

Best Deal - STAINLESS STEEL



LAS - E Electric Water Heater Systems
Electrawa 6 - 48 kW



Stainless Steel Storage Tanks

Serie LAS-E 150 - 8000
or tailor made

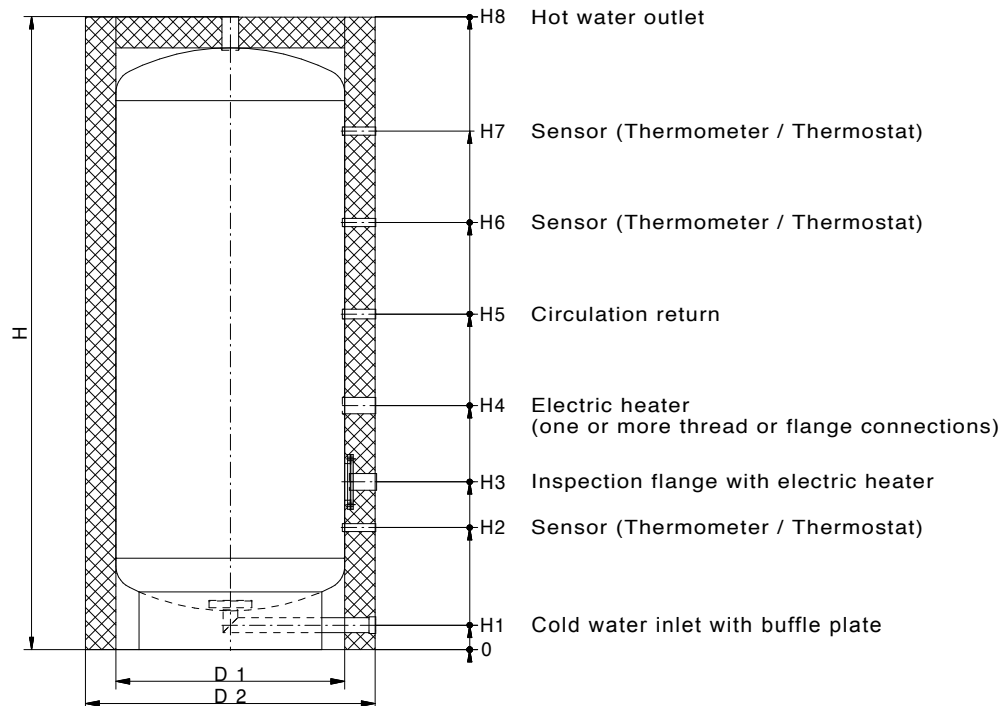
Electric capacity and control
to customers request



heat exchangers - hot water systems - district heating stations

TYPE: LAS-E

Domestic hot water storage tanks exclusively stainless steel



Measures in mm

Material: ANSI 316 Ti / 1.4571 / 1.4404

Capacity (L)	150	200	300	400	500	500	600	750	1000
H1	65	65	65	65	65	65	65	80	80
H2	380	305	305	350	350	350	365	400	430
H3	380	455	455	505	505	505	520	550	580
H4	580	700	650	700	800	750	700	800	900
H5	780	850	850	950	1080	960	1030	1100	1110
H6	580	1000	1050	1200	1360	1170	1360	1400	1320
H7	780	1150	1250	1400	1640	1380	1690	1700	1530
H8	992	1452	1552	1657	1992	1959	2048	2078	1750
H9									2037
H height total	992	1452	1552	1657	1992	1959	1990	2078	2087
D1 without insulation	500	500	500	600	600	650	650	750	900
D2 - polyesterfleece	700	700	700	800	800	850	850	950	1100
Weight (kg)	40	55	70	80	85	95	105	135	155
Ttl. height with insulation	1282	1603	1834	1915	2145	1952	2197	2280	2367
Ttl. height without insulation	1100	1470	1712	1756	2005	1774	2047	2101	2072
Connections									
Cold and hot water	FM 1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Electric heater	FM 1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Inspection flange	120/180	120/180	120/180	120/180	120/180	120/180	120/180	120/180	120/180
Circulation return	FM 3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Thermostat	FM 1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Thermometer	FM 1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Venting	FM								1"

