347	2.448	12600	2.429	15197	2.337	18169	2.152	21548	1.849	25365	1.408	29652	0.807	
			45	-	-	4113	3.439	5280	3.433	6646	3.48	8239	3.557	10093	3.642	12238	3.713	14706	3.748	17528	3.726	20734	3.624	24357	3.42	
	6000	100	5	8654	2.932	10846	3	13474	2.986	16589	2.868	20243	2.627	24487	2.242	29373	1.692	-	-	-	-	-	-	-	-	-
			25	7008	3.949	9000	4.146	11344	4.318	14092	4.445	17296	4.505	21007	4.478	25276	4.345	30155	4.083	35696	3.673	41950	3.094	48969	2.326	
			45	-	-	6949	5.751	8949	5.936	11269	6.132	13961	6.32	17077	6.478	20668	6.586	24786	6.624	29483	6.571	34809	6.406	40816	6.109	
	VZH052CJ	1800	30	5	3002	0.87	3889	0.86	4856	0.83	5913	0.78	7072	0.69	8345	0.55	9744	0.34	-	-	-	-	-	-	-	-
				25	1118	1.47	2223	1.42	3396	1.4	4647	1.39	5989	1.38	7434	1.35	8992	1.29	10677	1.19	12500	1.04	14472	0.81	16606	0.5
				45	-	-	-	-	-	-	2024	2.31	3438	2.27	4943	2.25	6550	2.23	8272	2.21	10121	2.17	12107	2.1	14243	1.98
3600		60	5	6227	1.82	7917	1.86	9820	1.85	11964	1.77	14376	1.58	17082	1.24	20109	0.73	-	-	-	-	-	-	-	-	-
			25	3466	2.85	5330	2.8	7386	2.82	9662	2.85	12183	2.87	14977	2.86	18071	2.77	21491	2.57	25264	2.23	29418	1.72	33978	1.01	
			45	-	-	-	-	3527	4.72	5716	4.54	8129	4.45	10793	4.42	13735	4.41	16982	4.4	20560	4.35	24497	4.23	28820	4	
6000		100	5	10065	3.41	12748	3.44	15880	3.42	19512	3.31	23693	3.09	28473	2.72	33901	2.16	40028	1.4	-	-	-	-	-	-	-
			25	6959	5.15	9692	5.14	12803	5.17	16344	5.21	20363	5.23	24910	5.2	30035	5.09	35788	4.85	42219	4.47	49378	3.91	57313	3.14	
			45	-	-	5560	8.14	8412	7.92	11624	7.81	15243	7.77	19320	7.77	23905	7.78	29047	7.77	34796	7.71	41202	7.56	48316	7.29	
VZH065CJ		1800	30	5	3819	1.07	4924	1.08	6134	1.07	7463	1.02	8928	0.91	10543	0.72	12325	0.41	-	-	-	-	-	-	-	-
				25	1517	1.89	2866	1.78	4305	1.72	5851	1.71	7518	1.7	9323	1.68	11280	1.62	13405	1.51	15714	1.31	18222	1.01	20945	0.59
				45	-	-	-	-	-	-	2622	3.25	4348	3.07	6197	2.95	8185	2.87	10328	2.81	12641	2.74	15139	2.64	17838	2.49
	3600	60	5	7580	2.26	9593	2.26	11919	2.23	14600	2.13	17677	1.92	21188	1.56	25174	1.02	-	-	-	-	-	-	-	-	-
			25	4777	3.65	6964	3.55	9417	3.52	12178	3.53	15287	3.54	18784	3.51	22709	3.41	27102	3.2	32004	2.83	37455	2.28	43496	1.51	
			45	-	-	-	-	5165	5.87	7709	5.65	10553	5.54	13739	5.51	17305	5.5	21293	5.5	25743	5.45	30694	5.32	36187	5.08	
	6000	100	5	12503	4.35	15661	4.36	19399	4.34	23800	4.23	28946	3.98	34916	3.55	41792	2.86	49656	1.88	-	-	-	-	-	-	-
			25	9239	6.62	12497	6.45	16229	6.41	20516	6.44	25440	6.49	31081	6.52	37522	6.45	44842	6.25	53124	5.86	62449	5.22	72898	4.29	
			45	-	-	7833	10.6	11180	10.03	14974	9.7	19298	9.55	24232	9.52	29858	9.58	36257	9.66	43510	9.7	51698	9.66	60903	9.49	

To: Evaporating temperature in [°C], Tc: Condensing temperature in [°C], Qo: Cooling capacity in [W], Pe: Power input in [kW] (with drive loss), Subcooling: 8.3 K, Superheat: 11.1 K

Rating point: ARI at 60 rps

To / Tc / SH / SC: 7.2 °C / 54.4 °C / 11.1 K / 8.3 K at 60 rps



For more information and performance with other refrigerants, please refer to Coolselector \*2 at [coolselector.danfoss.com](http://coolselector.danfoss.com) or contact Danfoss.



