

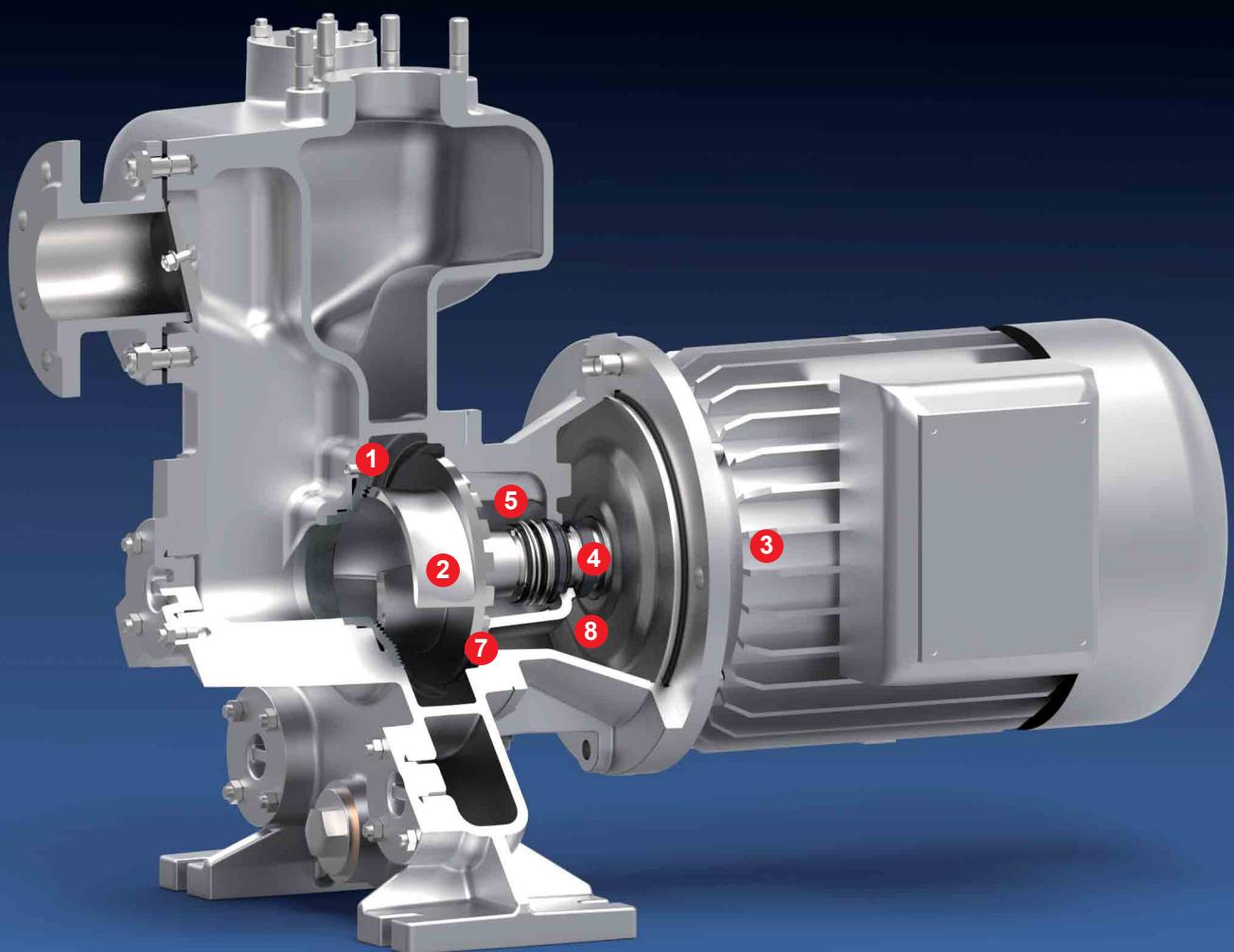


**HERBORNER**  
**PUMPE** **TECHNIK**

# **UNISELB**

Self-priming dirty water pump





**UNISELB benefits that ensure operational safety and cost-effectiveness in continuous operation.**

## **1 Non-clogging system**

Starting at DN 50, the non-clogging-system ensure the greatest possible operational safety. It is guaranteed by a combination of a hard, unprocessed surface of the wear plate, interchangeable from DN 80 and higher, and a specially processed cutting edge on the impeller.

## **2 Impellers**

Open multi vane impellers for trouble-free operation.

## **3 Motor shaft**

Rigid motor shafts made from high-alloy stainless steel for minimal deflection.

## **4 Shaft seal**

Single or double-acting mechanical seal with state-of-the-art highly wear-proof materials.

## **5 By-pass channel**

For optimal flushing of mechanical seal by means of the pumped medium.

## **6 Cost-effectiveness**

An extended lifetime is achieved through liberally dimensioned shafts and bearings.

## **7 Operational safety**

The greatest possible operational safety is reached through the crushing of long-fibre ingredients on the cutting ring (DN 80 and higher).

## **8 Oil chamber**

Starting at DN 80, optimized oil chamber for lubrication and cooling of the mechanical seals.

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### Use

The maintenance-free self-priming dirty water pump UNISELB with high suction capacity in a short operating time is particularly suitable for pumping slightly contaminated water, heating oil, chemicals, essences, cooling water, acids, liquors, solvents, tan liquor, tannic acid, filtration water, lime solution, washing water, rinsing water, sea water and ground water. Starting at DN 80, even the pumping of coarse contaminated sewage water is possible.

They are used for filling and emptying tanks, containers, fish ponds, swimming pools, etc., for pumping out tanks and cleaning decks of ships, for watering in gardening nurseries and in road building for draining of construction sites, mines, cable trenches, foundations and cellars.



### Construction

High circulation rates with minimum space requirements are achieved by means of an easy-to-install and readily serviceable compact design.

The self-priming function of the pump is ensured after the pump casing has been filled and by an intended use of the pump. Due to the installed non-return flap valve the discharging of the pump casing is prevented.

### Installation

The pumps are to be used in a horizontal installation.



Horizontal installation of the pump

### Impellers

Open multi vane impellers ensure trouble-free operation. Starting at DN 50, the impellers are equipped with a non-clogging system.



Open multi-vane impellers (see Versions page 9) are used for lightly contaminated and sludgy media without rope-forming fibrous substances or gas and air inclusions.



### Non-clogging system

Starting at DN 50, all pumps are equipped with an automatic non-clogging-system. The installed wear plates, interchangeable from DN 80 and higher, with particularly hard surfaces even abrade the entrained textiles insofar as this function is required for a fault-free flow. At  $Q_{optimal}$  this system has sufficient power reserve of the rated motor power available.

## Range of performance

Speed	$Q_{\max}$ [m <sup>3</sup> /h]	H <sub>max</sub> [m]
960 rpm (50 Hz)	300	16
1160 rpm (60 Hz)	300	21
1450 rpm (50 Hz)	260	33
1750 rpm (60 Hz)	280	36
2900 rpm (50 Hz)	110	44
3600 rpm (60 Hz)	130	64

## Bearing

The pump and motor have a common shaft, which is supported by a strengthened bearing. In contrast to the standard motor, the pump-side rigid bearing is designed as a reinforced bearing for long life under extreme operating conditions. The high level of running accuracy of the motor shaft is achieved through the high flexural rigidity and short shaft length. This ensures vibration-free running of the mechanical shaft seal.

## Shaft seal

The shaft seal on the pump side is effected in all models via a maintenance-free mechanical seal, which is independent of the direction of rotation and made from wear-resistant silicon carbide (SiC). The required cooling of the sliding surfaces is generated in a targeted manner through the medium via a bypass channel. Starting at DN 80, long-fibre ingredients are crushed by the rear cutting ring of the impeller.

In series with a double-acting mechanical seal (standard for DN 80 and higher) a mechanical seal made from wear-resistant silicon carbide (SiC) provides the seal on the pump side and a carbon/chromium molybdenum cast mechanical seal provides the seal on the drive side. The intermediate casing is filled with lubricating oil to lubricate and cool the mechanical seals. This oil even enables a short-term dry run. The intermediate casing can be optionally monitored for leaks using a seal electrode.

For DN 25 to DN 50 and with the DW construction (without Florence flask), the motors used are equipped with a special seal for splash-proofing on the pump side.



## Noise

The noise emission is determined by complex influencing factors such as size, materials, operating and installation conditions. Noise emission was contained using hydraulic measures and solid construction methods as early as in the development stage. The maximum sound pressure level is generally determined by the drive motors, being caused by air, magnetic and bearing noises. Noise levels are below the permissible limit curves specified for electrical motors as defined by DIN EN 60034-9. Minimum noise emission during operation in the area of Q<sub>optimal</sub> (best efficiency).