* All FM connections according to DIN 2999 part 1 are extended to 110 mm

* 100mm fleece insulation with reinforced PR-jacked. Colour RAL 9006 silver

* LAS 150: Thermostat- and Thermometer connections are placed 180° offset

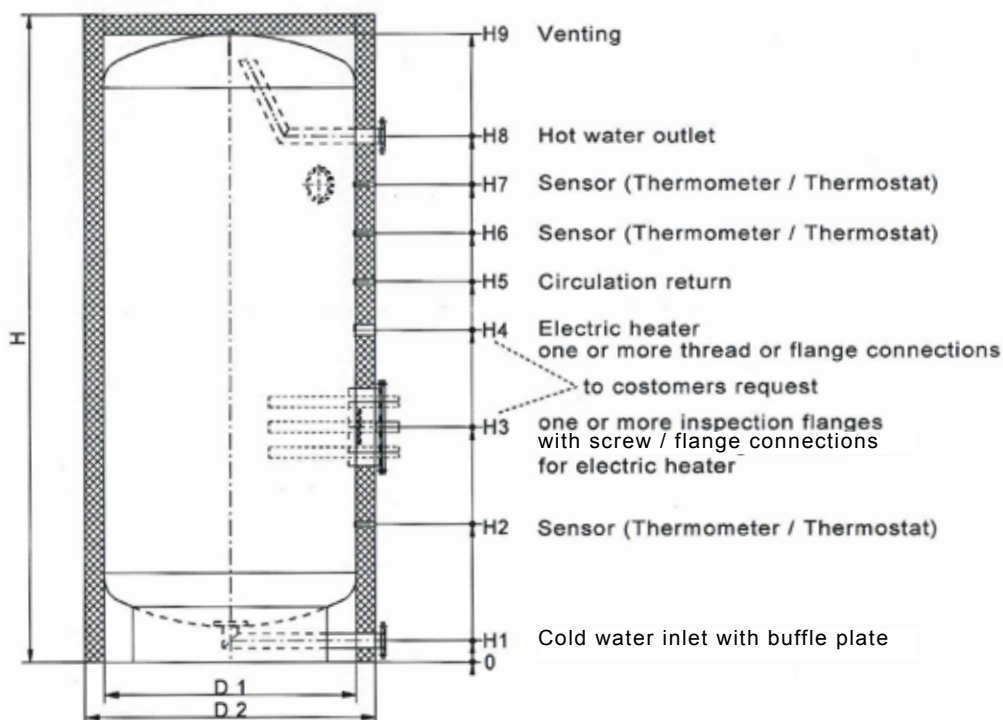
* LAS 1000: Hot water outlet is arranged laterally, in the upper dished bottom, a vent sleeve is used instead

* Subject to technical changes

heat exchangers - hot water systems - district heating stations

TYPE: LAS-E

Domestic hot water storage tanks exclusively stainless steel



Measures in mm

Material: ANSI 316 Ti / 1.4571 / 1.4404

Capacity (L)	1250	1500	2000	3000	4000	5000	6000	7000	8000
H1	70	70	100	110	115	115	115	135	135
H2	410	410	510	550	600	600	685	705	705
H3	545	545	710	900	950	950	1030	1050	1050
H4	750	900	1000	1310	1350	1500	1400	1500	1700
H5	965	1215	1360	1600	1500	2000	1600	1730	2080
H6	1065	1315	1460	1700	1700	2200	1800	1860	2210
H7	1265	1515	1660	1900	2100	2600	1980	2090	2440
H8	1515	1765	2060	2300	2600	3100	2285	2705	3055
H9	1830	2080	2421	2752	3080	3580	2846	3266	3616
H height total	1914	2164	2505	2836	3165	3665	2935	3355	3705
D1 without insulation	1000	1000	1100	1300	1400	1400	1800	1800	1800
D2 - polyesterwies	1200	1200	1300	1500	1600	1600	2000	2000	2000
Weight (kg)	180	215	285	450	475	670	1180	1300	1400
Tilt height without insulation	1907	2136	2523	2877	3267	3740	3134	3516	3840
Tilt height with insulation	2260	2475	2822	3208	3546	3999	3552	3906	4210
Connections									
Cold and hot water	FM 2"	FM 2"	DN 65	DN 65	DN 65	DN 65	DN 65	DN 100	DN 100
Electric heater	FM 1 1/2"	FM 1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Inspection flange	120/180	120/180	120/180	400/480	400/480	400/480	400/480	400/480	400/480
Circulation return	FM 3/4"	FM 3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Thermostat	FM 1/2"	FM 1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Thermometer	FM 1/2"	FM 1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Venting	FM 1"	FM 1"	1"	1"	1"	1"	1"	1"	1"