# Technical data and ordering

## VZH - Inverter scroll compressor - VZH028CG-VZH035CG-VZH044CG-VZH052CG-VZH065CG

ARI

Type	[rpm]	[rps]	Te		-30		-25		-20		-15		-10		-5		0		5		10		15		20			
			Tc		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
			Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH028CG	1800	30	5	-	-	1894	0.535	2380	0.514	2954	0.494	3626	0.474	4405	0.456	5298	0.438	-	-	-	-	-	-	-	-	-	-	
			25	-	-	1568	0.804	2009	0.796	2521	0.783	3111	0.763	3790	0.739	4565	0.71	5445	0.676	6440	0.636	7557	0.593	8805	0.544	-	-	
			45	-	-	-	-	-	-	1990	1.186	2484	1.206	3048	1.215	3690	1.212	4418	1.198	5242	1.173	6171	1.138	7212	1.092	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	3183	1.03	4004	1.045	4992	1.032	6167	0.975	7546	0.86	9150	0.673	10999	0.399	-	-	-	-	-	-	-	-	-	-	
			25	2550	1.478	3280	1.512	4145	1.557	5164	1.597	6356	1.618	7740	1.605	9336	1.545	11162	1.422	13237	1.222	15582	0.931	18215	0.533	-	-	
			45	-	-	2526	2.273	3244	2.269	4082	2.3	5062	2.351	6200	2.407	7518	2.454	9034	2.478	10767	2.463	12737	2.395	14963	2.261	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	4505	3.531	5520	3.58	6701	3.643	8067	3.707	9637	3.758	11431	3.78	-	-
	6000	100	5	5317	1.941	6663	1.986	8277	1.976	10191	1.898	12435	1.739	15043	1.484	18044	1.12	-	-	-	-	-	-	-	-	-	-	
			25	4305	2.614	5528	2.745	6969	2.859	8657	2.942	10625	2.982	12905	2.964	15527	2.876	18525	2.703	21928	2.431	25770	2.048	30082	1.539	-	-	
			45	-	-	4269	3.807	5497	3.929	6922	4.059	8576	4.183	10491	4.288	12697	4.36	15226	4.385	18111	4.349	21383	4.24	25074	4.044	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	7698	6.009	9450	6.126	11474	6.234	13802	6.32	16466	6.37	19498	6.37	-	-
VZH035CG	1800	30	5	-	-	2398	0.652	3012	0.627	3740	0.602	4590	0.578	5576	0.555	6707	0.534	-	-	-	-	-	-	-	-	-		
			25	-	-	1985	0.981	2543	0.971	3191	0.954	3939	0.931	4797	0.901	5778	0.866	6893	0.824	8151	0.776	9565	0.723	11146	0.664	-	-	
			45	-	-	-	-	-	-	2519	1.447	3145	1.471	3858	1.481	4670	1.478	5593	1.461	6636	1.431	7811	1.388	9129	1.331	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	4029	1.256	5069	1.274	6319	1.258	7806	1.188	9552	1.049	11583	0.82	13922	0.486	-	-	-	-	-	-	-	-	-	-	
			25	3227	1.802	4152	1.844	5247	1.898	6537	1.947	8046	1.973	9798	1.958	11817	1.884	14129	1.734	16756	1.49	19724	1.135	23057	0.65	-	-	
			45	-	-	3198	2.771	4106	2.767	5168	2.805	6407	2.867	7849	2.935	9517	2.993	11436	3.021	13630	3.003	16123	2.921	18941	2.757	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	5703	4.306	6988	4.365	8483	4.442	10212	4.52	12199	4.582	14469	4.609	-	-
	6000	100	5	6730	2.321	8434	2.374	10478	2.363	12900	2.27	15741	2.079	19041	1.774	22841	1.339	-	-	-	-	-	-	-	-	-	-	
			25	5449	3.126	6998	3.282	8821	3.418	10958	3.518	13449	3.565	16335	3.544	19655	3.438	23449	3.231	27758	2.907	32621	2.449	38079	1.841	-	-	
			45	-	-	5403	4.551	6958	4.698	8763	4.853	10856	5.002	13279	5.127	16072	5.213	19274	5.243	22926	5.2	27067	5.07	31739	4.835	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	9744	7.184	11962	7.324	14524	7.454	17471	7.556	20844	7.616	24681	7.617	-	-
VZH044CG	1800	30	5	-	-	3083	0.815	3874	0.784	4809	0.753	5903	0.723	7171	0.695	8625	0.668	-	-	-	-	-	-	-	-	-		
			25	-	-	2553	1.227	3271	1.214	4104	1.194	5065	1.165	6169	1.128	7431	1.083	8864	1.03	10483	0.971	12301	0.904	14333	0.83	-	-	
			45	-	-	-	-	-	-	3239	1.81	4044	1.84	4961	1.853	6006	1.849	7192	1.828	8533	1.79	10045	1.736	11740	1.666	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	5182	1.543	6518	1.565	8127	1.545	10038	1.46	12284	1.288	14896	1.008	17904	0.598	-	-	-	-	-	-	-	-	-	-	
			25	4150	2.213	5340	2.265	6748	2.332	8407	2.392	10347	2.423	12600	2.405	15197	2.314	18169	2.13	21548	1.831	25365	1.394	29652	0.799	-	-	
			45	-	-	4113	3.405	5280	3.399	6646	3.446	8239	3.522	10093	3.606	12238	3.676	14706	3.711	17528	3.689	20734	3.588	24357	3.386	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	7334	5.29	8986	5.362	10909	5.457	13132	5.553	15688	5.629	18607	5.662	-	-
	6000	100	5	8654	2.903	10846	2.97	13474	2.956	16589	2.84	20243	2.601	24487	2.22	29373	1.675	-	-	-	-	-	-	-	-	-	-	
			25	7008	3.91	9000	4.105	11344	4.276	14092	4.401	17296	4.46	21007	4.434	25276	4.302	30155	4.042	35696	3.637	41950	3.063	48969	2.303	-	-	
			45	-	-	6949	5.694	8949	5.877	11269	6.071	13961	6.257	17077	6.414	20668	6.521	24786	6.559	29483	6.506	34809	6.343	40816	6.049	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	12531	8.988	15383	9.162	18678	9.324	22468	9.453	26805	9.528	31740	9.528	-	-
VZH052CG	1800	30	5	3002	0.86	3889	0.84	4856	0.82	5913	0.77	7072	0.68	8345	0.54	9744	0.33	-	-	-	-	-	-	-	-	-		
			25	1118	1.44	2223	1.4	3396	1.37	4647	1.36	5989	1.35	7434	1.32	8992	1.27	10677	1.17	12500	1.02	14472	0.8	16606	0.49	-	-	
			45	-	-	-	-	-	-	2024	2.27	3438	2.23	4943	2.2	6550	2.19	8272	2.17	10121	2.13	12107	2.06	14243	1.95	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	6227	1.79	7917	1.82	9820	1.82	11964	1.74	14376	1.55	17082	1.22	20109	0.72	-	-	-	-	-	-	-	-	-	-	
			25	3466	2.8	5330	2.75	7386	2.76	9662	2.8	12183	2.82	14977	2.81	18071	2.72	21491	2.52	25264	2.19	29418	1.69	33978	0.99	-	-	
			45	-	-	-	-	3527	4.63	5716	4.46	8129	4.37	10793	4.34	13735	4.33	16982	4.32	20560	4.27	24497	4.15	28820	3.92	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	7750	6.94	10605	6.78	13771	6.68	17273	6.61	21139	6.54	-	-	
	6000	100	5	10065	3.37	12748	3.4	15880	3.38	19512	3.27	23693	3.05	28473	2.68	33901	2.14	40028	1.39	-	-	-	-	-	-	-	-	
			25	6959	5.08	9692	5.08	12803	5.11	16344	5.15	20363	5.17	24910	5.14	30035	5.03	35788	4.8	42219	4.42	49378	3.87	57313	3.1	-	-	
			45	-	-	5560	8.04	8412	7.83	11624	7.71	15243	7.67	19320	7.68	23905	7.69	29047	7.68	34796	7.62	41202	7.47	48316	7.21	-	-	
			65	-	-	-	-	-	-	-	-	8675	11.91	12044	11.64	15851	11.47	20144	11.38	24974	11.33	30391	11.28	36444	11.22	-	-	
VZH065CG	1800	30	5	3819	1.02	4924	1.03	6134	1.03	7463	0.98	8928	0.88	10543	0.69	12325	0.4	-	-	-	-	-	-	-	-	-		
			25	1517	1.81	2866	1.7	4305	1.65	5851	1.63	7518	1.63	9323	1.61	11280	1.56	13405	1.45	15714	1.26	18222	0.97	20945	0.56	-	-	
			45	-	-	-	-	-	-	2622	3.11	4348	2.94	6197	2.83	8185	2.75	10328	2.69	12641	2.63	15139	2.53	17838	2.39	-	-	
			65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3600	60	5	7580	2.2	9593	2.2	11919	2.17	14600	2.07	17677	1.87	21188	1.52	25174	0.99	-	-	-	-	-	-	-	-	-	-	
			25	4777	3.56	6964	3.46	9417	3.43	12178	3.44	15287	3.45	18784	3.42	22709	3.32	27102	3.11	32004	2.76	37455	2.22	43496	1.47	-	-	
			45	-	-	-	-	5165	5.72	7709	5.51	10553	5.4	13739	5.36	17305	5.36	21293	5.35	257								

# Technical data and ordering

## Inverter scroll compressor - VZH 088-170BG - R410A

Low pressure ratio - ARI

Type	[rpm]	Te		-25		-20		-15		-10		-5		0		5		10		15		
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH088BG	1500	20	-	-	6500	1.795	7900	1.699	9400	1.613	11200	1.541	13300	1.488	15700	1.457	-	-	-	-	-	-
	1500	30	-	-	5600	2.335	6900	2.256	8300	2.176	10000	2.098	12000	2.025	14200	1.963	16700	1.914	19600	1.882	-	-
	1500	40	-	-	4700	2.925	5900	2.886	7300	2.833	8900	2.77	10700	2.701	12700	2.628	15100	2.558	17700	2.492	-	-
	1500	50	-	-	-	-	-	-	6200	3.651	7600	3.624	9300	3.579	11200	3.52	13400	3.449	15800	3.371	-	-
	1500	60	-	-	-	-	-	-	-	-	-	-	7900	4.727	9600	4.702	11600	4.653	13900	4.585	-	-
	1500	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	11900	4.447	14600	4.419	17800	4.338	21700	4.232	26200	4.133	31400	4.071	37400	4.074	-	-	-	-	-	-
	3600	30	10500	5.484	13100	5.537	16200	5.5	19800	5.405	24100	5.281	28900	5.157	34400	5.064	40700	5.032	47700	5.091	-	-
	3600	40	-	-	11700	6.799	14600	6.856	18000	6.818	21900	6.715	26300	6.579	31400	6.438	37100	6.322	43500	6.262	-	-
	3600	50	-	-	-	-	-	-	15900	8.502	19500	8.47	23500	8.368	28100	8.226	33200	8.074	39100	7.943	-	-
	3600	60	-	-	-	-	-	-	-	-	-	-	20200	10.556	24300	10.461	29000	10.321	34200	10.166	-	-
	3600	63	-	-	-	-	-	-	-	-	-	-	-	-	23200	11.223	27600	11.096	32700	10.943	-	-
	6000	20	-	-	23900	7.6	28900	7.596	34900	7.554	42000	7.54	50200	7.618	59600	7.857	-	-	-	-	-	-
	6000	30	-	-	22000	9.669	26900	9.74	32700	9.694	39500	9.598	47300	9.517	56200	9.517	66400	9.666	77900	10.029	-	-
	6000	40	-	-	19800	11.778	24500	12.018	29900	12.063	36200	11.98	43400	11.835	51700	11.693	61100	11.621	71800	11.685	-	-
	6000	50	-	-	-	-	-	-	26400	14.579	32000	14.605	38500	14.489	45900	14.3	54400	14.103	64100	13.964	-	-
6000	60	-	-	-	-	-	-	-	-	-	-	32600	17.398	39100	17.256	46500	17.029	55100	16.781	-	-	
6000	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VZH117BG	1500	20	-	-	8700	2.357	10500	2.231	12700	2.118	15100	2.024	17900	1.954	21100	1.913	-	-	-	-	-	-
	1500	30	-	-	7500	3.066	9200	2.963	11200	2.858	13500	2.755	16100	2.66	19100	2.578	22500	2.513	26300	2.472	-	-
	1500	40	-	-	6300	3.842	7900	3.791	9800	3.721	11900	3.638	14300	3.547	17100	3.452	20200	3.359	23800	3.273	-	-
	1500	50	-	-	-	-	-	-	8300	4.795	10200	4.76	12500	4.701	15000	4.623	18000	4.53	21300	4.428	-	-
	1500	60	-	-	-	-	-	-	-	-	-	-	10600	6.209	12900	6.175	15600	6.111	18700	6.021	-	-
	1500	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	15900	5.84	19600	5.804	23900	5.697	29100	5.559	35200	5.429	42200	5.347	50200	5.351	-	-	-	-	-	-
	3600	30	14100	7.203	17600	7.272	21800	7.224	26600	7.099	32300	6.935	38800	6.773	46200	6.651	54600	6.61	64000	6.687	-	-
	3600	40	-	-	15700	8.93	19600	9.004	24200	8.954	29400	8.82	35300	8.64	42100	8.455	49800	8.303	58500	8.224	-	-
	3600	50	-	-	-	-	-	-	21400	11.167	26100	11.124	31500	10.99	37700	10.804	44600	10.605	52400	10.432	-	-
	3600	60	-	-	-	-	-	-	-	-	-	-	27200	13.864	32700	13.739	38900	13.555	45900	13.352	-	-
	3600	63	-	-	-	-	-	-	-	-	-	-	-	-	31100	14.74	37100	14.573	43900	14.373	-	-
	6000	20	-	-	32000	9.981	38800	9.977	46900	9.922	56300	9.902	67300	10.006	80000	10.319	-	-	-	-	-	-
	6000	30	-	-	29500	12.699	36100	12.792	43900	12.732	53000	12.605	63500	12.499	75500	12.5	89200	12.695	104600	13.171	-	-
	6000	40	-	-	26600	15.469	32900	15.784	40100	15.844	48500	15.735	58300	15.544	69400	15.357	82000	15.263	96300	15.347	-	-
	6000	50	-	-	-	-	-	-	35400	19.148	43000	19.182	51700	19.03	61600	18.782	73100	18.522	86000	18.34	-	-
6000	60	-	-	-	-	-	-	-	-	-	-	43800	22.851	52500	22.664	62500	22.365	73900	22.04	-	-	
6000	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VZH170BG	1500	20	-	-	12400	3.172	14900	3.041	17900	2.907	21400	2.762	25400	2.597	30000	2.405	-	-	-	-	-	-
	1500	30	-	-	10800	4.297	13300	4.157	16100	4.026	19400	3.895	23200	3.755	27600	3.599	32500	3.418	38100	3.204	-	-
	1500	40	-	-	9300	5.546	11600	5.397	14300	5.268	17300	5.15	20900	5.035	24900	4.915	29600	4.781	34800	4.625	-	-
	1500	50	-	-	-	-	-	-	12200	6.784	15100	6.679	18300	6.589	22000	6.504	26300	6.416	31200	6.318	-	-
	1500	60	-	-	-	-	-	-	-	-	-	-	15500	8.566	18900	8.516	22800	8.475	27300	8.434	-	-
	1500	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	22900	8.352	28200	8.195	34600	8.029	42200	7.839	51100	7.608	61400	7.321	73300	6.961	-	-	-	-	-	-
	3600	30	20500	10.392	25600	10.262	31600	10.137	38700	10.004	47000	9.845	56600	9.646	67700	9.389	80400	9.06	94800	8.642	-	-
	3600	40	-	-	22900	12.728	28400	12.623	34900	12.524	42500	12.416	51300	12.282	61500	12.106	73100	11.873	86400	11.566	-	-
	3600	50	-	-	-	-	-	-	30900	15.652	37600	15.572	45500	15.481	54600	15.363	65200	15.204	77200	14.986	-	-
	3600	60	-	-	-	-	-	-	-	-	-	-	39300	19.495	47300	19.414	56600	19.306	67400	19.156	-	-
	3600	63	-	-	-	-	-	-	-	-	-	-	-	-	45100	20.821	54100	20.725	64500	20.59	-	-
	6000	20	-	-	47100	14.689	57600	14.8	70000	14.747	84500	14.48	101400	13.947	120800	13.097	-	-	-	-	-	-
	6000	30	-	-	42800	17.702	52900	17.949	64700	18.102	78500	18.111	94400	17.924	112700	17.488	133500	16.754	157200	15.669	-	-
	6000	40	-	-	38300	21.481	47700	21.744	58700	21.983	71500	22.147	86300	22.185	103200	22.046	122600	21.676	144700	21.026	-	-
	6000	50	-	-	-	-	-	-	52000	26.837	63500	27.037	76900	27.18	92400	27.216	110100	27.091	130400	26.756	-	-
6000	60	-	-	-	-	-	-	-	-	-	-	66600	33.356	80400	33.446	96400	33.447	114700	33.306	-	-	
6000	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 - 480 V / 3 / 50 and 60 Hz