### **Motor**

Various drive options are available.

- Premium Efficiency Class three-phase motor (IE3)
- High Efficiency Class three-phase motor (IE2)
- Three-phase motor as ship model (IE1)

The standard version is a surface-cooled three-phase motor with squirrel cage corresponding to efficiency class IE3 or IE2 (see Versions page 9). IE3 motors already achieve the efficiencies now that will be required by law starting in 2015. Ship's engines are an exception: they are still available in Standard Efficiency Class (IE1).

The motor is optionally available with an integrated or external frequency converter. The use of a frequency converter is often recommended due to energetic reasons, but not compulsory.

### **Motor technology with energy efficiency IE3/IE2**

The new technology of Premium Efficiency motor (IE3) and High Efficiency motor (IE2) offers three decisive advantages:

- More performance due to very high efficiency
- Reduced operating costs due to high energy savings
- Reduced CO<sub>2</sub> emissions due to lower power consumption

Design	IM B5/V1
Motor connection	Manufacturer-specific
Protection type	IP 55
Speed	960 (1160) rpm 1450 (1750) rpm 2900 (3600) rpm
Frequency	50 (60) Hz
Connection ≤ 2.2 (2.6) kW	230 Δ / 400 ↖ (460 ↖) V
Connection ≥ 3.0 (3.6) kW	400 Δ / 690 ↖ (460 Δ) V
Insulation class VDE 0530	F

IE3 motors (see Versions page 9) have a PTC thermistor as standard.

Frequency regulation of pumps is available and depends on the operating conditions:

- from 30 to 50 Hz (400 V) and from 30 to 60 Hz (460 V)

### **General data**

- Pump colour RAL 5010 (standard)
  - Media temperature range from - 5 to + 60 °C (- 5 to + 40 °C in the explosion protection version)
  - Ambient temperature range from - 5 to + 40 °C
  - Performance verification in conformity with DIN EN ISO 9906, Class 2.
- Max. density of the pumped fluid 1050 kg/m<sup>3</sup>  
Max. viscosity of the pumped fluid 1.75 mm<sup>2</sup>/s

In case of deviating application conditions, the output is corrected in accordance with customer-specific requirements.

### **Special configurations**

- Different voltages and/or frequencies
- Different insulation class
- Elevated ambient temperature
- Elevated protection type
- Enhanced tropical and moisture protection
- Special materials (high-alloy cast steel, bronze) for parts coming into contact with the product
- Special paint finish
- DW construction (see Versions page 9)
- Design with permanent magnet motor (PM)
- Explosion protection version (ATEX)
- Customer-specific solutions

### **Accessories**



Frequency converter for direct installation or wall installation



Seal electrode (intermediate casing)

**Model designation**

Example DN 25 - DN 50:

**50-132/0222SH-EX-W1-S**

**Nominal diameter pressure flange DN [mm]** \_\_\_\_\_

**Design dimensions** \_\_\_\_\_

**Hydraulic version** \_\_\_\_\_

**Motor rating [kW]** \_\_\_\_\_

E.g.: 030 = 3.0 kW

**Speed** \_\_\_\_\_

2 = 2900 (60 Hz: 3600) rpm

**Model** \_\_\_\_\_

**Permitted use** \_\_\_\_\_

= standard

EX = Explosion protection (only for GD models)

**Materials** \_\_\_\_\_

W0 = mixed materials

W1 = all castings manufactured from EN-GJL-250

W2 = all castings apart from the impeller manufactured from EN-GJL-250, impeller manufactured from CuAl10Fe5Ni5-C

W3 = all castings apart from the impeller manufactured from CuSn10-C, impeller manufactured from CuAl10Fe5Ni5-C

W4 = all castings manufactured from 1.4408

W5 = all castings manufactured from EN-GJS-400-15

W6 = all castings manufactured from 1.4439

**Construction** \_\_\_\_\_

= standard

S = special construction

Example DN 80 - DN 150:

**SAQRH/100-2-210-EX-H-W1-S**

**Model** \_\_\_\_\_

**Impeller type** \_\_\_\_\_

Q = Open single and twin vane impeller

**Construction series UNIVERS** \_\_\_\_\_

**Pump model** \_\_\_\_\_

H = medium

= large

X = 2-pole

**Nominal diameter DN [mm]** \_\_\_\_\_

**Number of blades** \_\_\_\_\_

**Impeller diameter [mm]** \_\_\_\_\_

**Permitted use** \_\_\_\_\_

= standard

EX = Explosion protection (not with DW construction)

**Installation** \_\_\_\_\_

= horizontal installation with base plate (standard)

H = horizontal installation with track

**Materials** \_\_\_\_\_

W0 = mixed materials

W1 = all castings manufactured from EN-GJL-250

W2 = all castings apart from the impeller manufactured from EN-GJL-250, impeller manufactured from CuSn10-C

W3 = all castings manufactured from CuSn10-C

W4 = all castings manufactured from 1.4408

W5 = all castings manufactured from EN-GJS-400-15

W6 = all castings manufactured from 1.4439

**Construction** \_\_\_\_\_

= standard

S = special construction

DW = without Florence flask

## Technical descriptions

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### Materials<sup>2)</sup>

<sup>1)</sup>	Individual components	W1	W2	W3
101	Pump casing	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)
113	Intermediate casing	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)
135	Wear plate	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)
153/ 153. ...	Suction flange	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)
230	Impeller	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)	CuSn10-C (CC480K)
433.1	Mechanical seal	SiC/SiC	SiC/SiC	SiC/SiC
433.2	Mechanical seal	Carbon/chromium molybdenum cast	Carbon/chromium molybdenum cast	Carbon/chromium molybdenum cast
819	Motor shaft	X6CrNiMoTi17-12-2 (1.4571) X20Cr13 (1.4021) <sup>3)</sup>	X6CrNiMoTi17-12-2 (1.4571) X20Cr13 (1.4021) <sup>3)</sup>	X6CrNiMoTi17-12-2 (1.4571)

<sup>1)</sup> See exploded view (page 22-23)

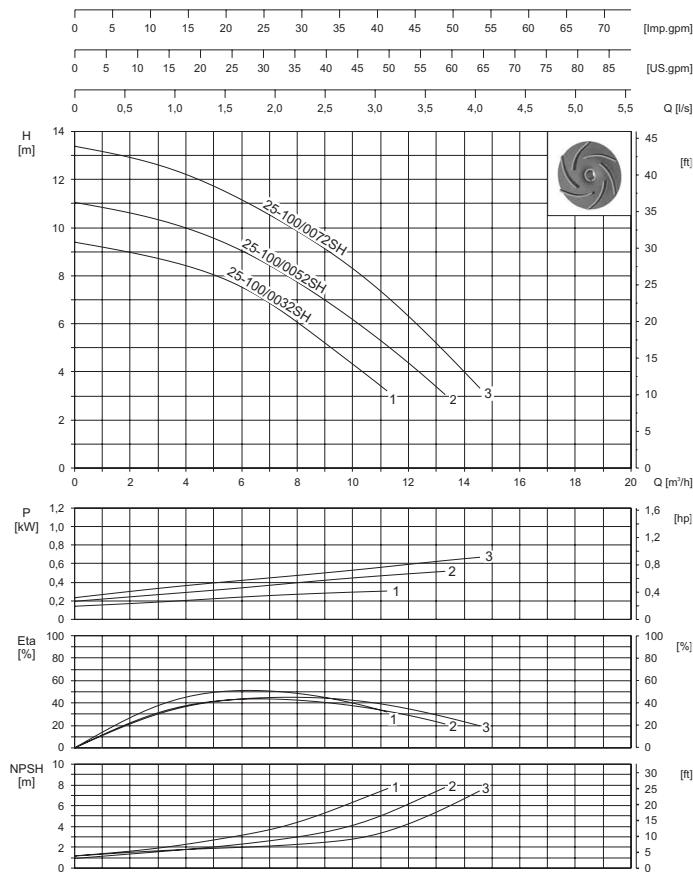
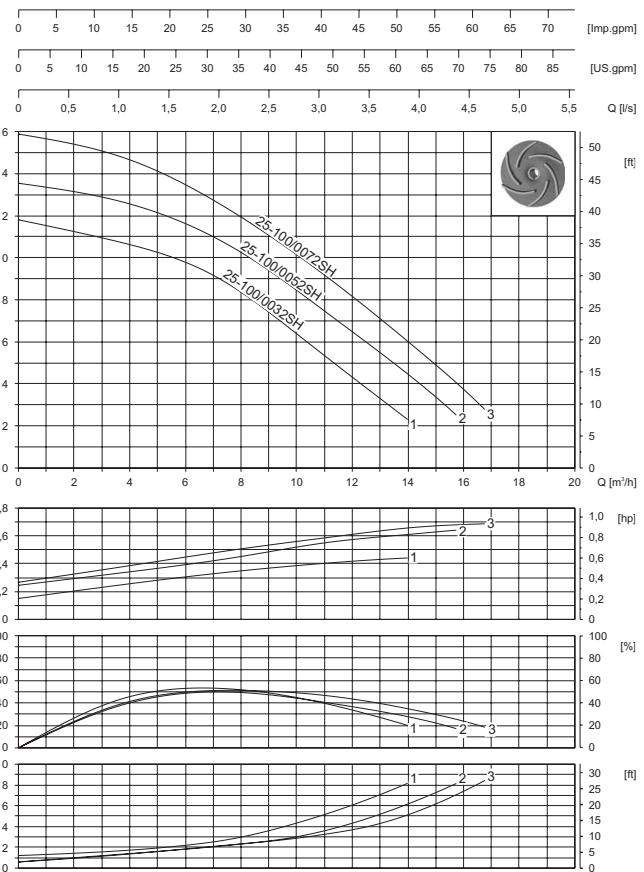
<sup>2)</sup> Other material combinations depending on the operating conditions, e.g. special bronze types and stainless steels.

