

VORTEX HEATING PUMPS

CIRCULATION PUMPS

FOR HEATING SYSTEMS AND
AIR-CONDITIONING SYSTEMS

Not for trade
in the European
Economic Area
(EWR).



- Pumps
- Technical structure
- Technical data
- Fitting kits
- Replacement overview

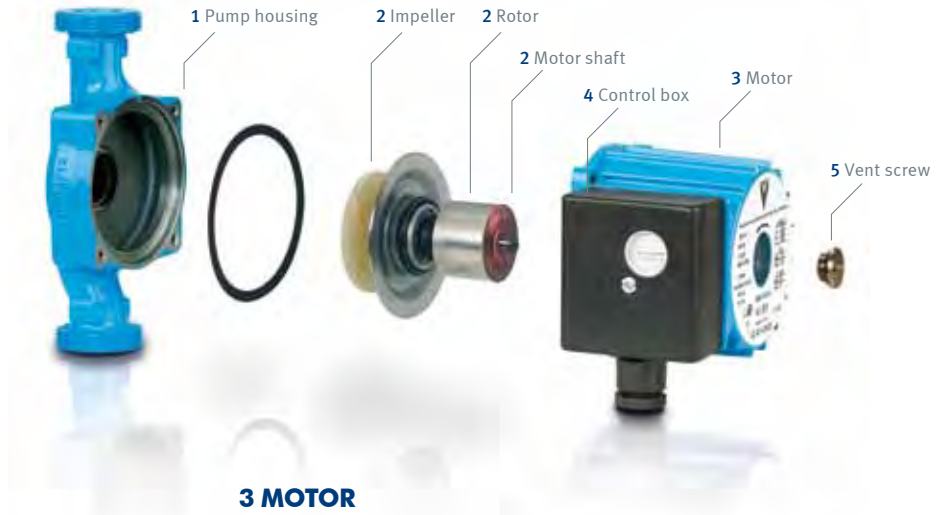


TECHNICAL STRUCTURE

CIRCULATION PUMPS HZ, HK, ZHK AND TWIN CIRCULATION PUMPS HKD, ZHKD

PICTURE HZ 401 – DN 25

The VORTEX HZ, HK and HKD pumps are used for supplying heating systems in single- and multifamily homes. The ZHK and ZHKD circulation pumps are used to supply buildings with higher heating requirements and for the circulation of water in conditioning circuits and industrial hydraulic systems.



1 PUMP HOUSING

The pump housing is made of cast iron. The motor is secured to the pump housing by four bolts, thus allowing the installation position of the motor to be varied. The circulation pumps HK 11, HKD, ZHK and ZHKD are equipped with flange housings (up to DN 80) equipped with a threaded manometer connection.

2 HYDRAULIC COMPONENT

The rotor casing, motor shaft and motor can are made of stainless steel. The impeller is made of technopolymer. The bearings are made of hard carbon. The bearings are lubricated by the pumped liquid. This ensures silent operation and a long service life.

3 MOTOR

The pumps are driven by a two-pole asynchronous motor. The motor housing is made of pressure-proof aluminium. Openings in the motor housing ensure that condensation can drain off.

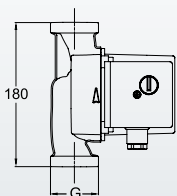
4 CONTROL BOX

The pump speed is regulated at the control box. The pumps have a 2- or 3-step speed regulation. The performance of the twin circulation pumps can be varied by using either one or both of the 2 motors.

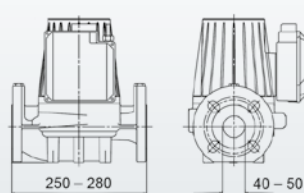
5 VENT SCREW

The vent screw is used to bleed the pump and to free the motor shaft if the pump has not been used for a longer period of time.

