

Company name	Receiver	From	
Person in charge			
Phone number			
E-mail address			

IR4P-125-250B

Centrifugal pump: IR4P-125-250B
 CLOSE-COUPLED END-SUCTION ELECTRIC PUMPS
 1500 1/min
 IR4P-125-250B

DESCRIPTION
 Close-coupled electric pump with axial suction and pump body with normalized dimensions according to EN733
 Pumps and motors according to Directive 2009/125/CE (ErP).

USES
 Suitable for recirculation, heating and heat recovery system, water supply facilities, pressurisation groups
 MEI index according to EU Regulation 547/2012
 MEI > 0,4

CONSTRUCTIVE CHARACTERISTICS
 Back pull out design: the motor group and the rotating part of the pump, can be removed without having to remove the pump body from the piping of the plant
 Hydraulics: pump body with dimensions and performances according to EN733 standard (for the sizes covered), dynamically balanced closed impeller and balancing holes for balancing the axial thrust. All stainless steel shaft

IMPELLER
 Impeller material: Carbon steel G20Mn5
 Impeller diameter: 235 mm
 Shaft material: Stainless steel AISI 431 (1.4057)
 The impeller diameter suggested by the selection software is indicative only and not binding.

SEALS
 Seal type: Mech. seal EN 12756
 Seals materials: BVEGG

FLANGES
 TYPE: UNI EN 1092-1/2
 - Outlet: DN 125
 - Suction: DN 150
 Flanges PN: PN10 (Standard)

PUMP OPTIONS
 Design pressure: PN10 (Standard)
 Coating: Painting cycles C3 Durability medium (Standard)
 Drinking water certified version: No (Standard)

MOTOR
 Type: SAER MT4 - IE3 - 160-15
 Nominal power: 11 kW
 Voltage / Frequency / N. phases: 400 V / 50 Hz / 3~
 Poles: 4
 Motor efficiency: 91.4 %
 Efficiency class according to IEC 60034-30: IE3
 Insulation class: F
 Protection: IP 55
 Motor origin: SAER Made in Italy
 Motor suitable for use with VFD for supply voltage up to 500V, for voltage above 500V please contact SAER

MOTOR OPTIONS
 Motor protection: Without (Standard)
 Additional motor protection: Without (Standard)
 Additional motor options #1: Without (Standard)
 Additional motor options #2: Without (Standard)
 Additional motor options #3: Without (Standard)

COATING
 Two-component epoxy coating suitable for contact with drinking water.
 Coating: Painting cycles C3 Durability medium (Standard)

REQUESTED DATA
 Q=
 H=

CHARACTERISTIC DATA AT 1500 1/min
 Q= - Qmax=300.1 m³/h
 H=
 Power requested at the duty point P2=
 Max power requested along the curve P2max=11.17 kW
 Temperature of the pumped liquid: from -15°C up to +90°C (+120°C on request)
 Maximum working pressure (maximum pressure allowable considering the sum of the maximum pressure in suction and of the head at shut off):
 PN10 (on request PN16)
 Max environment temperature: 40°C (for higher temperature, please, verify).

INSTALLATION AND OPERATION CHARACTERISTICS
 The pumps series IR and IR4P can be positioned with horizontal axis, inclined or vertical as well but always with motor upward (vertical installation with motor upward allowed up to frame size 160 included, Contact SAER technical assistance for further information). The working features of this technical data sheet, the catalog and the plate are intended for continuous service and clean water (specific weight = 1000 kg/m3, kinematic viscosity = 1 mm2/s, temperature = 20°C)

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ACCESSORIES ON REQUEST
Kit counterflanges

PERFORMANCE TOLERANCES
Pumps: UNI EN ISO 9906: 2012- Grade 3B, other levels on request.
Motors: IEC 60034-1

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Summary

Pump

IR4P-125-250B			
Required flow	m³/h	Inlet/Outlet	UNI EN 1092 Standard
Required head	m	Flange standard	UNI EN 1092-1/2
Flow	m³/h	Pressure rating	PN10/16
Head	m	Nominal pipe size	DN150/DN125
Impeller size	ø 235		

Materials

IR-8		
Shaft	Stainless steel AISI 431 (1.4057)	Standard
Impeller	Carbon steel G20Mn5	Standard
Pump body	Cast iron EN-GJL-250	Standard
Seal disc	Cast iron EN-GJL-250	Standard
Gasket	Aramid fiber	Standard

Mechanical seal
BVEGG

Additional pump options

Design pressure	PN10 (Standard)
Coating	Painting cycles C3 Durability medium (Standard)
Drinking water certified version	No (Standard)

Motor

Frame size	160
Rated power	kW 11
Frequency	Hz 50
Electric voltage	V 400 V Standard
Efficiency Class IEC 60034-30	IE3