* All FM connections according to DIN 2999 part 1 are extended to 110 mm

* 100mm fleece insulation with reinforced PR-jacked. Colour RAL 9006 silver

* till 2000l is an additional handhole provided

* Subject to technical changes

heat exchangers - hot water systems - district heating stations

Control Cabinets

- The perfect and reliable controllers to satisfy the widest range of installation requirements
- Simple termination control panel for smaller models, Standard ON/OFF control panel with pressure sensing device for standard models, microprocessor control panel with the superior characteristics including cascade function as an option.
- CAD drawing and wiring diagram for each control panel
- Industrial rating electrical components
- All types of control panels can be fitted to any group of models

A. Basic Control panel:

- Industrial standard IP 54 enclosure
- Control panel mounted on tank
- Magnetic type trip switch for over current protection
- Manual reset function
- Relays control for each heating element/stage
- All elements electrically tested, wired and pre-assembled for easy installation
- All parts meet European safety standards



B. Standard Control panel:

- Industrial type standard control panel mounted on tank with hinged door
- Standard BMS signals with common fault indication
- IP54 protection enclosure
- Main power cut-off switch coupled to door inter-lock
- Automatic electric cut-outs
- Selector switch for each heating elements/stage
- Individual fault indication (ON while on trip) of short circuit or safety cut-out tripping for each heating element/stage, and volt free output contacts for Building Management System
- Low water cut-out and sensing device
- Heating element ON indication light
- Automatic temperature limiter with high limits switch
- All elements electrically tested, wired and pre-assembled for easy installation
- All parts meet European safety standards

C. Microprocessor control panel

- Industrial standard control panel mounted on tank or self standing with hinged door with microprocessor controller
- 3 heating stages as standard
- IP54 protection enclosure
- Mains power cut-off switch coupled to door inter-lock
- Heater indicator/LED for each heating elements/stage
- Power-on indicator/LED indication
- Auto-off-manual switch for each of the heating element/stage
- Electronic temperature sensor
- C1: Peak-off control timer with programmable stage control and digital display
- C2: Turn-key superior processor controller by DINOX
- Individual fault indication (ON while on trip) of short circuit or safety cut-out tripping for each heating element/stage, and volt free output contacts for Building Management System
- Low water cut-out and sensing device
- All elements electrically tested, wired and pre-assembled for easy installation
- All parts meet European safety standards



D. Control panel for Hot water boiler/Heat Exchanger/Legionellaes

- Turn-key superior processor controller by DINOX

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Electric screw plug heating elements - for water heaters

The screw plug heating element in this series has especially been designed for use in water heaters and are equipped with a 6/4" sleeve. Both the heating elements and the R 6/4" screw in flange are made of corrosion resistant stainless steel.