For more information and performance with other refrigerants, please refer to Coolselector® 2 at [coolselector.danfoss.com](http://coolselector.danfoss.com) or contact Danfoss.

# Technical data and ordering

## Inverter scroll compressor - VZH088-VZH170BG - R410A

Low pressure ratio - EN12900

Type	[rpm]	Te		-25		-20		-15		-10		-5		0		5		10		15		
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
VZH088BG	1500	20	-	-	6100	1.795	7400	1.699	8800	1.613	10600	1.541	12500	1.488	14700	1.457	-	-	-	-	-	-
	1500	30	-	-	5200	2.335	6400	2.256	7800	2.176	9300	2.098	11200	2.025	13200	1.963	15600	1.914	18300	1.882	-	-
	1500	40	-	-	4300	2.925	5400	2.886	6700	2.833	8100	2.77	9800	2.701	11700	2.628	13900	2.558	16300	2.492	-	-
	1500	50	-	-	-	-	-	-	5500	3.651	6900	3.624	8400	3.579	10100	3.52	12100	3.449	14300	3.371	-	-
	1500	60	-	-	-	-	-	-	-	-	-	-	6800	4.727	8400	4.702	10100	4.653	12200	4.585	-	-
	1500	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	11100	4.447	13600	4.419	16700	4.338	20400	4.232	24600	4.133	29500	4.071	35100	4.074	-	-	-	-	-	-
	3600	30	9700	5.484	12200	5.537	15000	5.5	18400	5.405	22400	5.281	26900	5.157	32000	5.064	37900	5.032	44500	5.091	-	-
	3600	40	-	-	10700	6.799	13400	6.856	16500	6.818	20100	6.715	24200	6.579	28800	6.438	34100	6.322	40100	6.262	-	-
	3600	50	-	-	-	-	-	-	14300	8.502	17500	8.47	21100	8.368	25300	8.226	30000	8.074	35300	7.943	-	-
	3600	60	-	-	-	-	-	-	-	-	-	-	17600	10.556	21200	10.461	25200	10.321	29800	10.166	-	-
	3600	63	-	-	-	-	-	-	-	-	-	-	-	-	19800	11.223	23700	11.096	28100	10.943	-	-
	6000	20	-	-	22300	7.6	27100	7.596	32700	7.554	39400	7.54	47100	7.618	56000	7.857	-	-	-	-	-	-
	6000	30	-	-	20400	9.669	25000	9.74	30400	9.694	36700	9.598	44000	9.517	52400	9.517	61900	9.666	72700	10.029	-	-
	6000	40	-	-	18100	11.778	22400	12.018	27400	12.063	33200	11.98	39900	11.835	47500	11.693	56200	11.621	66100	11.685	-	-
	6000	50	-	-	-	-	-	-	23700	14.579	28800	14.605	34700	14.489	41400	14.3	49100	14.103	57900	13.964	-	-
	6000	60	-	-	-	-	-	-	-	-	-	-	28300	17.398	34000	17.256	40600	17.029	48100	16.781	-	-
	6000	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VZH117BG	1500	20	-	-	8200	2.357	9900	2.231	11900	2.118	14200	2.024	16800	1.954	19800	1.913	-	-	-	-	-	-
	1500	30	-	-	6900	3.066	8500	2.963	10400	2.858	12500	2.755	15000	2.66	17800	2.578	20900	2.513	24500	2.472	-	-
	1500	40	-	-	5700	3.842	7200	3.791	8900	3.721	10900	3.638	13200	3.547	15700	3.452	18600	3.359	21900	3.273	-	-
	1500	50	-	-	-	-	-	-	7400	4.795	9200	4.76	11200	4.701	13600	4.623	16200	4.53	19200	4.428	-	-
	1500	60	-	-	-	-	-	-	-	-	-	-	9200	6.209	11200	6.175	13600	6.111	16300	6.021	-	-
	1500	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	14900	5.84	18300	5.804	22400	5.697	27300	5.559	33000	5.429	39600	5.347	47200	5.351	-	-	-	-	-	-
	3600	30	13100	7.203	16300	7.272	20200	7.224	24700	7.099	30000	6.935	36100	6.773	43000	6.651	50900	6.61	59700	6.687	-	-
	3600	40	-	-	14400	8.93	18000	9.004	22100	8.954	26900	8.82	32400	8.64	38700	8.455	45800	8.303	53800	8.224	-	-
	3600	50	-	-	-	-	-	-	19200	11.167	23500	11.124	28400	10.99	34000	10.804	40300	10.605	47400	10.432	-	-
	3600	60	-	-	-	-	-	-	-	-	-	-	23600	13.864	28400	13.739	33900	13.555	40100	13.352	-	-
	3600	63	-	-	-	-	-	-	-	-	-	-	-	-	26500	14.74	31800	14.573	37700	14.373	-	-
	6000	20	-	-	30000	9.981	36400	9.977	43900	9.922	52900	9.902	63200	10.006	75200	10.319	-	-	-	-	-	-
	6000	30	-	-	27400	12.699	33500	12.792	40800	12.732	49300	12.605	59100	12.499	70300	12.5	83100	12.695	97500	13.171	-	-
	6000	40	-	-	24400	15.469	30100	15.784	36800	15.844	44500	15.735	53500	15.544	63800	15.357	75500	15.263	88700	15.347	-	-
	6000	50	-	-	-	-	-	-	31800	19.148	38600	19.182	46500	19.03	55600	18.782	66000	18.522	77700	18.34	-	-
	6000	60	-	-	-	-	-	-	-	-	-	-	38000	22.851	45600	22.664	54400	22.365	64500	22.04	-	-
	6000	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VZH170BG	1500	20	-	-	11600	3.172	14000	3.041	16800	2.907	20100	2.762	23800	2.597	28200	2.405	-	-	-	-	-	-
	1500	30	-	-	10000	4.297	12300	4.157	15000	4.026	18100	3.895	21600	3.755	25700	3.599	30300	3.418	35500	3.204	-	-
	1500	40	-	-	8500	5.546	10600	5.397	13100	5.268	15900	5.15	19200	5.035	22900	4.915	27200	4.781	32000	4.625	-	-
	1500	50	-	-	-	-	-	-	11000	6.784	13500	6.679	16500	6.589	19900	6.504	23800	6.416	28200	6.318	-	-
	1500	60	-	-	-	-	-	-	-	-	-	-	13500	8.566	16500	8.516	19900	8.475	23800	8.434	-	-
	1500	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	21400	8.352	26400	8.195	32400	8.029	39600	7.839	47900	7.608	57700	7.321	68900	6.961	-	-	-	-	-	-
	3600	30	19000	10.392	23700	10.262	29300	10.137	35900	10.004	43700	9.845	52700	9.646	63000	9.389	74900	9.06	88400	8.642	-	-
	3600	40	-	-	20900	12.728	26000	12.623	32000	12.524	39000	12.416	47100	12.282	56500	12.106	67300	11.873	79600	11.566	-	-
	3600	50	-	-	-	-	-	-	27700	15.652	33800	15.572	41000	15.481	49300	15.363	58800	15.204	69800	14.986	-	-
	3600	60	-	-	-	-	-	-	-	-	-	-	34100	19.495	41100	19.414	49300	19.306	58800	19.156	-	-
	3600	63	-	-	-	-	-	-	-	-	-	-	-	-	38500	20.821	46300	20.725	55300	20.59	-	-
	6000	20	-	-	44100	14.689	54000	14.8	65700	14.747	79300	14.48	95200	13.947	113500	13.097	-	-	-	-	-	-
	6000	30	-	-	39700	17.702	49100	17.949	60100	18.102	72900	18.111	87800	17.924	104900	17.488	124500	16.754	146600	15.669	-	-
	6000	40	-	-	35000	21.481	43700	21.744	53800	21.983	65600	22.147	79200	22.185	94900	22.046	112900	21.676	133300	21.026	-	-
	6000	50	-	-	-	-	-	-	46700	26.837	57100	27.037	69300	27.18	83300	27.216	99400	27.091	117800	26.756	-	-
	6000	60	-	-	-	-	-	-	-	-	-	-	57800	33.356	69900	33.446	84000	33.447	100100	33.306	-	-
	6000	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 0 K