Additional motor options

Motor protection	Without (Standard)
Additional motor protection	Without (Standard)
Additional motor options #1	Without (Standard)
Additional motor options #2	Without (Standard)
Additional motor options #3	Without (Standard)

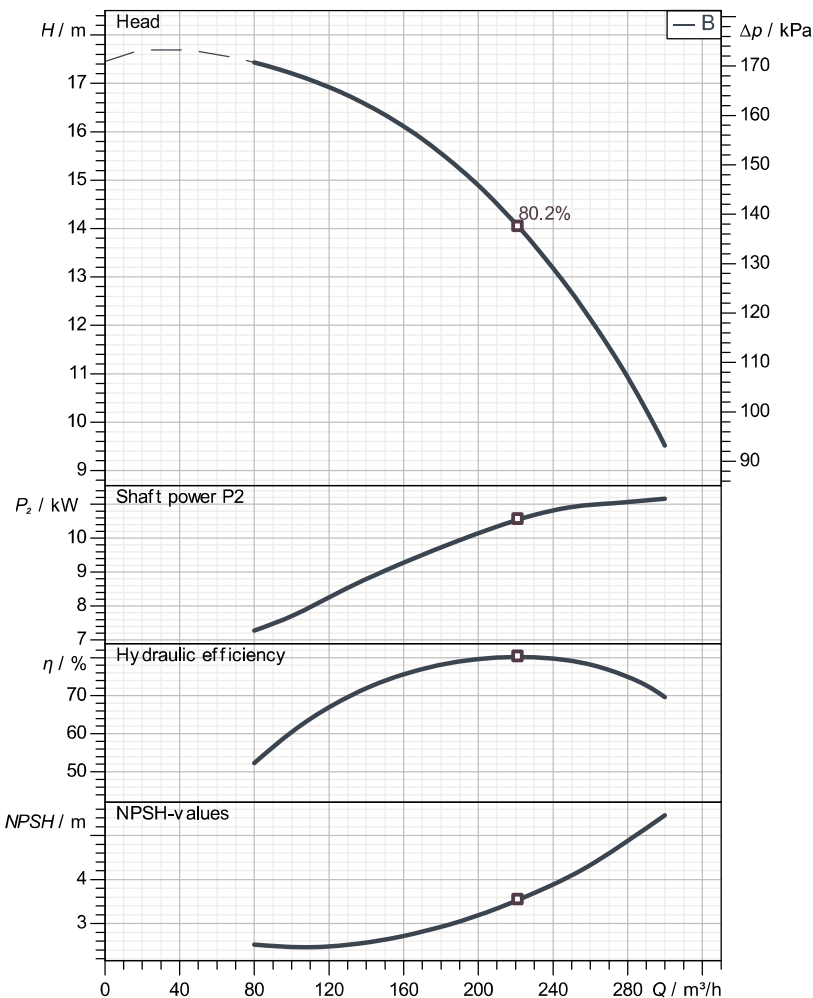
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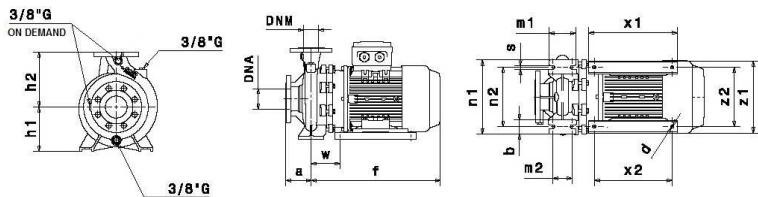
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Operating data specification



Dimensions

a	140	m2	120	z1	320	C	188	C	212
b	80	n1	400	z2	255	D	250	D	285
d	14	n2	315			DN	125	DN	150
f	710	s	18			K	210	K	240
h1	250	w	218			n°	8 x 18 r	n°	8 x 22
h2	355	x1	410						
m1	160	x2	370						



Nominal flow	m³/h
Nominal head	m
Static head	m
NPSH - value of plant	m
Inlet pressure	kPa 0
Fluid	Water
Operating temperature t A	°C 20
Density at t A	kg/m³ 998.3
Kin. viscosity at t A	mm²/s 1.005

Pump

Pump name	IR4P-125-250B			
Size	150/125/250	Weight	241.5	
Design		0,4		
Speed	1/min 1500	No of stages	1	
Impeller type				
	Nominal		m³/h	
Flow	Max-		m³/h 300	
	Min-		m³/h 80	
	Nominal		m	
Head	Max-		m 17.4	
	Min-		m 9.51	
Head H(Q=0)			m 17.5	
NPSH 3%			m	
Max. working pressure			kPa 171	
Shaft power			kW	
Efficiency			%	
Max absorbed power			kW 11.165	