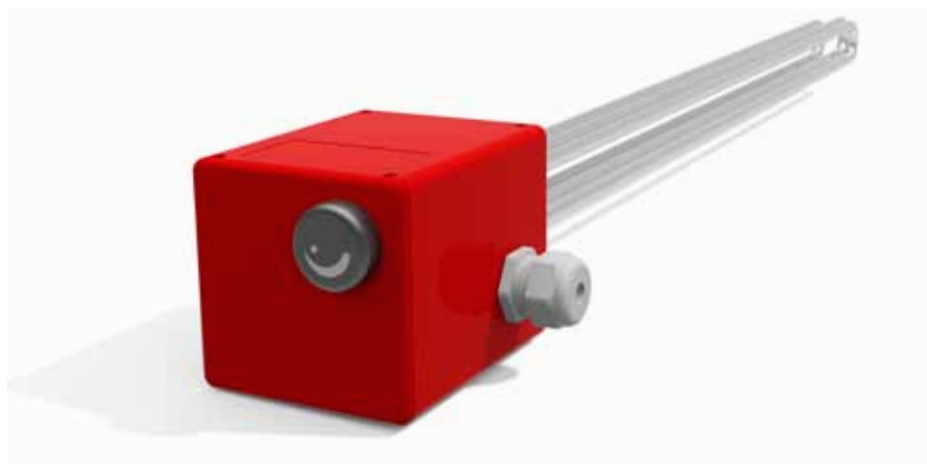
The plastic cover cap is sealed appropriately for sage use in damp conditions (protected from spray water, IP 54).

This cover cap has a built-in regulating thermostat (adjustment range up to 80 °C) with an external adjusting button and a safety temperature regulator (disconnection temperature at approx. 100 °C) with an internal reset button. The two temperature sensors (separate systems) are mounted in a protective tube and measure the water temperature directly. Therefore any damage to the heater is unlikely – also in the case of a defect regulating thermostat. Delivery without thermostats are possible. The screw plug heating elements have an unheated length of approx. 100 mm, which make them suited for installation in all conventional commercial heater with a maximum sleeve length of 100 mm. Standard series:

Model	Heating capacity	Voltage	Immersion length
EHKi – 2,00/1	2,00 kW	230 V	345 mm
EHKi – 2,50/1	2,50 kW	230 V	345 mm
EHKi – 2,50/3	2,50 kW	3 x 400 V	345 mm
EHKi – 3,00/3	3,00 kW	3 x 400 V	345 mm
EHKi – 3,75/3	3,75 kW	3 x 400 V	345 mm
EHKi – 4,50/3	4,50 kW	3 x 400 V	390 mm
EHKi – 6,00/3	6,00 kW	3 x 400 V	490 mm
EHKi – 7,50/3	7,50 kW	3 x 400 V	590 mm
EHKi – 9,00/3	9,00 kW	3 x 400 V	690 (600) mm
EHKi – 12,00/3	12,00 kW	3 x 400 V	1000 mm
DN 80 flange connection:			
HF 80 –18,0	18,00 kW	3 x 400 V	750 mm

assamby position: horizontally

Other heating capacities, voltages and installation lengths can be provided upon request and at short notice.



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Flange built-in electric heating systems

The flange built-in heating systems consist of an appropriate number of high-quality tubular radiators which are mounted on a flange plate. You can choose the appropriate type of built-in heating systems from our vast product range depending on the required power and installation position, the available fitting length and the required heating groups.

- Infinitely variable temperature control from 15 to 85 °C / 59 to 185 °F
- Energy-saving position at 65 °C / 149 °F
- Antifreezing position
- All-pole safety-temperature limiter
- Optimum protection against corrosion of the heating elements

Type	nominal power kW	nominal voltage	immersion Length mm	flange Ø mm
HF-186	6	400 V 3 pH	300	180
HF-189	9		300	180
HF-2812	12		400	280
HF-2815	15			
HF-2818	18			
HF-2821	21			
HF-2824	24			
HF-2827	27			
HF-2833	33			
HF-2836	36			
HF-2848	48			

assembly position: horizontally

other capacities or flange diameters on request



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Ceramic Heating Elements

Ceramic heating elements were designed for indirect heating of various liquid and gaseous media.

Product properties

The basic difference from all other heaters used is the exchangeability. Ceramic heating elements can be inserted into existing steel or stainless steel protective pipes. The protective pipes are welded, screwed or flanged into the vessel. The heating elements can be changed at any time without draining the medium.

Essential components in ceramic heating elements

Ceramic

The heating element consist of ceramic with high electrical insulation values.