<sup>3)</sup> starting at DN 50-16...

## Versions

- Standard
  - Option
    - cannot be implemented
  - 1) DW construction

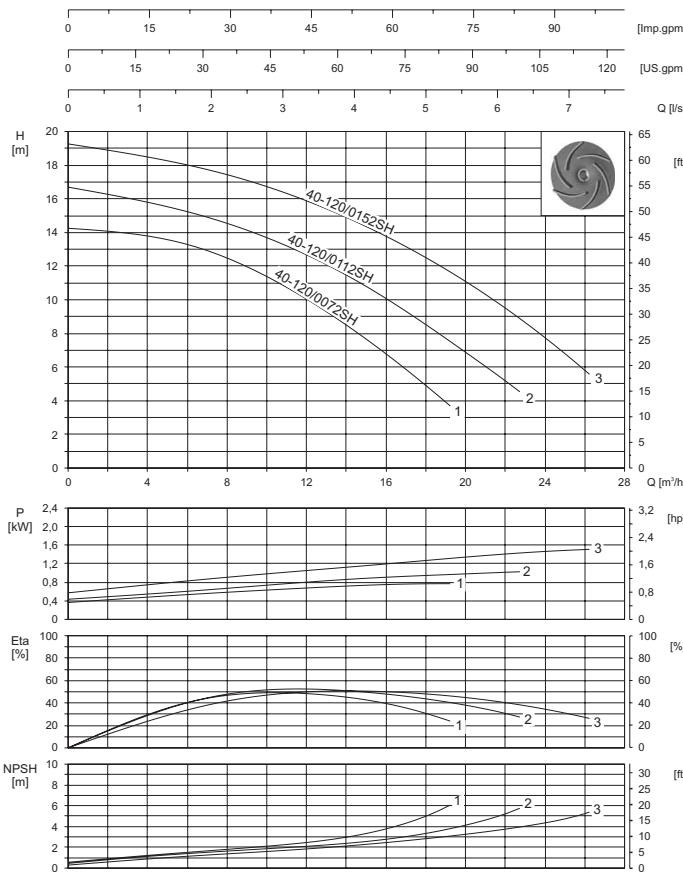
( ) Values in brackets correspond to the 60 Hz data.