Materials

Shaft	Stainless steel AISI 431 (1.4057)
Impeller	Carbon steel G20Mn5
Pump body	Cast iron EN-GJL-250
Seal disc	Cast iron EN-GJL-250
Gasket	Aramid fiber

Mech. seal EN 12756	
Seal face	Carbon impregnated with resin
Seat	Alumina oxide
Rubber elements	Rubber EPDM
Spring and metal bellows	Stainless steel AISI 316 (1.4401)

Motor

Manufacturer / Type	SAER 160-15		
Frame size	160		
Rated power	kW		11
Rated current	A		23.7 A
Service factor current	SF	1	-
Speed			1/min 1475
Electric voltage	V	400 V	Hz 50
Efficiency 4/4	91.4 %		
Starting mode	Unknown		
Degree of protection	IP 55		
Insulation class	F		

Dimensional drawings, weights and images are for illustrative purposes only and are not binding. SAER reserves the right to make changes to the dimensions and construction of its products at any time and without prior notice. The dimensions and weights given are not suitable for, nor should they be used in, the design or construction of systems and structures. For this purpose, when placing an order, please request a specific drawing for the product supplied.

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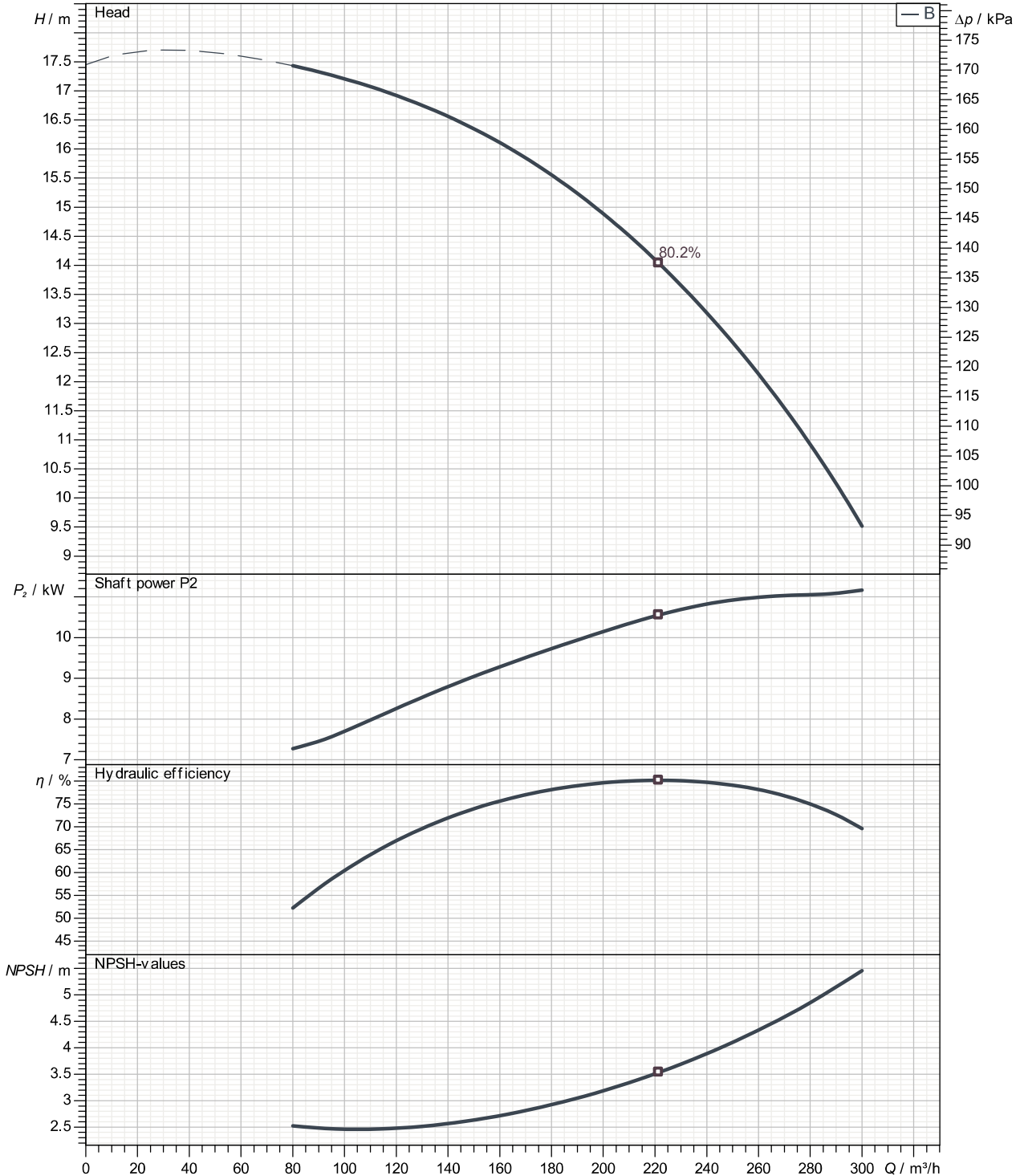
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Operating data specification