Heating wire

The high heat resistant heating wire is pulled into the ceramic in spiral form. Collapsing of the spiral is ruled out by a horizontal arrangement of the heating element. In vertical installation, it is possible to prevent collapsing of the spiral by a special construction.

Protective tube

The protective tube with the internal diameter adapted to the external diameter of the ceramic heating elements can be delivered on request. Usually, the protective pipe is made of stainless steel. Special materials are possible.

Connection housing

On request a housing made of powder-coated steel sheet or stainless steel can be provided. The housing can be screwed to the vessel or flange.

Dimensions

Ceramic heating elements are available in the standard diameters of 21.5 mm, 32.0 mm, 36.5 mm, 46.0 mm and 58.0 mm.

Electrical connection

The electrical connection can be designed either as a flexible pure nickel wire or screw pins. Wiring on a motor terminal board is possible.

Note

Please state the installation position (horizontal/vertical) in the order.



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DMS - Electric - Water - Heater Type *Elektrawa*

Electric built-in heater, shell material steel ST 37.2 or stainless steel 1.4404/ANSI 316Ti, constructed for longterm running. Max. operating pressure 5 bar/steel 10 bar/stainless steel. Incl. insulation, painted steel sheet coated.

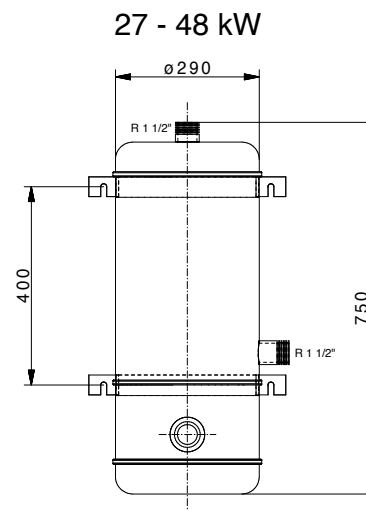
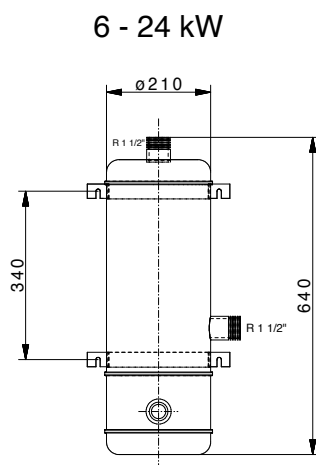
Appropriate number of high-quality tubular radiators are mounted on a flange plate.

Infinitely variable temperature control from 15 to 85°C
59 to 185°F, with safety temperature limiter 105°C /
221°F or 60°C / 140°F

Types ZA 15 - 48 kW with internal power steps. Connections 1 1/2" outside thread, on request others, return connection selective left or right
Electric connection: 3 phase, 380 V, with contactor

Type	capacity	weight	diameter	height
	kW	kg	mm	
ZA 6	6	15,0	210	640
ZA 9	9	15,0	210	640
ZA 12	12	15,5	210	640
ZA 15	15	16,0	210	640
ZA 18	18	16,0	210	640
ZA 24	24	16,5	210	640
ZA 27	27	23,0	290	750
ZA 36	36	24,0	290	750
ZA 48	48	31,0	290	750

Elektrawa



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Position	Quantity		single price Euro	total price Euro
		<p>Calorifier</p> <p>Type : LAS – E _____</p> <p>constructed and built according to DIN 4753 part 1, horizontal designed,</p> <p>max. operating pressure 6 / 10 bar testpressure 8 / 13 bar max. operating temperature 95°C/203°F</p> <p>Cold water connection placed at deepest point of the storage tank to ensure 100% use of contents, incl. flow damper, easy removable and recyclable fleece insula- tion with plastic cover, all necessary connections and hand-hole 120/180 mm/man-hole DN 400 suitable for electric-flange-heater</p> <p>Without E-Anode Material: stainless steel 1.4571 / 1.4404 / ANSI 316Ti pickled and neutralized. Butt seam welded – no crease – production supervised by TUV</p> <p>Contents: _____ l</p> <p>Connections: cold supply/hot water _____ “ FM circulation _____ “ FM thermometer _____ “ FM sensor _____ “ FM screwed-in-heater / flange heater _____ “ FM / DN _____ PN _____</p> <p>Measures: diameter with insulation _____ mm diameter without insulation _____ mm total height ca. _____ mm length ca. _____ mm weight: ca. _____ kg</p> <p>insulation mounted / not mounted</p>		