**2900 rpm (400 V - 50 Hz)****3600 rpm (460 V - 60 Hz)**

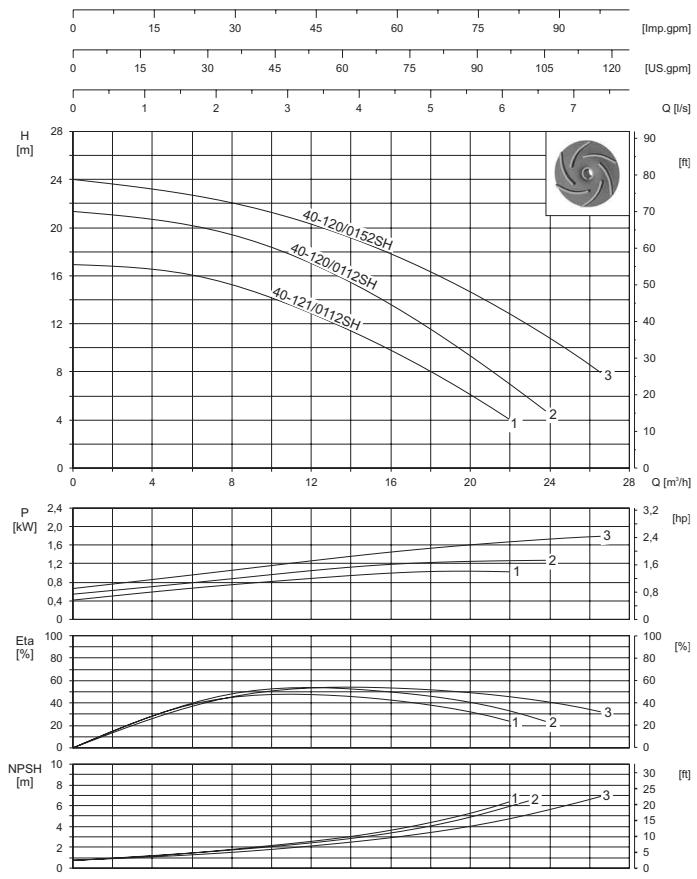
# Characteristic curves

**DN 40**

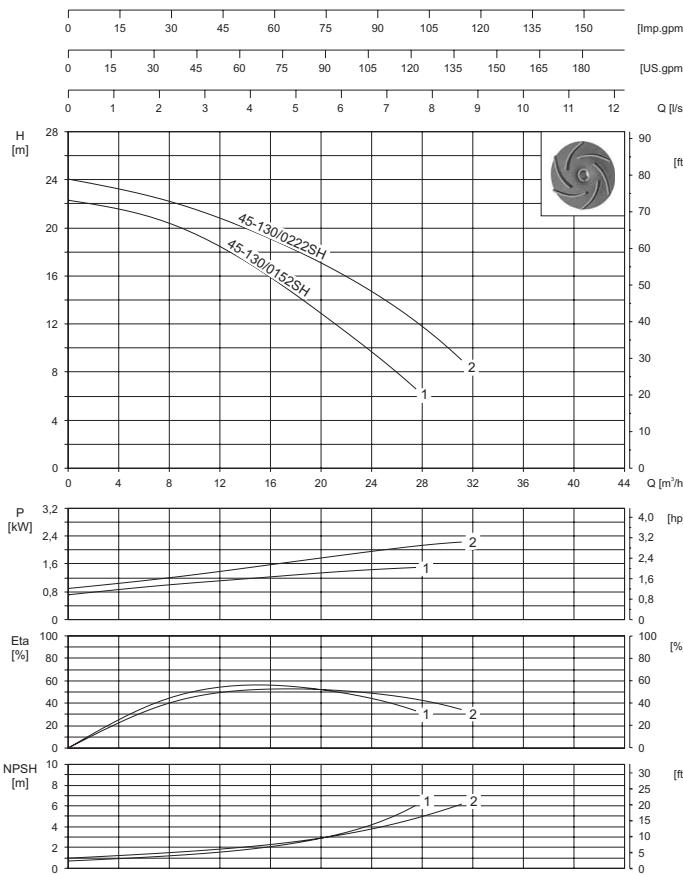
**2900 rpm (400 V - 50 Hz)**



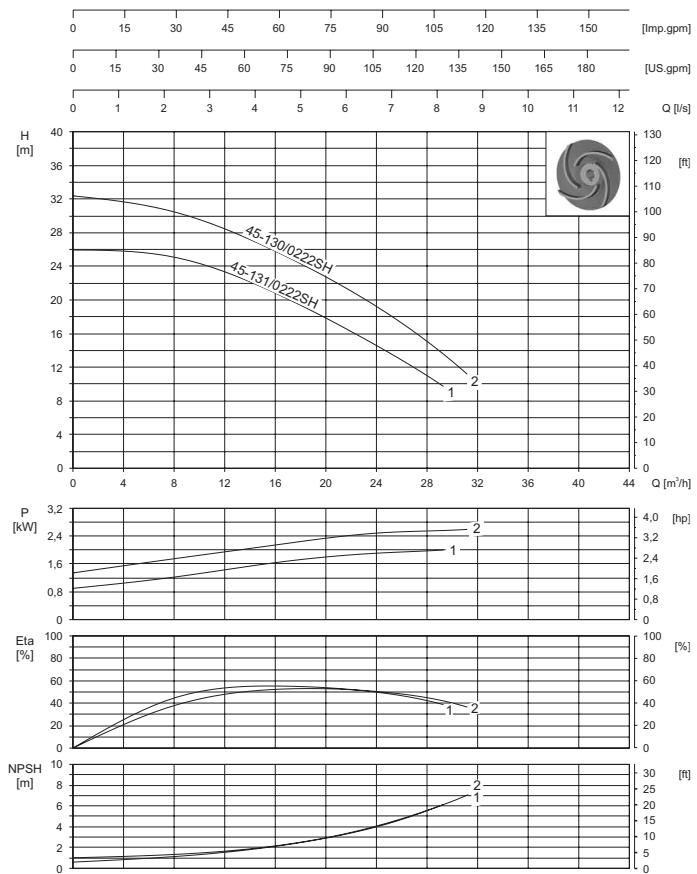
**3600 rpm (460 V - 60 Hz)**



**2900 rpm (400 V - 50 Hz)**

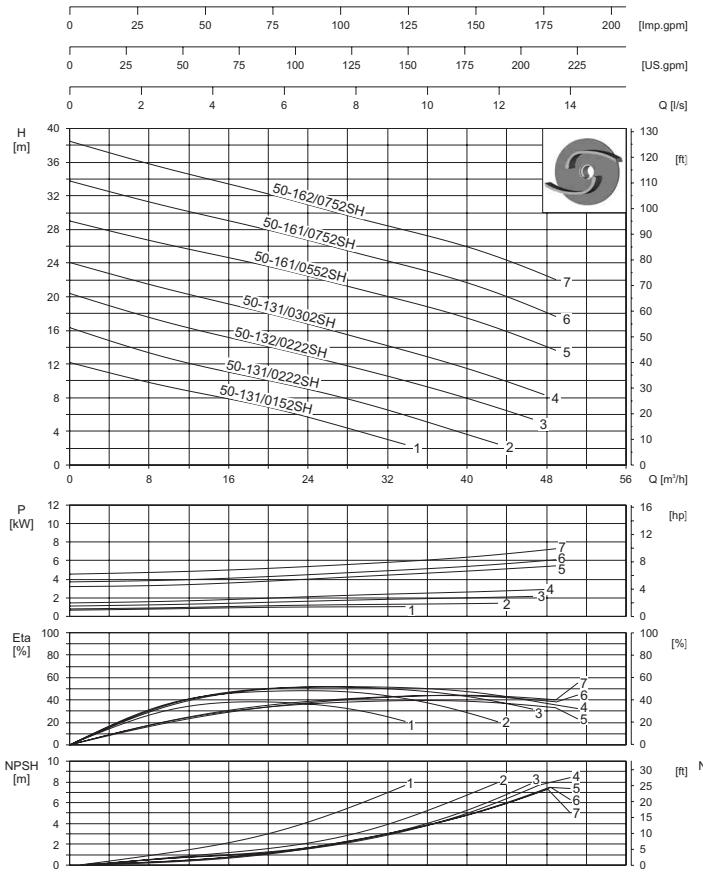


**3600 rpm (460 V - 60 Hz)**

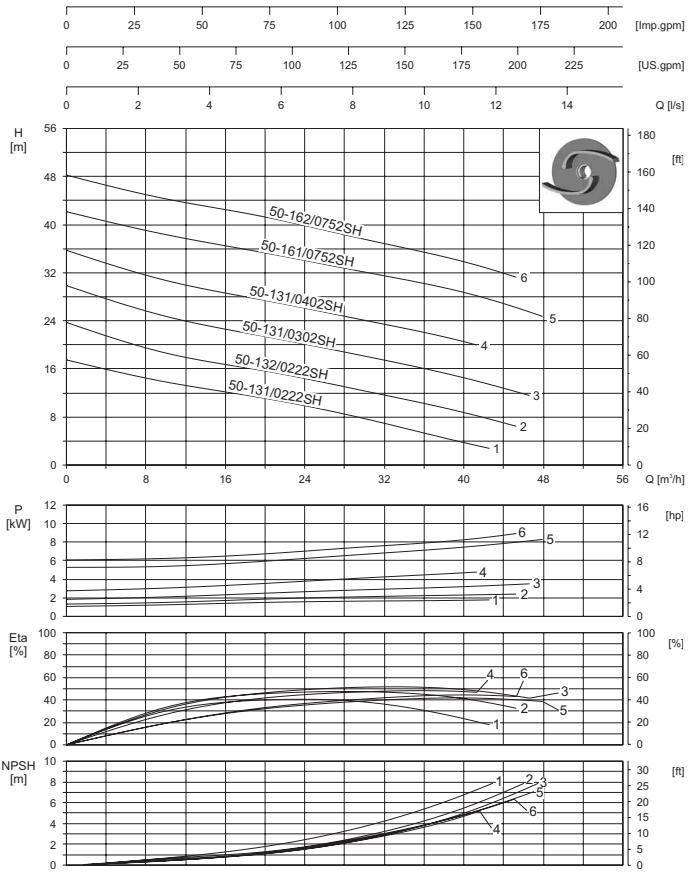