Operating area	Flow	Head	Impeller type	
Operating data specification	m³/h	m	Impeller construction	Closed
Pump data	m³/h	m	Sense of rotation	Clockwise from the drive end
	Flow	Head	Shaft power P2	Outlet width
	Min. Max. η Max.	H(Q=0) η Max.	P2(Q=0) Max. η Max.	DN125
	m³/h m³/h m³/h	m m	kW kW kW	1/min 1500
	80 300 221	17.5 14	7.27 11.2 10.6	Hz 50 Hz

Performance data based to: Water; 20°C; 998,3kg/m³; 1.005mm²/s

UNI EN ISO 9906:2012 grade 3B

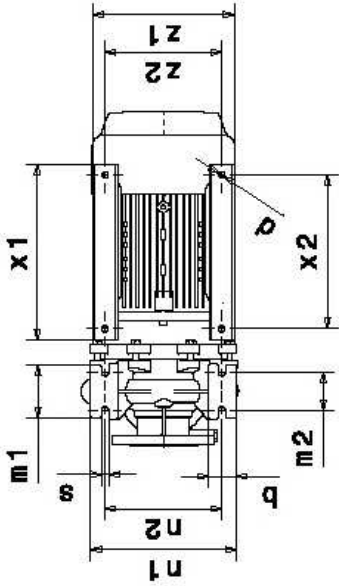
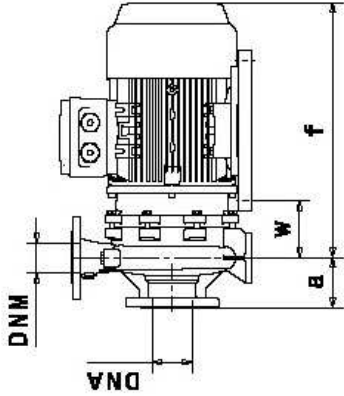
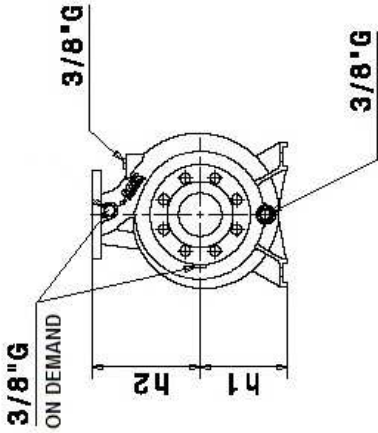
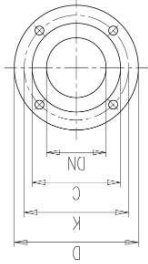


Pump dimensions

Connections

Suction side	Discharge port
DN150	DN125
PN10/16	PN10/16

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Dimensions in mm	
a	140
b	80
d	14
f	710
h1	250
h2	355
m1	160
m2	120
n1	400
n2	315
s	18
w	218
x1	410
x2	370
z1	320
z2	255

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Operating data specification

Operating data specification		Data	Unit
Model		MT4-160LC 11kW / 15HP	
Frame		160LC	
Mounting		Close coupled	
Rated power	P _n	11	kW
Rated voltage		400	V
Rated frequency		50	Hz
Rated speed	n	1480	
Service factor		1	
Rated current	I _n	23.7	A
Service factor current	I _{sf}	-	A
Nominal motor torque	T _n	71.215	Nm
Thermal class / Temperature rise		F / B	
Starting current	I _s /I _n	7.3	
Locked rotor torque	T _l /T _n	1.8	
Max. torque	T _m /T _n	3.9	
Efficiency Class IEC 60034-30		IE3 = Premium Efficiency	
Efficiency	η	50% 75% 100%	%
		90.4 91.9 91.4	
Power factor	cos φ	0.73	
Sound pressure level L _{pA} - 1 m		65	dBA
Type of duty		S1	
Cooling		IC411	
Degree of protection		IP 55	
Ambient temperature		40	°C
Max. installation site elevation		1000	
Moment of inertia	J	0.08634	kg m ²
Bearing design		Radial ball bearing with permanent grease	
Bearing type		DE: 6309-2Z / NDE: 6309-2Z	
Sense of rotation		CW / CCW	
Terminal box position		At top	
Cable entry (Number x hole type)		2 x PG21	
Weight		103	kg

Power loss/Rated power at different speed-torque operating points

25%-25%	25%-100%	50%-25%	50%-50%	50%-100%	90%-50%	90%-100%	
2.5	8.7	3.4	4.6	9.3	6.9	11.8	%

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