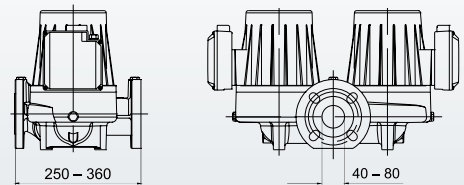
Pump housing without flange
HZ/HK



Pump housing with flange
HK/ZHK



HKD / ZHKD



FITTING KITS

	THREADED FITTING KIT	THREADED FITTING KIT	THREADED FITTING KIT
Connection	1" internal	1" external	1 1/4" internal
for pumps	DN 25	DN 25	DN 32
Order number	420-000-001	420-000-003	420-000-004

HEATING PUMPS

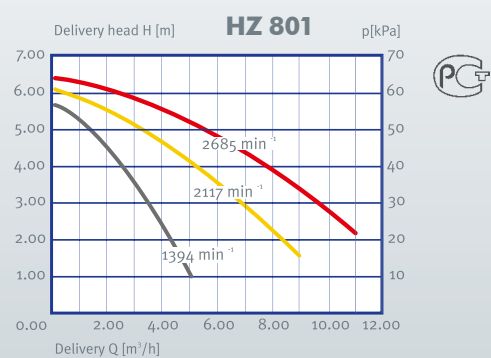
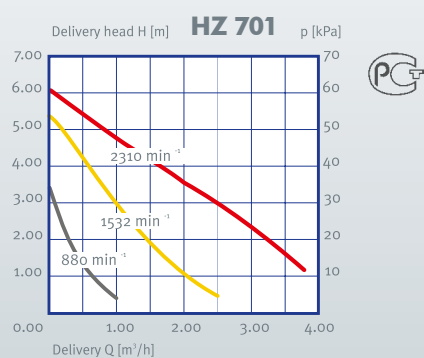
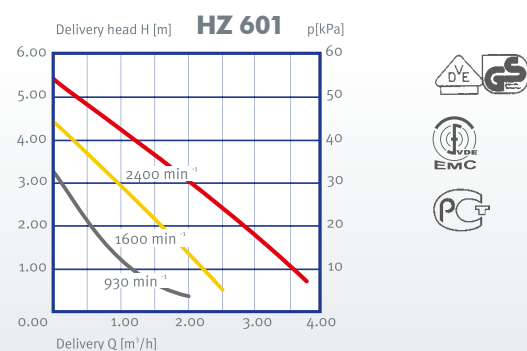
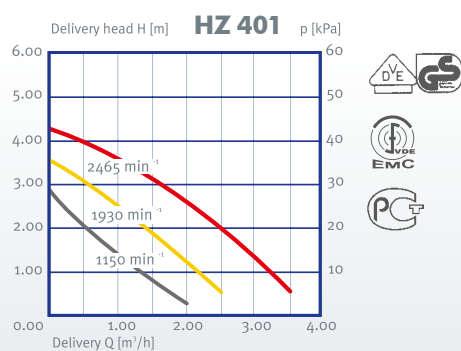
TYPE HZ


HZ 401 – DN25/DN32
HZ 601 – DN25/DN32
HZ 701 – DN25/DN32
HZ 801 – DN 25/DN32

Order number	421-871-000 / 421-811-000	421-971-000 / 421-911-000	421-671-000/421-611-000	421-771-000 / 421-711-000
G bei DN 25	1 1/2"	1 1/2"	1 1/2"	1 1/2"
G bei DN 32	2"	2"	2"	2"

TECHNICAL DATA

Max. operating pressure	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)
Temperature resistance	110 °C	110 °C	110 °C	110 °C
Voltage	1~230 V A.C. / 50 Hz	1~230 V A.C. / 50 Hz	1~230 V A.C. / 50 Hz	1~230 V A.C. / 50 Hz
Power consumption / Nominal current	I 35 W 0.16 A II 50 W 0.22 A III 56 W 0.25 A	I 36 W 0.17 A II 58 W 0.26 A III 70 W 0.30 A	I 37 W 0.17 A II 59 W 0.26 A III 78 W 0.34 A	I 224 W 1.00 A II 294 W 1.32 A III 271 W 1.18 A
Capacitor	1.7 µF 450 W	1.7 µF 450 W	2.0 µF 450 W	7.0 µF 400 W
Protection class	IP 44	IP 44	IP 44	IP 44