## Characteristic curves

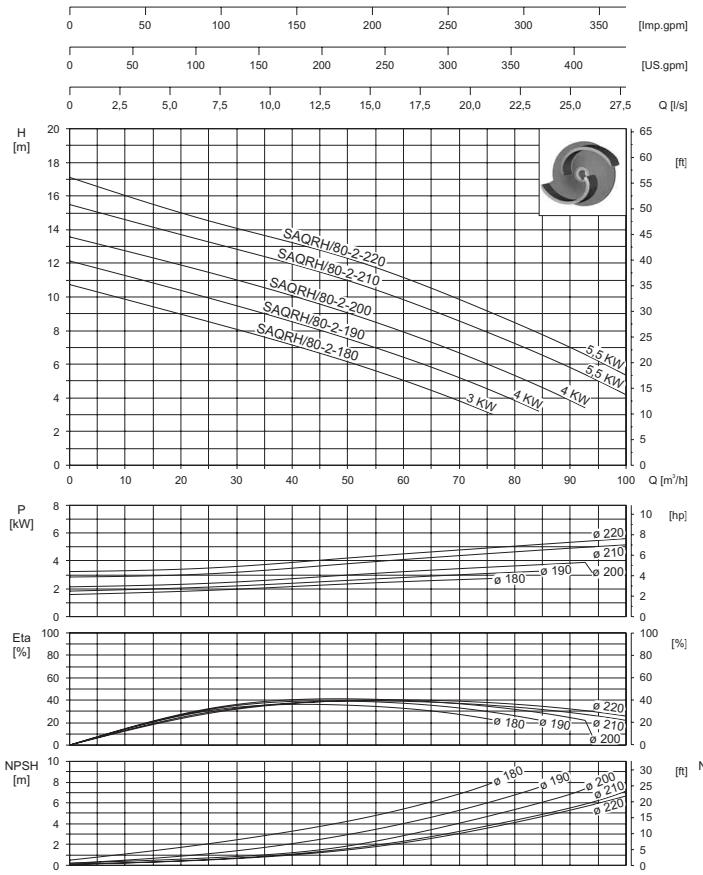
**2900 rpm (400 V - 50 Hz)**



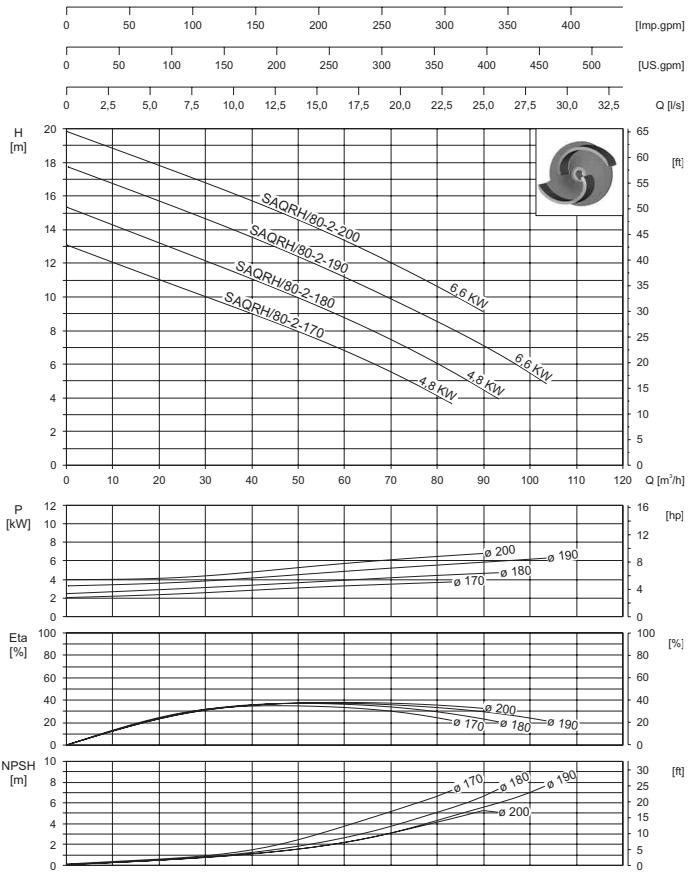
**3600 rpm (460 V - 60 Hz)**



**1450 rpm (400 V - 50 Hz)**



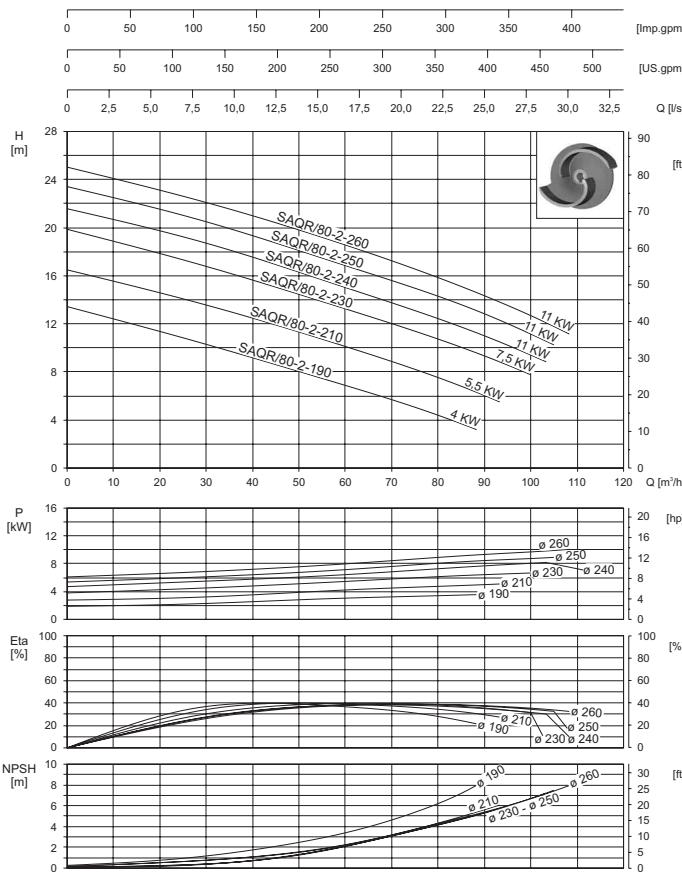
**1750 rpm (460 V - 60 Hz)**



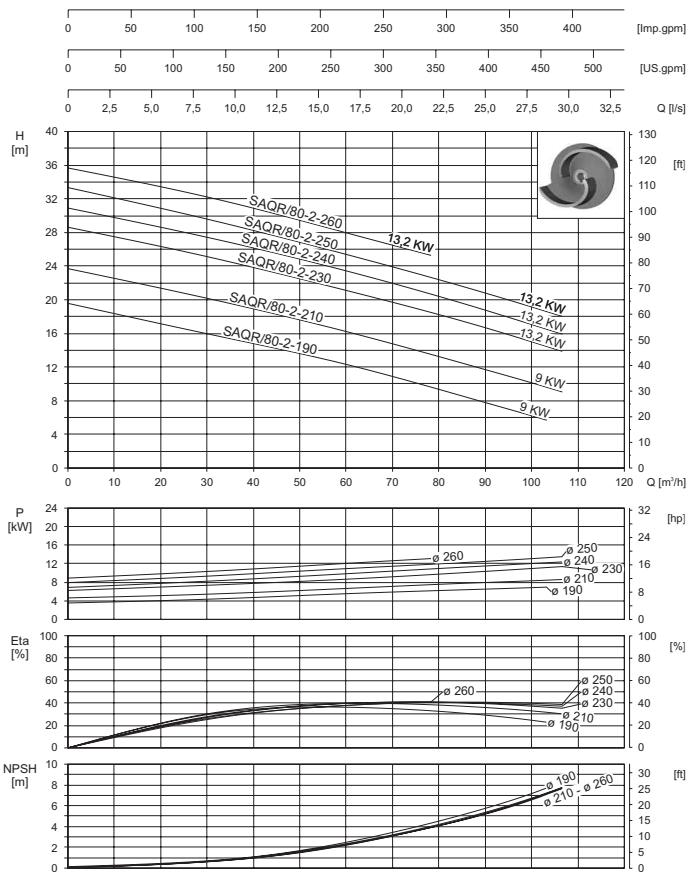
# Characteristic curves

**DN 80**

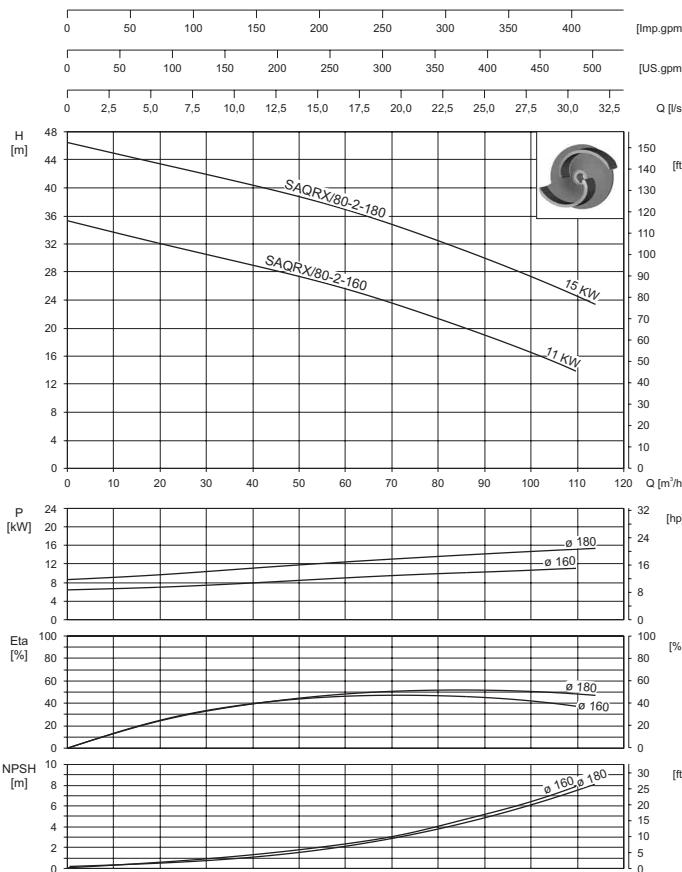