Superheat: 10 K

Voltage code: G: 380 - 480 V / 3 / 50 and 60 Hz



For more information and performance with other refrigerants, please refer to Coolselector® 2 at [coolselector.danfoss.com](http://coolselector.danfoss.com) or contact Danfoss.

# Technical data and ordering

## Inverter scroll compressor - VZH088-VZH170AG - R410A

High pressure ratio - ARI

Type	[rpm]	Te	-25		-20		-15		-10		-5		0		5		10		15	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo
VZH088AG	1500	20	-	-	5700	1.472	7100	1.542	8600	1.623	10400	1.677	12500	1.665	14900	1.549	-	-	-	-
	1500	30	-	-	5200	2.043	6500	2.008	7900	2.032	9700	2.076	11600	2.103	13900	2.073	16400	1.949	19200	1.692
	1500	40	-	-	4600	2.917	5800	2.735	7200	2.659	8800	2.651	10700	2.673	12700	2.687	15000	2.654	17600	2.537
	1500	50	-	-	-	-	5100	3.786	6400	3.568	7800	3.466	9500	3.441	11300	3.457	13400	3.473	15800	3.453
	1500	60	-	-	-	-	-	-	-	-	6600	4.587	8100	4.473	9700	4.447	11600	4.47	13600	4.504
	1500	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	12000	4.19	14700	4.258	17900	4.335	21700	4.424	26100	4.529	31200	4.652	37100	4.798	-	-	-	-
	3600	30	10600	5.044	13100	5.11	16200	5.181	19700	5.262	23900	5.357	28600	5.467	34100	5.596	40300	5.748	47300	5.926
	3600	40	-	-	11700	6.214	14600	6.274	17800	6.34	21600	6.417	26000	6.507	31000	6.613	36800	6.74	43200	6.889
	3600	50	-	-	-	-	12900	7.746	15800	7.79	19300	7.843	23200	7.906	27700	7.982	32900	8.076	38800	8.191
	3600	60	-	-	-	-	-	-	-	-	16600	9.767	20100	9.796	24100	9.836	28700	9.891	34000	9.963
	3600	68	-	-	-	-	-	-	-	-	-	-	-	-	21300	11.759	25600	11.777	30400	11.81
	6000	20	-	-	24000	7.654	29200	7.958	35400	8.307	42700	8.709	51100	9.176	60700	9.716	-	-	-	-
	6000	30	-	-	21800	9.043	26800	9.284	32700	9.558	39500	9.875	47400	10.245	56400	10.677	66700	11.18	78300	11.765
	6000	40	-	-	19800	10.85	24400	11.021	29800	11.213	36100	11.439	43300	11.705	51600	12.023	61000	12.401	71700	12.849
	6000	50	-	-	-	-	21800	13.353	26600	13.458	32200	13.585	38700	13.741	46100	13.938	54600	14.184	64200	14.49
6000	60	-	-	-	-	-	-	-	-	27900	16.498	33500	16.538	40000	16.607	47400	16.715	55900	16.87	
6000	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VZH117AG	1500	20	-	-	7700	1.933	9500	2.025	11600	2.132	14000	2.203	16800	2.187	20000	2.035	-	-	-	-
	1500	30	-	-	6900	2.683	8700	2.638	10700	2.669	13000	2.727	15600	2.762	18600	2.723	22000	2.56	25800	2.223
	1500	40	-	-	6100	3.831	7800	3.592	9700	3.492	11900	3.482	14300	3.511	17100	3.529	20200	3.486	23700	3.332
	1500	50	-	-	-	-	6800	4.973	8500	4.686	10500	4.552	12700	4.52	15200	4.54	18000	4.561	21200	4.535
	1500	60	-	-	-	-	-	-	-	-	8900	6.024	10800	5.875	13100	5.841	15500	5.871	18300	5.916
	1500	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	16200	5.503	19800	5.592	24000	5.693	29100	5.811	35000	5.948	41900	6.11	49700	6.301	-	-	-	-
	3600	30	14200	6.625	17600	6.711	21700	6.805	26500	6.912	32000	7.035	38500	7.18	45800	7.35	54100	7.55	63600	7.783
	3600	40	-	-	15700	8.162	19500	8.24	23900	8.327	29100	8.428	34900	8.546	41700	8.686	49300	8.852	58000	9.048
	3600	50	-	-	-	-	17300	10.173	21300	10.232	25800	10.3	31100	10.383	37200	10.484	44100	10.607	52000	10.757
	3600	60	-	-	-	-	-	-	-	-	22300	12.828	27000	12.866	32400	12.919	38500	12.991	45600	13.086
	3600	68	-	-	-	-	-	-	-	-	-	-	-	-	28700	15.444	34300	15.467	40800	15.512
	6000	20	-	-	32300	10.053	39200	10.452	47500	10.91	57300	11.439	68500	12.052	81500	12.761	-	-	-	-
	6000	30	-	-	29300	11.877	36000	12.193	43900	12.553	53000	12.97	63600	13.455	75700	14.023	89500	14.684	105100	15.452
	6000	40	-	-	26500	14.25	32800	14.474	40000	14.728	48500	15.023	58200	15.373	69300	15.791	81900	16.287	96200	16.876
	6000	50	-	-	-	-	29200	17.538	35800	17.676	43300	17.842	52000	18.048	61900	18.306	73300	18.63	86200	19.03
6000	60	-	-	-	-	-	-	-	-	37400	21.668	45000	21.721	53600	21.812	63600	21.953	75000	22.157	
6000	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VZH170AG	1500	20	-	-	11900	3.095	14500	3.074	17500	3.047	21100	2.982	25200	2.844	29900	2.601	-	-	-	-
	1500	30	-	-	10700	4.019	13100	3.962	16000	3.949	19400	3.948	23300	3.925	27700	3.847	32700	3.68	38400	3.391
	1500	40	-	-	9300	5.287	11600	5.112	14300	5.032	17400	5.013	21000	5.023	25000	5.029	29700	4.996	34900	4.891
	1500	50	-	-	-	-	9900	6.724	12300	6.495	15100	6.378	18300	6.339	21900	6.346	26100	6.366	30800	6.363
	1500	60	-	-	-	-	-	-	-	-	12500	8.242	15200	8.074	18400	8.001	22100	7.99	26300	8.009
	1500	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	24500	7.456	29300	7.626	35200	7.808	42400	7.979	50800	8.115	60700	8.191	72100	8.184	-	-	-	-
	3600	30	21800	9.377	26500	9.47	32200	9.611	39000	9.775	46900	9.94	56200	10.081	66900	10.174	79100	10.196	93100	10.122
	3600	40	-	-	24000	11.86	29300	11.904	35500	12.007	42800	12.146	51300	12.297	61100	12.435	72400	12.538	85200	12.581
	3600	50	-	-	-	-	26200	14.819	31700	14.806	38200	14.865	45800	14.97	54500	15.1	64600	15.229	76200	15.333
	3600	60	-	-	-	-	-	-	-	-	32900	18.228	39400	18.234	47000	18.299	55900	18.399	66100	18.511
	3600	68	-	-	-	-	-	-	-	-	-	-	-	-	41000	21.332	49000	21.369	58200	21.447
	6000	20	-	-	48200	13.279	58500	13.868	70800	14.517	85300	15.273	102100	16.184	121500	17.296	-	-	-	-
	6000	30	-	-	43000	16.274	52900	16.84	64400	17.388	77900	17.965	93500	18.618	111400	19.394	131800	20.341	154900	21.505
	6000	40	-	-	38900	19.827	48100	20.446	58800	20.967	71200	21.439	85400	21.909	101800	22.423	120400	23.03	141400	23.776
	6000	50	-	-	-	-	43400	24.851	53100	25.421	64200	25.863	77000	26.224	91700	26.551	108400	26.892	127300	27.294
6000	60	-	-	-	-	-	-	-	-	56400	31.402	67700	31.729	80600	31.943	95400	32.094	112200	32.226	
6000	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage code: G: 380 - 480 V / 3 / 50 and 60 Hz



For more information and performance with other refrigerants, please refer to Coolselector \* 2 at [coolselector.danfoss.com](http://coolselector.danfoss.com) or contact Danfoss.