CIRCULATION PUMPS

TYPE HK AND HKD



HK 5-M 180 – DN 32

HK 8-M 180 – DN 32

HK 11-T 180 – DN 32

Order number	451-100-0000006	451-100-0000005	453-100-0000007
Overall length	180	180	180
G (thread)	2"	2"	2"

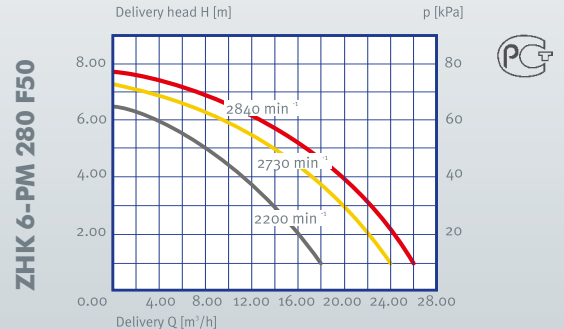
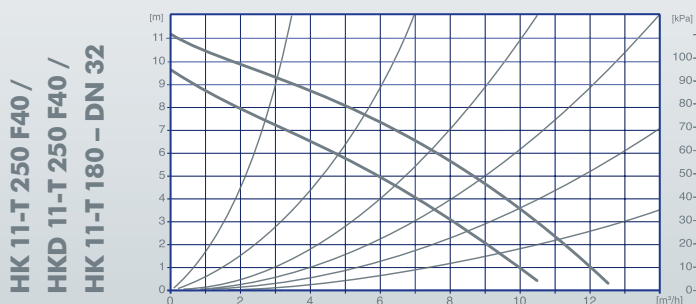
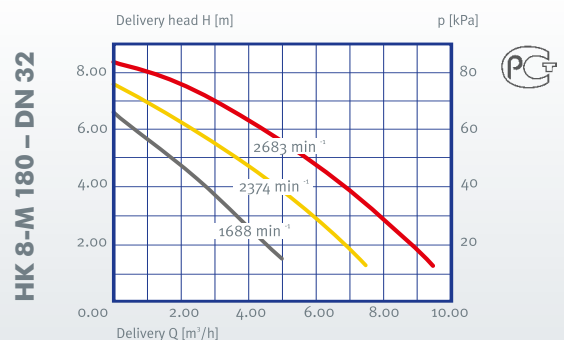
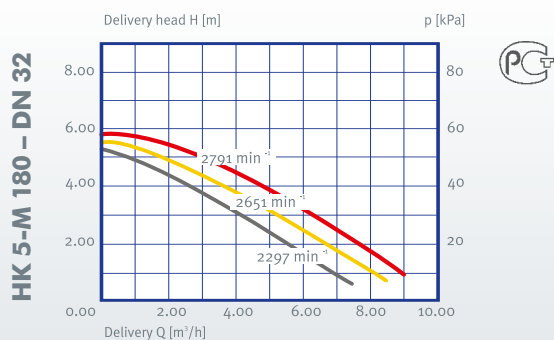
HK 11-T 250 F40

HKD 11-T 250 F40

Order number	453-100-0000009	453-200-0000010
Overall length	250	250
Flange	Ø 40	Ø 40

TECHNICAL DATA

Max. operating pressure	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)
Temperature resistance	110 °C	110 °C	110 °C	110 °C
Voltage	1~230 V A.C. / 50 Hz	1~230 V A.C. / 50 Hz	3~400 V A.C. / 50 Hz	3~400 V A.C. / 50 Hz
Power consumption / Nominal current	I 168 W 0.80 A II 189 W 0.92 A III 184 W 0.92 A	I 218 W 1.00 A II 260 W 1.17 A III 256 W 1.12 A	I 289 W 0.48 A II 403 W 0.90 A	I 289 W 0.48 A II 403 W 0.90 A
Capacitor	4 µF 400 W	7 µF 400 W		
Protection class	IP 44	IP 44	IP 44	IP 44