## **1450 rpm (400 V - 50 Hz)**



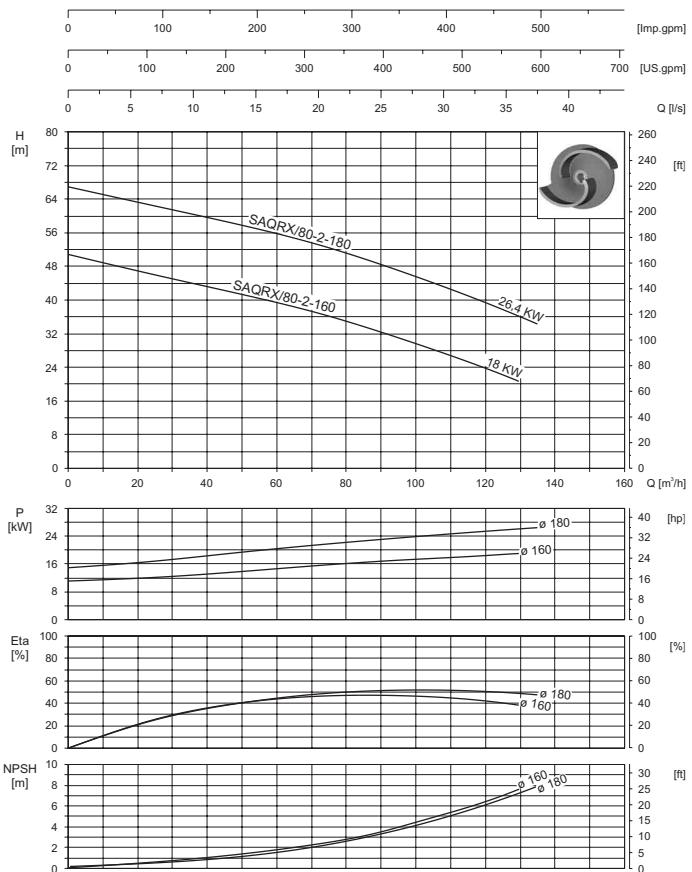
## **1750 rpm (460 V - 60 Hz)**



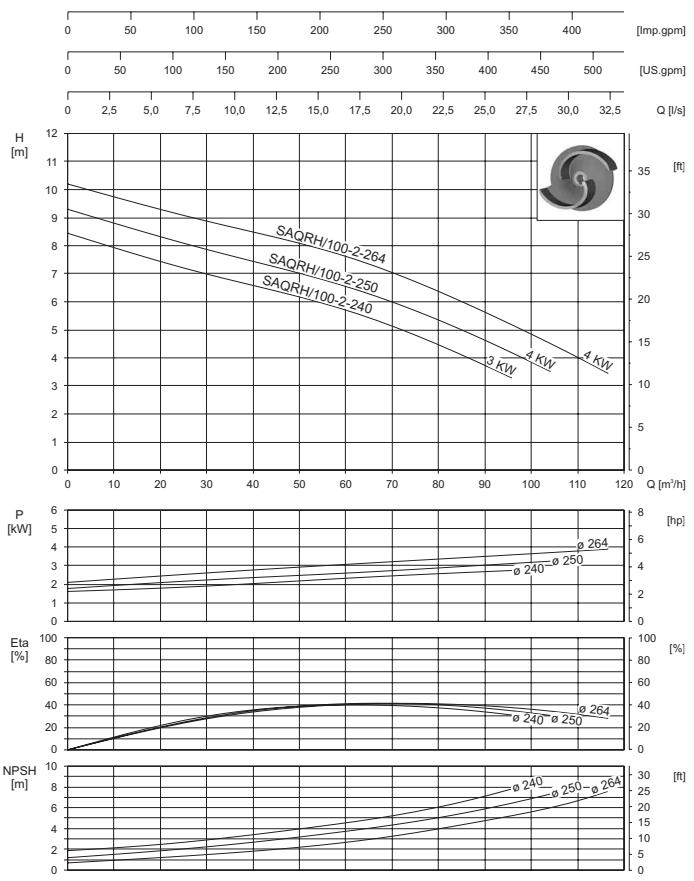
## **2900 rpm (400 V - 50 Hz)**



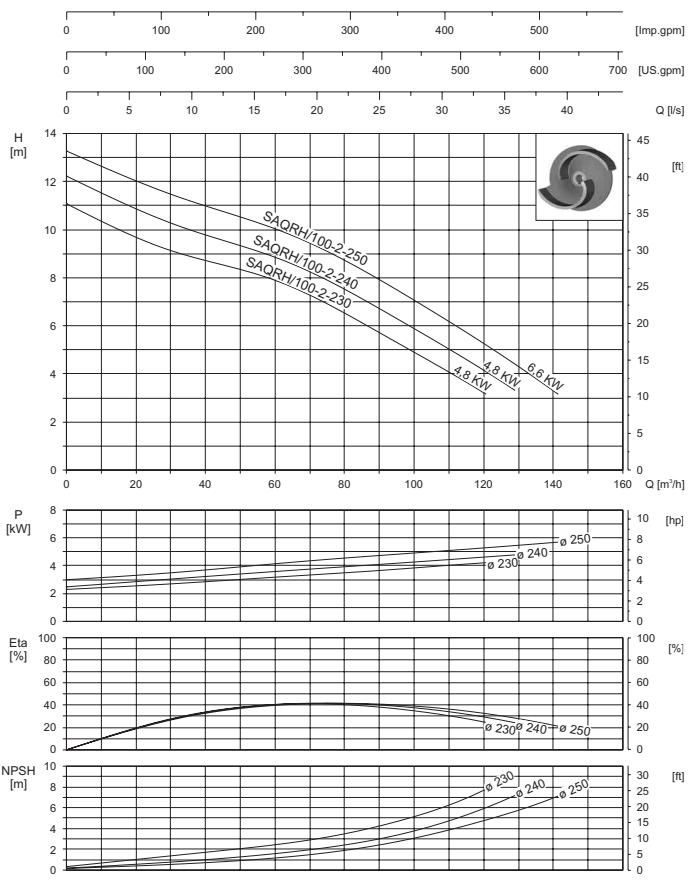
## **3600 rpm (460 V - 60 Hz)**



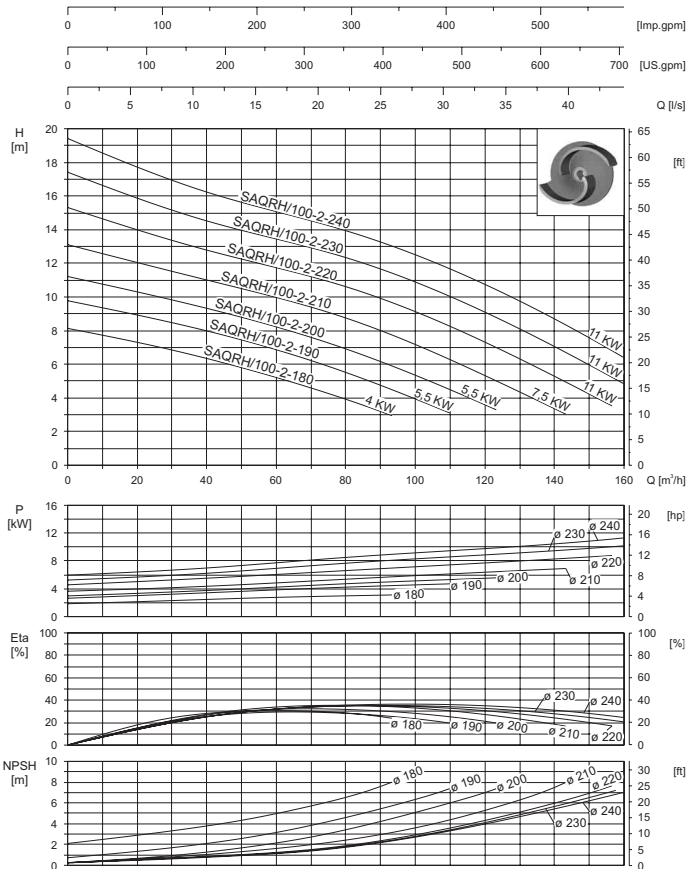
## 960 rpm (400 V - 50 Hz)



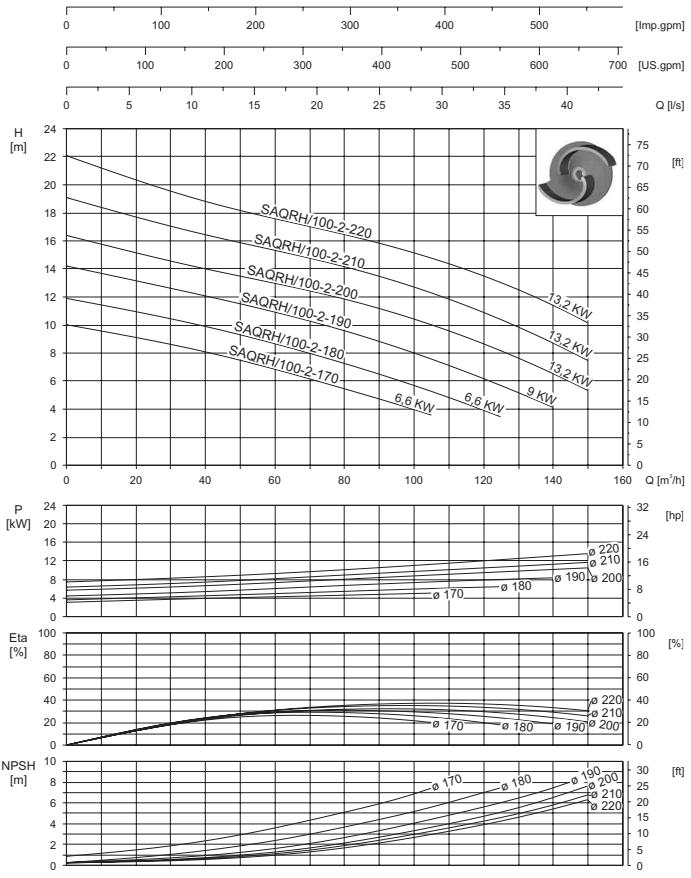
## 1160 rpm (460 V - 60 Hz)