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# Technical data and ordering

## Inverter scroll compressor - VZH088-VZH170AG - R410A

### High pressure ratio - EN12900

Type	[rpm]	Te	-25		-20		-15		-10		-5		0		5		10		15	
			Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo
VZH088AG	1500	20	-	-	5400	1.472	6600	1.542	8100	1.623	9800	1.677	11800	1.665	14000	1.549	-	-	-	-
	1500	30	-	-	4800	2.043	6000	2.008	7400	2.032	9000	2.076	10800	2.103	12900	2.073	15300	1.949	17900	1.692
	1500	40	-	-	4200	2.917	5300	2.735	6600	2.659	8100	2.651	9800	2.673	11700	2.687	13800	2.654	16200	2.537
	1500	50	-	-	-	-	4500	3.786	5700	3.568	7000	3.466	8500	3.441	10200	3.457	12100	3.473	14300	3.453
	1500	60	-	-	-	-	-	-	-	-	5700	4.587	7000	4.473	8500	4.447	10100	4.47	11900	4.504
	1500	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	11300	4.19	13800	4.258	16800	4.335	20300	4.424	24500	4.529	29300	4.652	34800	4.798	-	-	-	-
	3600	30	9800	5.044	12200	5.11	15000	5.181	18300	5.262	22200	5.357	26700	5.467	31800	5.596	37600	5.748	44200	5.926
	3600	40	-	-	10700	6.214	13300	6.274	16300	6.34	19900	6.417	23900	6.507	28500	6.613	33800	6.74	39800	6.889
	3600	50	-	-	-	-	11500	7.746	14200	7.79	17300	7.843	20900	7.906	25000	7.982	29700	8.076	35000	8.191
	3600	60	-	-	-	-	-	-	-	-	14400	9.767	17500	9.796	21000	9.836	25000	9.891	29600	9.963
	3600	68	-	-	-	-	-	-	-	-	-	-	-	-	17300	11.759	20800	11.777	24800	11.81
	6000	20	-	-	22500	7.654	27400	7.958	33200	8.307	40000	8.709	48000	9.176	57100	9.716	-	-	-	-
	6000	30	-	-	20200	9.043	24900	9.284	30400	9.558	36700	9.875	44100	10.245	52500	10.677	62100	11.18	73000	11.765
	6000	40	-	-	18100	10.85	22300	11.021	27300	11.213	33100	11.439	39800	11.705	47400	12.023	56200	12.401	66000	12.849
	6000	50	-	-	-	-	19500	13.353	23900	13.458	29000	13.585	34900	13.741	41600	13.938	49300	14.184	58000	14.49
6000	60	-	-	-	-	-	-	-	-	24200	16.498	29100	16.538	34800	16.607	41300	16.715	48800	16.87	
6000	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VZH117AG	1500	20	-	-	7200	1.933	8900	2.025	10800	2.132	13100	2.203	15800	2.187	18800	2.035	-	-	-	-
	1500	30	-	-	6400	2.683	8000	2.638	9900	2.669	12100	2.727	14500	2.762	17300	2.723	20500	2.56	24100	2.223
	1500	40	-	-	5600	3.831	7100	3.592	8900	3.492	10900	3.482	13100	3.511	15700	3.529	18600	3.486	21800	3.332
	1500	50	-	-	-	-	6100	4.973	7700	4.686	9400	4.552	11500	4.52	13700	4.54	16300	4.561	19100	4.535
	1500	60	-	-	-	-	-	-	-	-	7700	6.024	9400	5.875	11400	5.841	13500	5.871	16000	5.916
	1500	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	15100	5.503	18500	5.592	22500	5.693	27300	5.811	32900	5.948	39300	6.11	46700	6.301	-	-	-	-
	3600	30	13100	6.625	16400	6.711	20200	6.805	24600	6.912	29800	7.035	35800	7.18	42600	7.35	50400	7.55	59300	7.783
	3600	40	-	-	14400	8.162	17900	8.24	21900	8.327	26700	8.428	32100	8.546	38300	8.686	45400	8.852	53400	9.048
	3600	50	-	-	-	-	15500	10.173	19100	10.232	23200	10.3	28000	10.383	33600	10.484	39900	10.607	47000	10.757
	3600	60	-	-	-	-	-	-	-	-	19300	12.828	23400	12.866	28100	12.919	33600	12.991	39800	13.086
	3600	68	-	-	-	-	-	-	-	-	-	-	-	-	23200	15.444	27900	15.467	33300	15.512
	6000	20	-	-	30200	10.053	36800	10.452	44600	10.91	53700	11.439	64400	12.052	76600	12.761	-	-	-	-
	6000	30	-	-	27200	11.877	33400	12.193	40700	12.553	49300	12.97	59200	13.455	70500	14.023	83400	14.684	98000	15.452
	6000	40	-	-	24200	14.25	30000	14.474	36700	14.728	44500	15.023	53400	15.373	63700	15.791	75400	16.287	88600	16.876
	6000	50	-	-	-	-	26200	17.538	32100	17.676	38900	17.842	46800	18.048	55800	18.306	66100	18.63	77900	19.03
6000	60	-	-	-	-	-	-	-	-	32400	21.668	39000	21.721	46700	21.812	55400	21.953	65500	22.157	
6000	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VZH170AG	1500	20	-	-	11200	3.095	13600	3.074	16400	3.047	19800	2.982	23600	2.844	28100	2.601	-	-	-	-
	1500	30	-	-	9900	4.019	12200	3.962	14900	3.949	18000	3.948	21600	3.925	25800	3.847	30500	3.68	35800	3.391
	1500	40	-	-	8500	5.287	10600	5.112	13100	5.032	16000	5.013	19200	5.023	23000	5.029	27300	4.996	32200	4.891
	1500	50	-	-	-	-	8900	6.724	11000	6.495	13600	6.378	16400	6.339	19800	6.346	23600	6.366	27900	6.363
	1500	60	-	-	-	-	-	-	-	-	10800	8.242	13200	8.074	16000	8.001	19200	7.99	22900	8.009
	1500	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3600	20	22900	7.456	27500	7.626	33000	7.808	39700	7.979	47700	8.115	57000	8.191	67700	8.184	-	-	-	-
	3600	30	20200	9.377	24600	9.47	29900	9.611	36200	9.775	43600	9.94	52300	10.081	62300	10.174	73800	10.196	86800	10.122
	3600	40	-	-	21900	11.86	26800	11.904	32500	12.007	39300	12.146	47100	12.297	56200	12.435	66600	12.538	78500	12.581
	3600	50	-	-	-	-	23400	14.819	28500	14.806	34300	14.865	41200	14.97	49200	15.1	58400	15.229	68900	15.333
	3600	60	-	-	-	-	-	-	-	-	28500	18.228	34200	18.234	40900	18.299	48700	18.399	57700	18.511
	3600	68	-	-	-	-	-	-	-	-	-	-	-	-	33200	21.332	39800	21.369	47400	21.447
	6000	20	-	-	45100	13.279	54800	13.868	66400	14.517	80100	15.273	95900	16.184	114200	17.296	-	-	-	-
	6000	30	-	-	39900	16.274	49000	16.84	59800	17.388	72400	17.965	87000	18.618	103700	19.394	122800	20.341	144500	21.505
	6000	40	-	-	35600	19.827	44100	20.446	53900	20.967	65300	21.439	78500	21.909	93500	22.423	110800	23.03	130300	23.776
	6000	50	-	-	-	-	38900	24.851	47700	25.421	57800	25.863	69400	26.224	82700	26.551	97800	26.892	115000	27.294
6000	60	-	-	-	-	-	-	-	-	48900	31.402	58800	31.729	70100	31.943	83100	32.094	97900	32.226	
6000	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 0 K

Superheat: 10 K

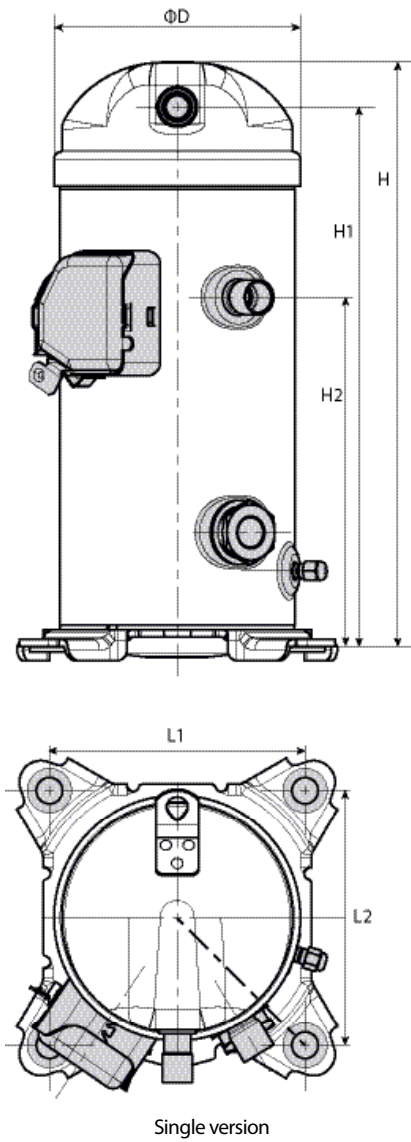
Voltage code: G: 380 – 480 V / 3 / 50 and 60 Hz



For more information and performance with other refrigerants, please refer to Coolselector® 2 at [coolselector.danfoss.com](http://coolselector.danfoss.com) or contact Danfoss.