CIRCULATION PUMPS

TYPE ZHK AND ZHKD



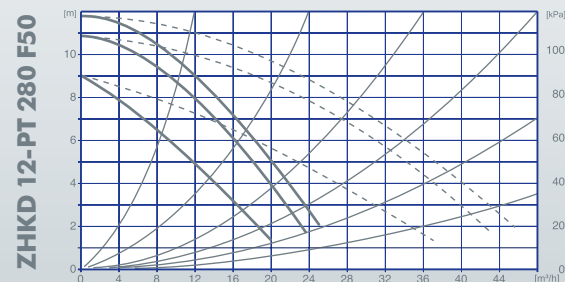
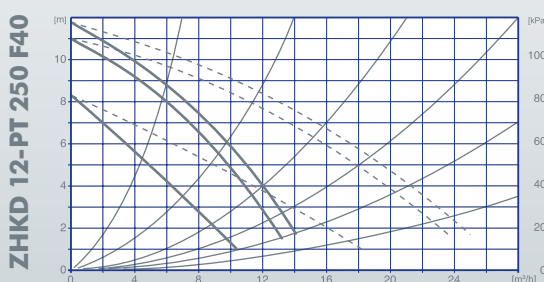
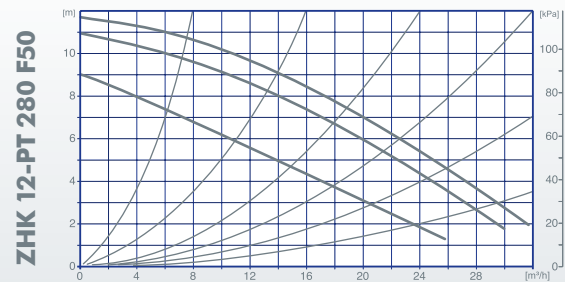
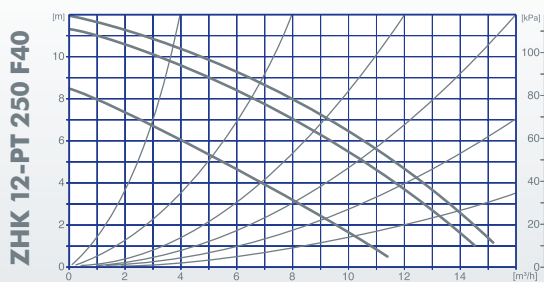
Graph see page 4

ZHK 6-PM 280 F50**ZHK****ZHK 12-PT 250 F40****ZHKD****ZHK 12-PT 280 F50**

Order number	451-100-0000003	453-100-0000008	453-100-0000001
		ZHKD 12-PT 250 F40	ZHKD 12-PT 280 F50
Order number		453-200-0000001	453-200-0000002
Overall length	280	250	280
Flange	Ø 50	Ø 40	Ø 50

TECHNICAL DATA

Max. operating pressure	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)
Temperature resistance	110 °C	120 °C	120 °C
Voltage	1~230 V A.C. / 50 Hz	3~400 V A.C. / 50 Hz	3~400 V A.C. / 50 Hz
Power consumption / Nominal current	I 506 W I 2.58 A II 540 W II 2.45 A III 595 W III 2.80 A	I 339 W I 0.62 A II 499 W II 0.98 A III 536 W III 1.16 A	I 603 W I 1.00 A II 840 W II 1.47 A III 898 W III 1.67 A
Protection class	IP 42	IP 44	IP 44