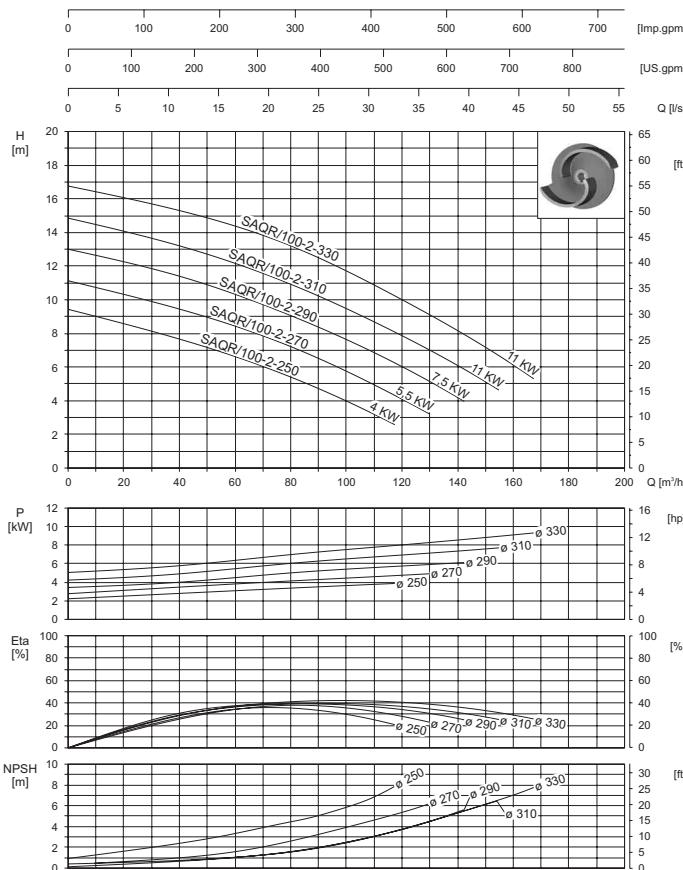
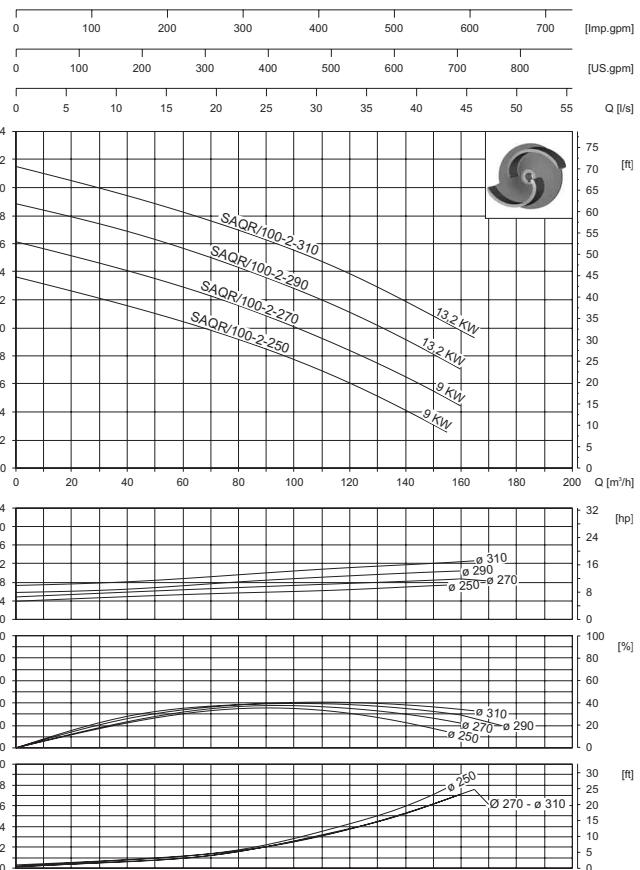
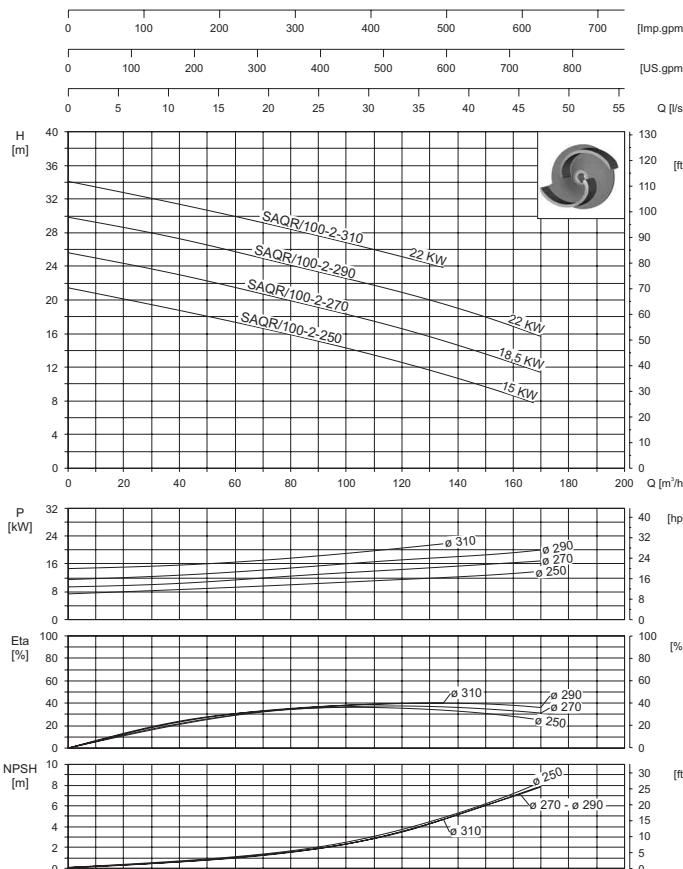
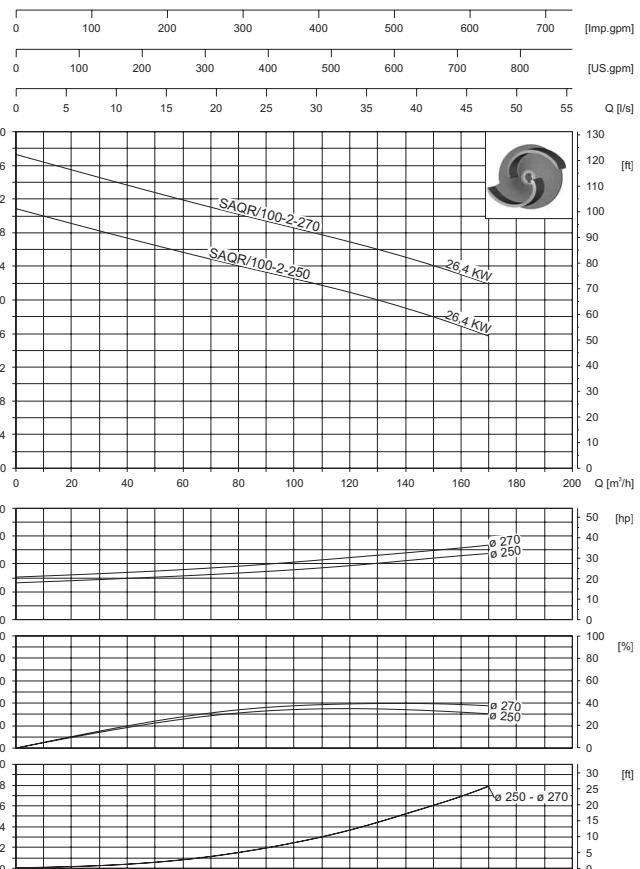