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Position	Quantity		single price Euro	total price Euro
		<p>ELHO screw-in-heater / flange heater</p> <p>with brazed heating elements maximum used till Kat. I according PED</p> <p>heated medium water</p> <p>to heating from water nominal capacity _____ kW = _____ kW nominal voltage 230 Volt 50 Hz /400 Volt 3ph</p> <p>dimensions: screw-in thread / flange _____ " DN immersion length thread _____ mm from that unheated _____ mm at thread / flange</p> <p>material: screw-in thread / flange stainless-steel heating elements incoloy 825</p> <p>electrical data: number of circuits _____ protection class IP 54 specific surface load _____ W/cm²</p>		

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Position	Quantity		single price Euro	total price Euro																
		<p>Control cabinet</p> <p>for electrical liquid heating application for heating capacity _____x_____ kW capacity per circuit _____ kW nominal voltage 400 volt 3ph control voltage 230 Volt AC electronic temperature control (PMA)*/ thermostatic temperature control and limiter* heating circuits switched by relay</p> <p>cabinet housing steel, powder coated colour RAL 7035 or similar size approx. _____ x _____ x _____ mm</p> <p>terminal connection brackets for wall mounting</p> <p>according to description and similar to wiring diagram</p> <p>approval and check according DIN/VDE 0113 and VBG 4</p> <p>documents standard 1-fold in english version</p> <p>Mounting accessories:</p> <table><tr><td>Venting</td><td>Flexvent Flamco</td></tr><tr><td>Ball valve (cold+hot water)</td><td>Pettinaroli 52TEU</td></tr><tr><td>Manometer</td><td>SUKU RFM 0-6 bar</td></tr><tr><td>Thermometer</td><td>0-120 °C SUKU BR 01</td></tr><tr><td>Low water protection</td><td>FEMA-Honeywell DWR</td></tr><tr><td>06-206</td><td></td></tr><tr><td>Safety valve</td><td>Honeywell SM 152 AA</td></tr><tr><td>Thermostat + Limiter</td><td>SAMSON 5348-1</td></tr></table> <p>Price:</p> <p>Package: Wrapped with transparent foil on one way wooden palett and wooden crate</p>	Venting	Flexvent Flamco	Ball valve (cold+hot water)	Pettinaroli 52TEU	Manometer	SUKU RFM 0-6 bar	Thermometer	0-120 °C SUKU BR 01	Low water protection	FEMA-Honeywell DWR	06-206		Safety valve	Honeywell SM 152 AA	Thermostat + Limiter	SAMSON 5348-1		
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Position	Quantity		single price Euro	total price Euro
		<p>DMS - Electric - Water - Heater</p> <p>Series Elekrawa</p> <p>Type: ZA _____</p> <p>Electric-built-in heater, shell material steel St 37.2 / stainless steel 1.4571 / 1.4404 / ANSI 316 TI incl. insulation with painted steel</p> <p>max. operating pressure 6 bar steel 10 bar stainless steel</p> <p>max. operating temperature 95 °C drinking water 120 °C heating water</p> <p>incl. infinitely variable temperature control thermostat adjustable range 15 to 85 °C / 59 to 185 °F with safety temperature limiter 105 °C / 221 °F or 60 °C / 140 °f</p> <p>Technical datas:</p> <p>capacity _____ kW / 400 V 3 pH</p> <p>internal power steps for types 15 - 48 kW</p> <p>diameter _____ mm</p> <p>height _____ mm</p> <p>weight _____ kg</p> <p>Connections outside thread 1 ½" others on request return connection left/right</p> <p>Price:</p>		