CIRCULATION PUMPS

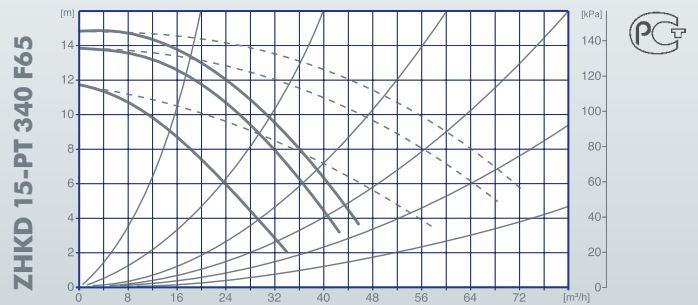
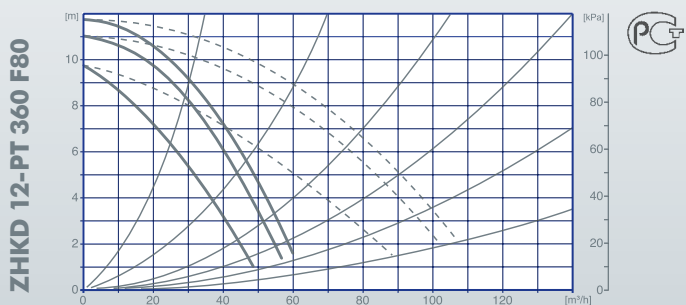
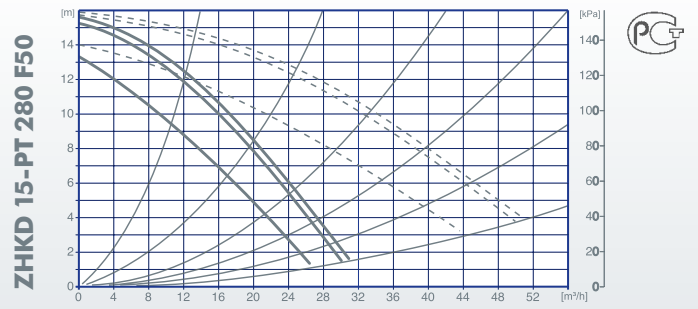
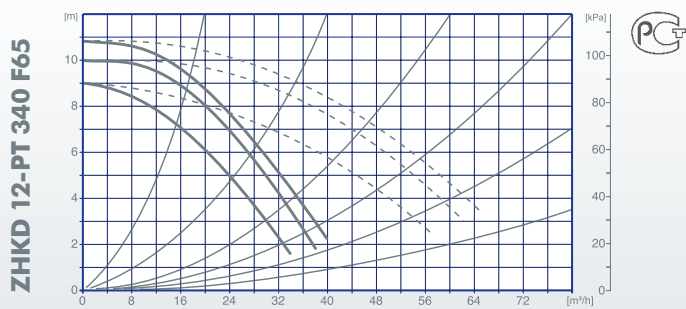
TYPE ZHKD



	ZHKD 12-PT 340 F65	ZHKD 15-PT 280 F50	ZHKD 15-PT 340 F65	ZHKD 12-PT 360 F80
Order number	453-200-0000004	453-200-0000003	453-200-0000005	453-200-0000006
Overall length	340	280	340	360
Flange	Ø 65	Ø 50	Ø 65	Ø 80

TECHNICAL DATA

Max. operating pressure	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)
Temperature resistance	120 °C	110 °C	110 °C	120 °C
Voltage	3~400 V A.C. / 50 Hz	3~400 V A.C. / 50 Hz	3~400 V A.C. / 50 Hz	3~400 V A.C. / 50 Hz
Power consumption / Nominal current	I 934 W 1.52 A II 1200 W 2.25 A III 1275 W 2.64 A	I 1030 W 1.70 A II 1360 W 2.50 A III 1470 W 2.90 A	I 1210 W 2.00 A II 1690 W 2.93 A III 1796 W 3.25 A	I 1302 W 2.13 A II 1710 W 2.93 A III 1820 W 3.30 A
Protection class	IP 44	IP 44	IP 44	IP 44