# Dimensions



Version	Compressor model	D	H	H1	H2	L1	L2	Outline drawing number
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
Single	VZH052-065	183.5	436	403	261	190.5	190.5	8590007

# Nomenclature and Dimensions

Variable speed: V

Family: VZH scroll

Lubricant: POE lubricant  
R410A refrigerant

Swept volume: in [cm<sup>3</sup>/rev]

Design pressure ratio: A: high PR  
B: low PR

Evolution index

Motor protection:  
N: no internal motor protection (protection by drive)

Equipment version:  
A: brazed connections, single version  
B: brazed connections, manifold version

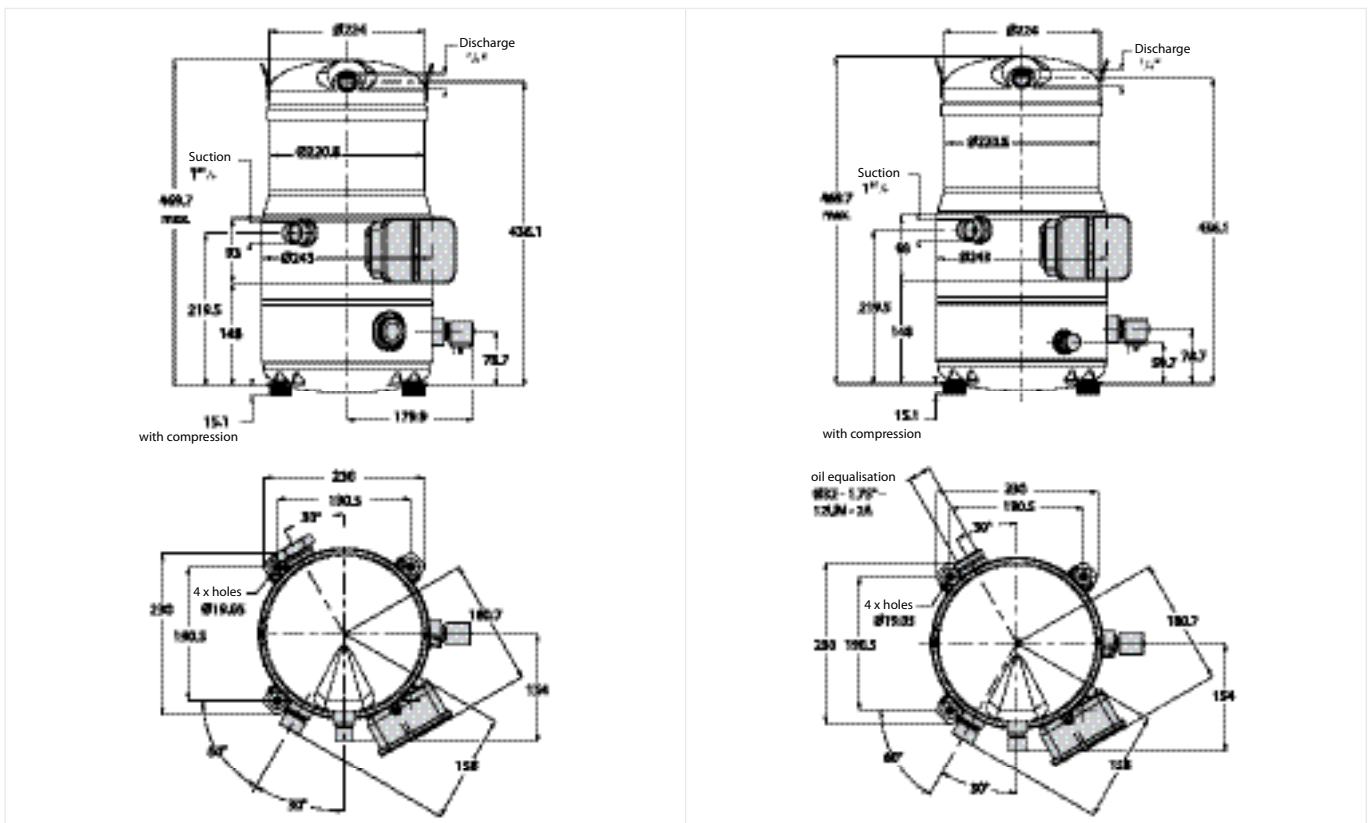
	Oil sight glass	Oil level switch
Single version	Threaded	None
Manifold version	None	Threaded

Motor voltage code to CDS303: \*)  
G: 380 – 480 V / 3 ~ / 50 / 60 Hz  
H: 252 – 600 V / 3 ~ / 50 / 60 Hz  
J: 200 – 240 V / 3 ~ / 50 / 60 Hz

\*) main supply voltage to frequency converter

## VZH088-G-H - Single version

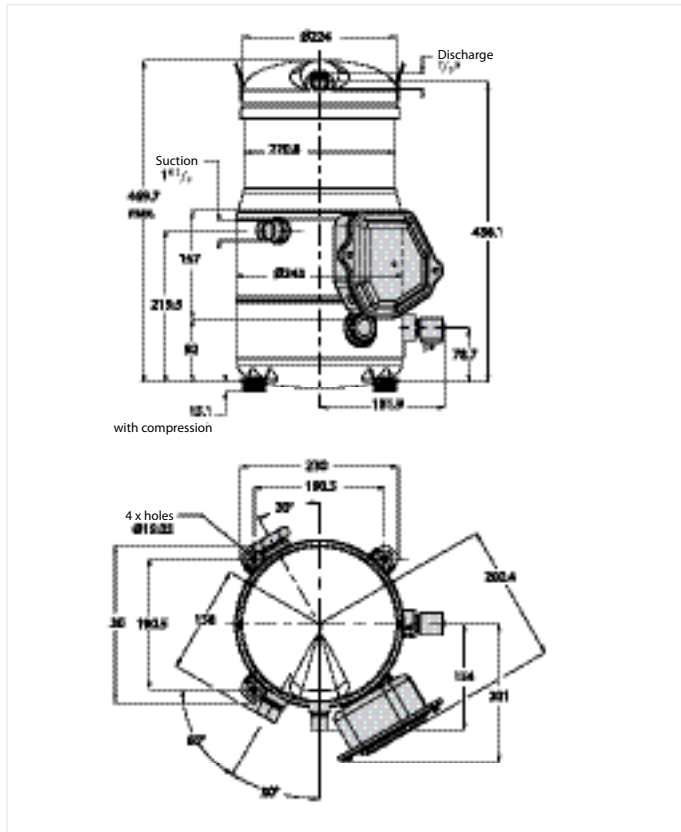
## VZH088-G-H - Manifolded version



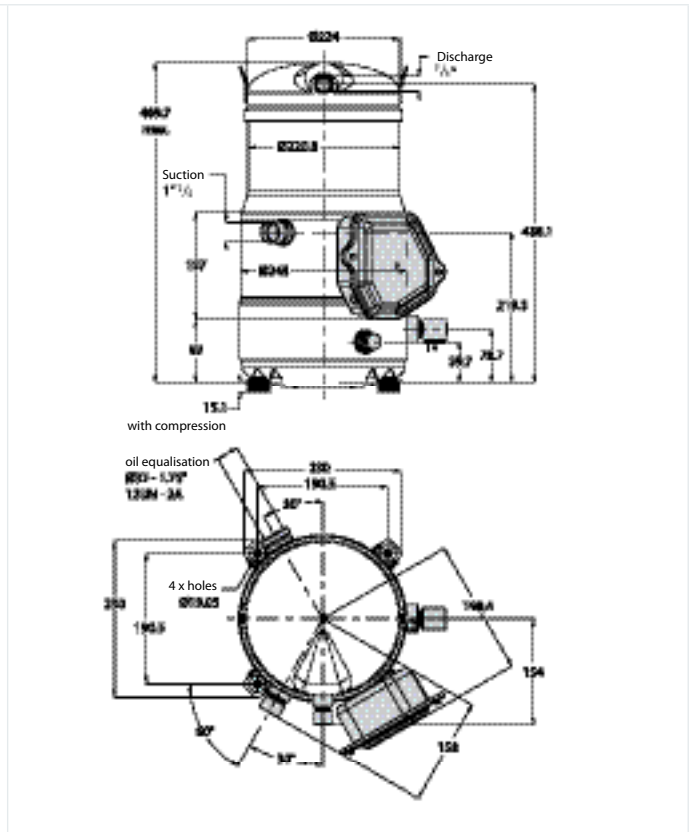


# Dimensions

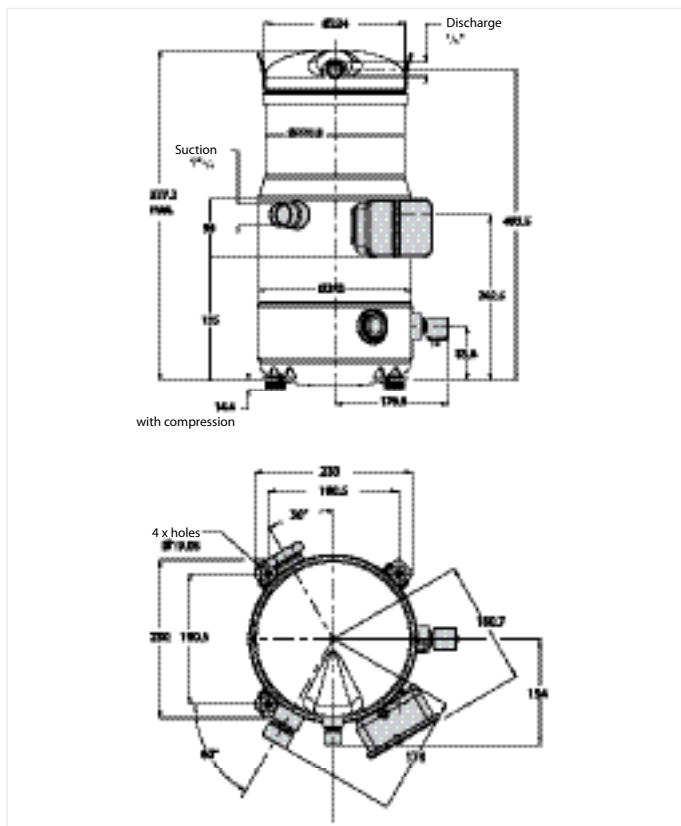
## VZH088-J - Single version



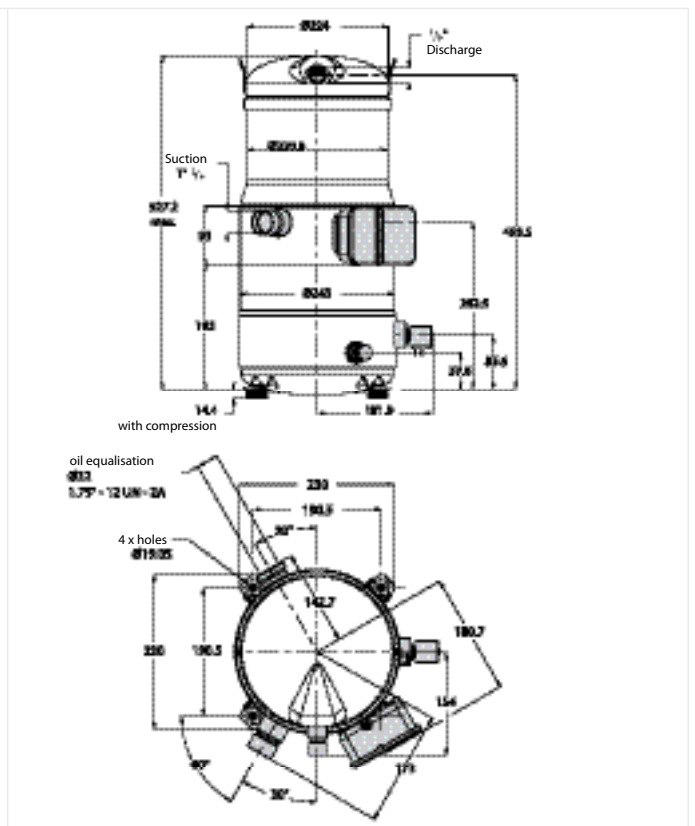
## VZH088-J - Manifolged version



## VZH117-G-H - Single version



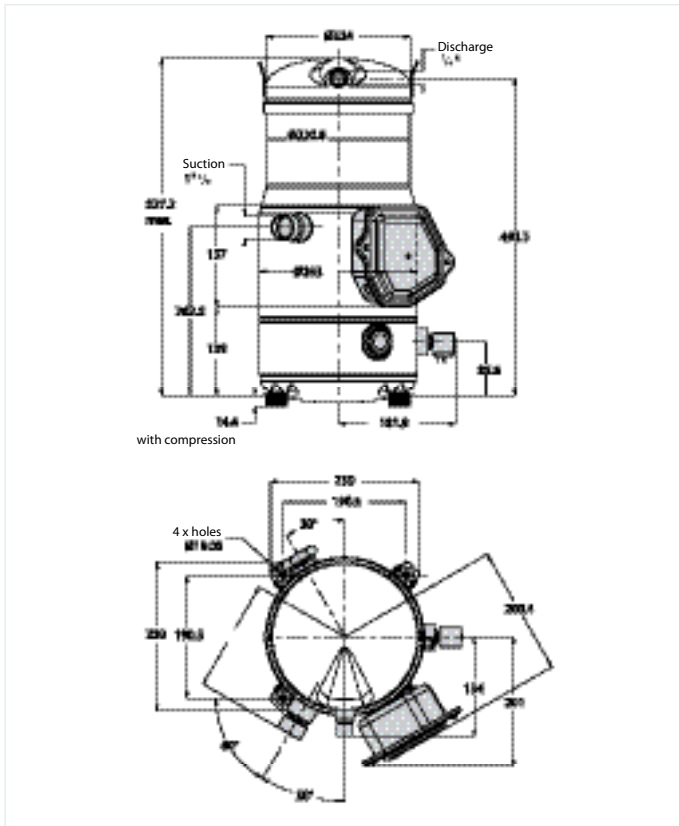
## VZH117-G-H - Manifolged version



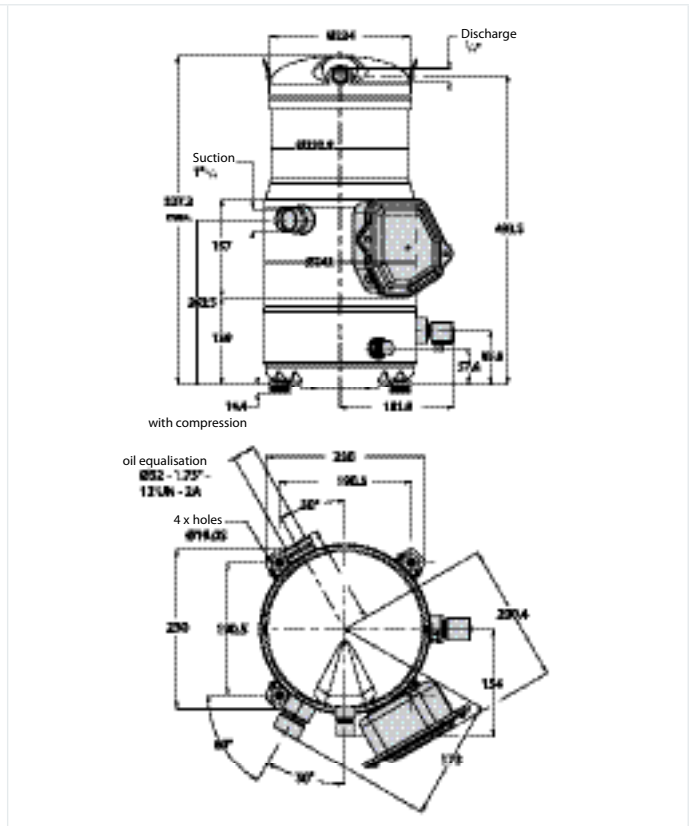
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# Dimensions