REPLACEMENT OVERVIEW

- Pump housing with flange
- ◆ Adapt pipework
- ▲ Check point of operation

GRUNDFOS	OVERALL LENGTH	DN	→ VORTEX	OVERALL LENGTH	DN	COMMENT
UPS 25-40 180 1x230 B	180	25	HZ 401 - DN 25	180	25	
UPS 25-50 180 1x230 B	180	25	HZ 601 - DN 25	180	25	
UPS 25-70 180 1x230 B	180	25	HZ 701 - DN 25	180	25	
UPS 25-80 180 1x230 B	180	25	HZ 801 - DN 25	180	25	
UPS 32-40 180 1x230 B	180	32	HZ 401 - DN 32	180	32	
UPS 32-55 180 1x230 B	180	32	HK 5-M 180 - DN 32	180	32	
UPS 32-60 180 1x230 B	180	32	HZ 601 - DN 32	180	32	▲
UPS 32-60 180 1x230 B	180	32	HZ 701 - DN 32	180	32	▲
UPS 32-80 180 1x230 B	180	32	HZ 801 - DN 32	180	32	▲
UPS 32-120 F 3x400 B	220	32	HK 11-T 250 F40	250	40	◆
UPS 40-120 F 3x400 B	250	40	ZHK 12-PT 250 F40	250	40	
UPS 50-120 F 3x400 B	280	50	ZHK 12-PT 280 F50	280	50	
UPSD 32-120 F 3x400 B	220	32	HKD 11-T 250 F40	250	40	◆
UPSD 40-120 F 3x400 B	250	40	ZHKD 12-PT 250 F40	250	40	
UPSD 50-120 F 3x400 B	280	50	ZHKD 12-PT 280 F50	280	50	
UPSD 50-180 F 3x400 B	280	50	ZHKD 15-PT 280 F50	280	50	
UPSD 65-120 F 3x400 B	340	65	ZHKD 12 PT 340 F65	340	65	
UPSD 65-180 F 3x400 B	340	65	ZHKD 15-PT 340 F65	340	65	
UPSD 80-120 F 3x400 B	360	80	ZHKD 12-PT 360 F80	360	80	

WILO	OVERALL LENGTH	DN	→ VORTEX	OVERALL LENGTH	DN	COMMENT
Star RS 25/4 180 1x230 B	180	25	HZ 401 - DN 25	180	25	
Star RS 25/5 180 1x230 B	180	25	HZ 601 - DN 25	180	25	
Star RS 25/6 130 1x 230 B	180	25	HZ 601 - DN 25	180	25	▲
Star RS 25/7 180 1x230 B	180	25	HZ 701 - DN 25	180	25	
Star RS 30/4 180 1x230 B	180	32	HZ 401 - DN 32	180	32	
Star RS 30/6 180 1x230 B	180	32	HZ 601 - DN 32	180	32	▲
Star RS 30/6 180 1x230 B	180	32	HZ 701 - DN 32	180	32	▲
Star RS 30/7 180 1x230 B	180	32	HK 5-M 180 - DN 32	180	32	
TOP-S 30/7 1x230 B	180	32	HZ 801 - DN 32	180	32	
TOP-S 30/10 3x400 B	180	32	HK 11-T 180 - DN 32	180	32	
TOP-S 40/10 3x400 B	250	40	ZHK 12-PT 250 F40	250	40	
TOP-S 50/10 3x400 B	280	50	ZHK 12-PT 280 F50	280	50	
TOP-SD 32/10 3x400 B	220	32	HKD 11-T 250 F40	250	40	◆
TOP-SD 40/10 3x400 B	250	40	ZHKD 12-PT 250 F40	250	40	
TOP-SD 50/10 3x400 B	280	50	ZHKD 12-PT 280 F50	280	50	
TOP-SD 50/15 3x400 B	340	50	ZHKD 15-PT 280 F50	280	50	◆
TOP-SD 65/10 3x400 B	340	65	ZHKD 12 PT 340 F65	340	65	
TOP-SD 65/15 3x400 B	340	65	ZHKD 15-PT 340 F65	340	65	
TOP-SD 80/10 3x400 B	360	80	ZHKD 12-PT 360 F80	360	80	

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DEUTSCHE VORTEX GMBH & CO. KG

Kästnerstraße 6 | 71642 Ludwigsburg | Phone: +49 (0) 71 41.2552-0 | Fax: +49 (0) 71 41.2552-70 | info@deutsche-vortex.de | www.deutsche-vortex.com