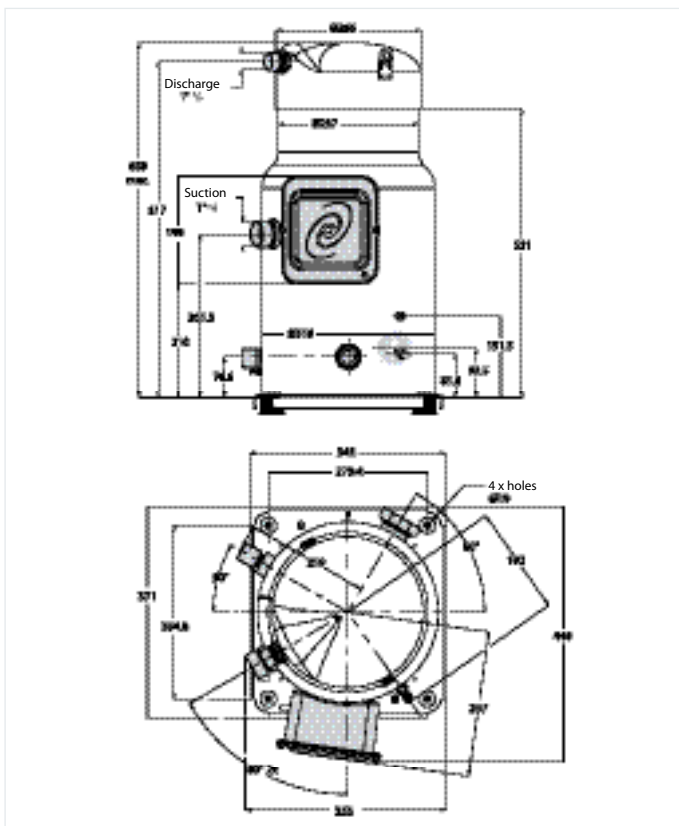
## VZH117-J - Single version



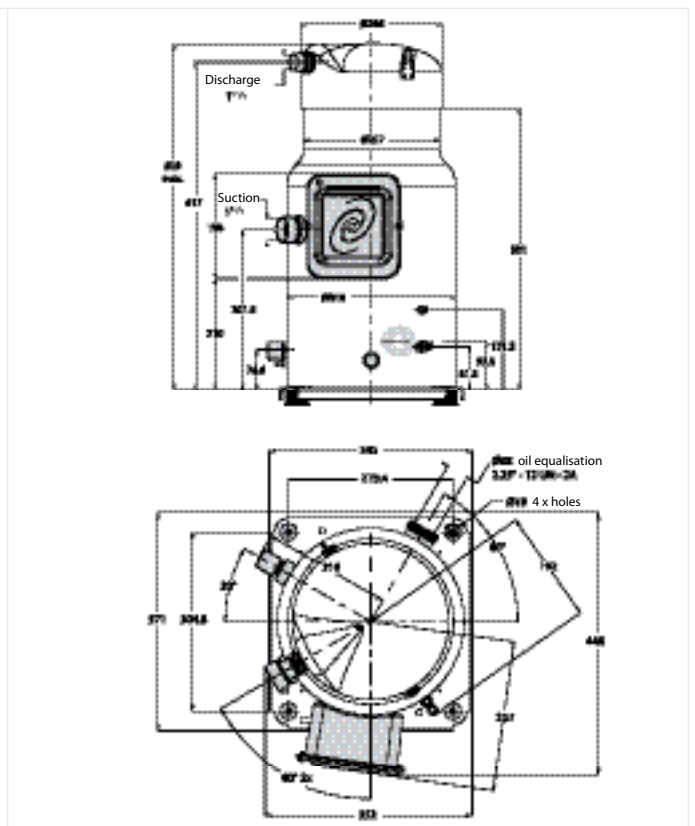
## VZH117-J - Manifolded version



## VZH170-G-H - Single version

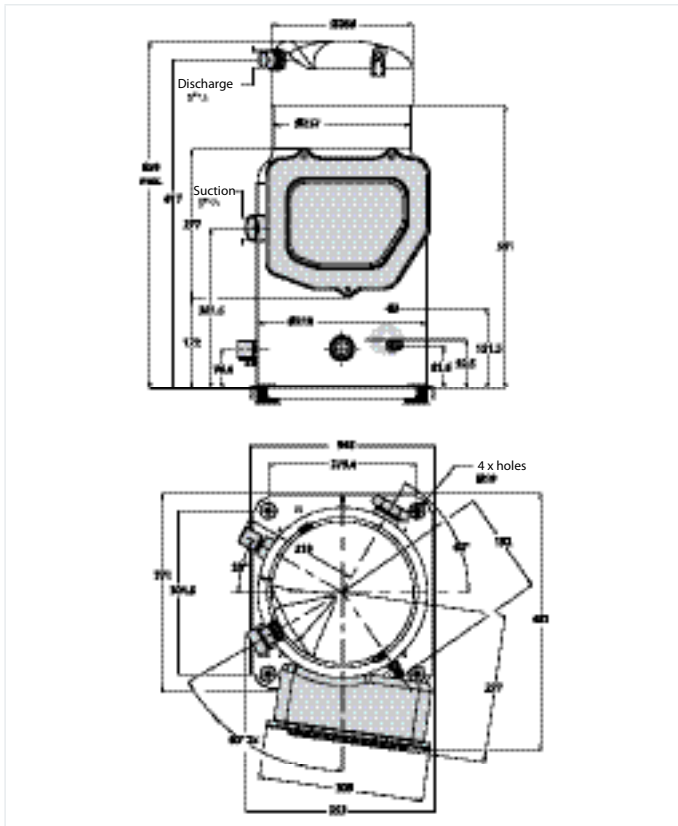


## VZH170-G-H - Manifolded version

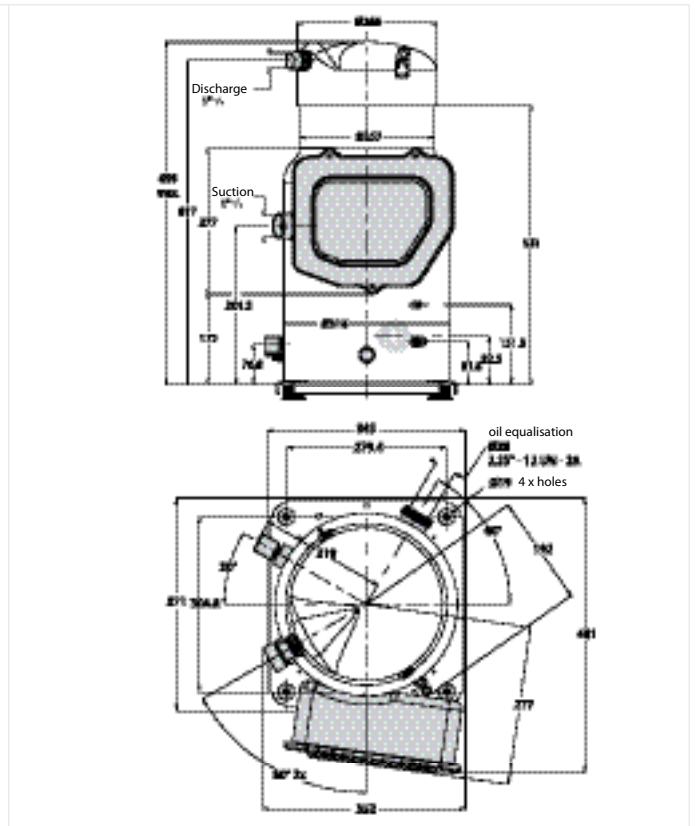


# Dimensions

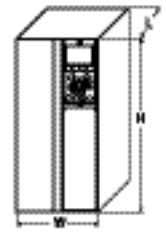
## VZH170-J - Single version



## VZH170-J - Manifolded version



# Technical data



## Inverter scroll compressor - VZH 028-065 converter

### Frequency converter dimensions

Compressor model	Drive supply voltage	Drive power [kW]	Compressor voltage code	IP20				IP55			
				Drive enclosure	Overall drive size (H x W x L) [mm]	Overall drive size incl. decoupling plate (H x W x L) [mm]	Clearance above / below [mm/inch.]	Drive enclosure	Overall drive size (H x W x L) [mm]	Overall drive size incl. decoupling plate (H x W x L) [mm]	Clearance above / below [mm/inch.]
VZH028	T2: 200-240/3/50-60	6	J	H4	296x135x241	359x135x241	100/4	-	-	-	-
VZH035		7.5		H4	296x135x241	359x135x241	100/4	-	-	-	-
VZH044		10		H5	334x150x255	402x150x255	100/4	-	-	-	-
VZH052-065		11		B4	520x230x242	595x230x242	200/8	B2	650x242x260	-	200/8
VZH028	T4: 380-480/3/50-60	6	G	H3	255x100x206	329x100x206	100/4	-	-	-	-
VZH035		7.5		H3	255x100x206	329x100x206	100/4	-	-	-	-
VZH044		10		H4	296x135x241	359x135x241	100/4	-	-	-	-
VZH052		11		B3	399x165x249	420x165x249	100/4	B1	480x242x260	-	100/4
VZH065		15		B3	399x165x249	420x165x249	100/4	B1	480x242x260	-	100/4
VZH028	T6: 525-600/3/50-60	7.5	H	A3	268x130x205	374x130x205	100/4	-	-	-	-
VZH035		11		B3	399x165x249	420x165x249	100/4	-	-	-	-
VZH044		11		B3	399x165x249	420x165x249	100/4	-	-	-	-
VZH052		11		B3	399x165x249	420x165x249	100/4	B1	480x242x260	-	100/4
VZH065		11		B4	520x230x242	595x230x242	200/8	B2	650x242x260	-	200/8

Frequency converter dimensions depend on supply voltage, IP rating and power  
 The table gives an overview of the overall dimensions and different drive enclosures (H3 - H5)  
 Details for each drive enclosure are on the following pages

## Inverter scroll compressor - VZH 088-170 converter

### Frequency converter dimensions

Compressor model	Drive supply voltage	Drive power [kW]	Compressor voltage code	IP20			IP55		
				Drive enclosure	Overall drive size (H x W x L) [mm]	bracket supplied [mm <sup>2</sup> ]	Overall drive size incl. decoupling plate (H x W x L) [mm]	Clearance above / below [mm/inch.]	bracket supplied [mm <sup>2</sup> ]
VZH088	T2: 200-240/3/50-60	15	J	B4	595x230x242	2pcs, ø24-28k28b 1pcs, ø32-36 k36b	C1	680x308x310	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b
VZH117		18.5		C3	630x308x333	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b	C1	680x308x310	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b
VZH170		22		C3	630x308x333	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b	C1	680x308x310	1pcs, ø32-36 k36b 1pcs, ø36-40 k40b
VZH088	T4: 380-480/3/50-60	15	G	B3	420x165x249	3pcs, Ø13-22	B1	480x242x260	3pcs, ø3-32
VZH117		18.5		B4	595x230x242	2pcs, ø24-28 k28b	B2	650x242x260	3pcs, ø3-32
VZH170		22		B4	595x230x242	2pcs, ø24-28 k28b	B2	650x242x260	3pcs, ø14-40
VZH088	T6: 525-600/3/50-60	18	H	B4	595x230x242	2pcs, ø24-28 k28b	-	-	-
VZH117		30		B4	595x230x242	2pcs, ø24-28 k28b	-	-	-
VZH170		30		B4	595x230x242	2pcs, ø24-28 k28b	-	-	-

Frequency converter dimensions depend on supply voltage, IP rating and power  
 The table gives an overview of the overall dimensions and different drive enclosures (H3 - H5)  
 Details for each drive enclosure are on the following pages  
 For customers who need other size brackets, please refer to accessories for ordering.

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