## 1450 rpm (400 V - 50 Hz)

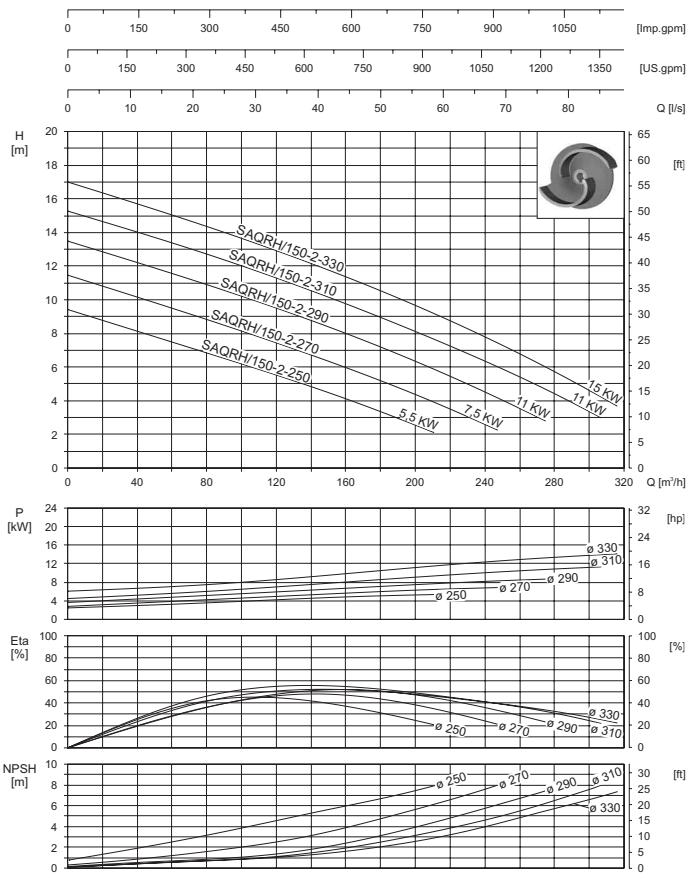


## 1750 rpm (460 V - 60 Hz)

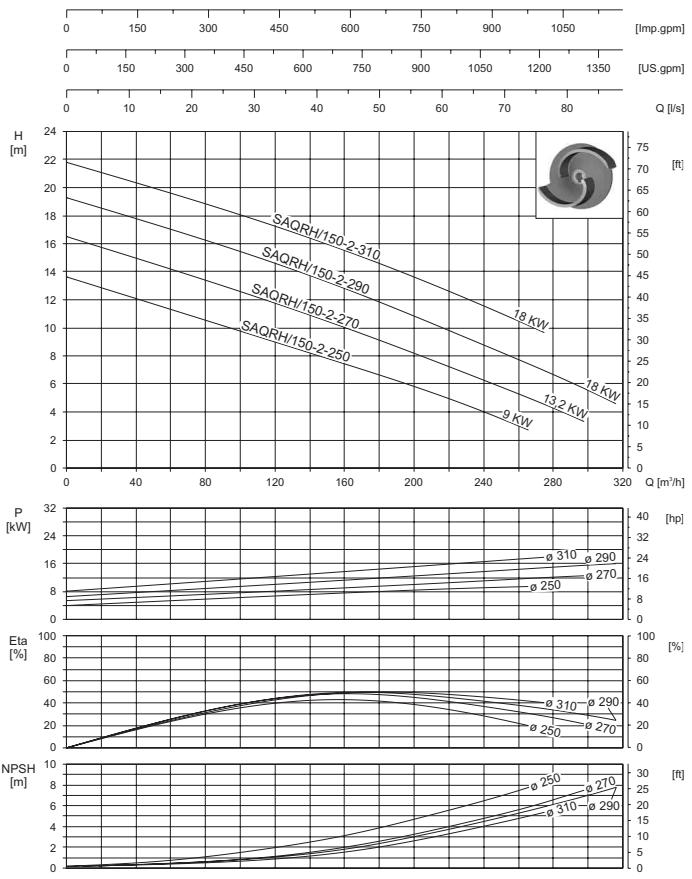


**960 rpm (400 V - 50 Hz)****1160 rpm (460 V - 60 Hz)****1450 rpm (400 V - 50 Hz)****1750 rpm (460 V - 60 Hz)**

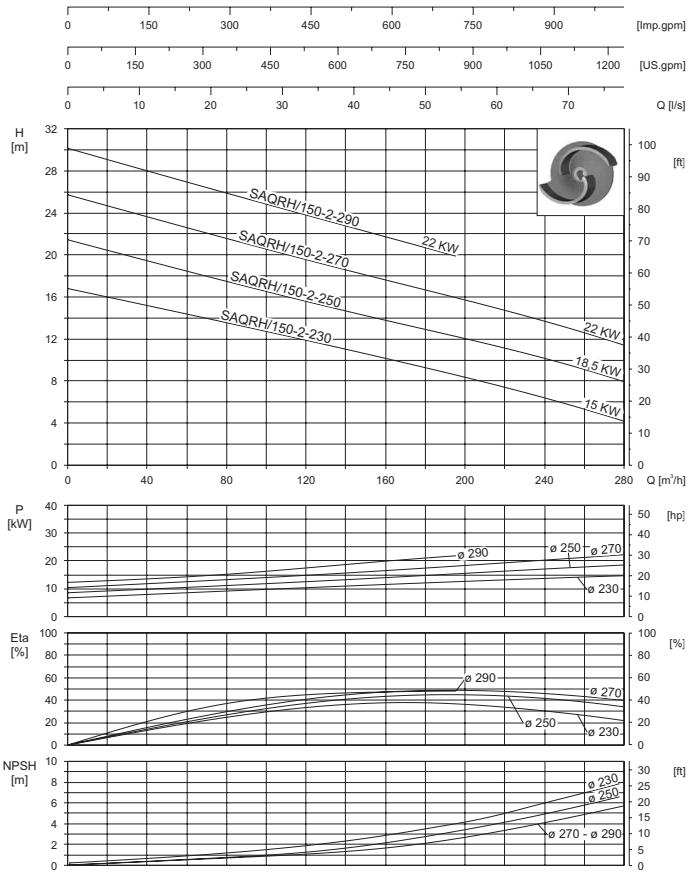
## 960 rpm (400 V - 50 Hz)



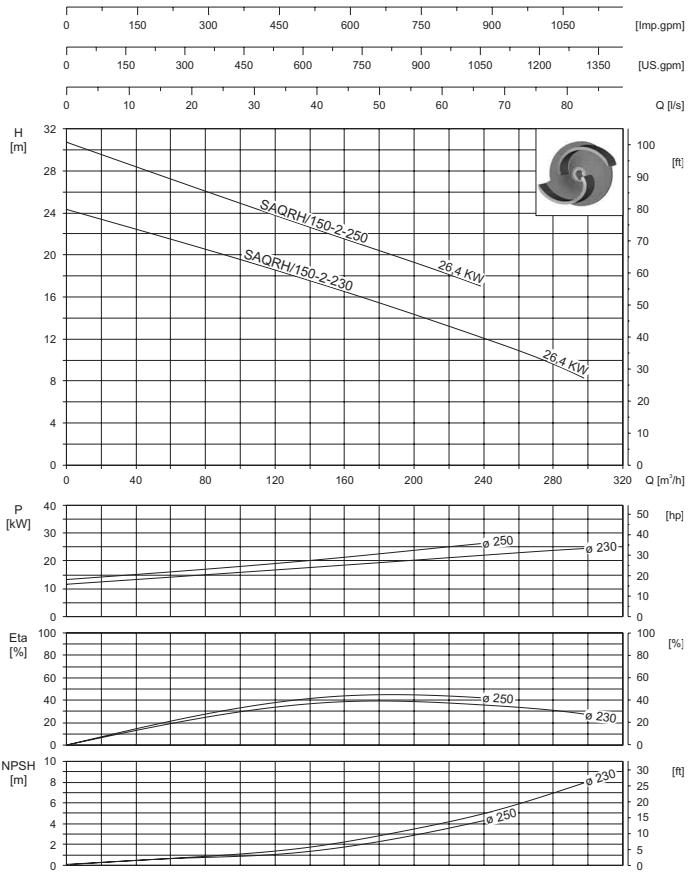
## 1160 rpm (460 V - 60 Hz)



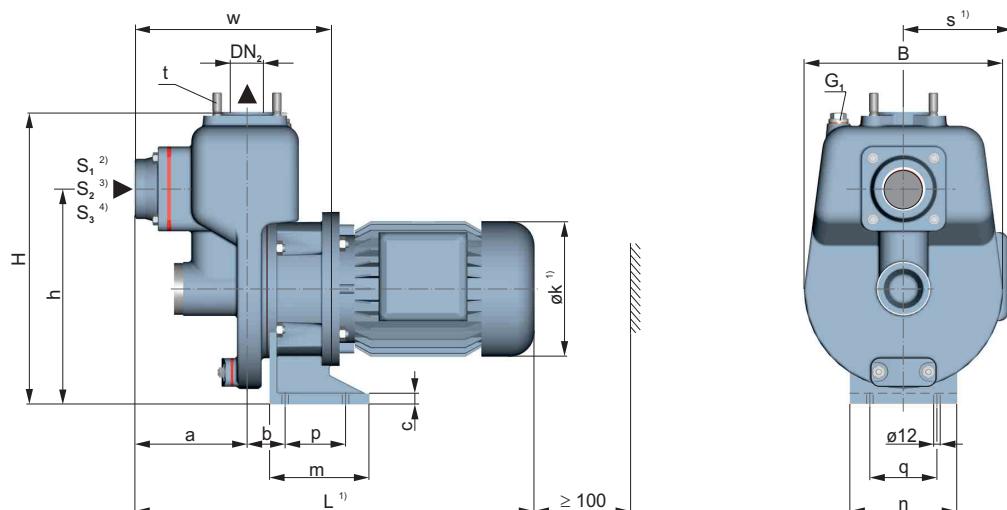
## 1450 rpm (400 V - 50 Hz)



## 1750 rpm (460 V - 60 Hz)

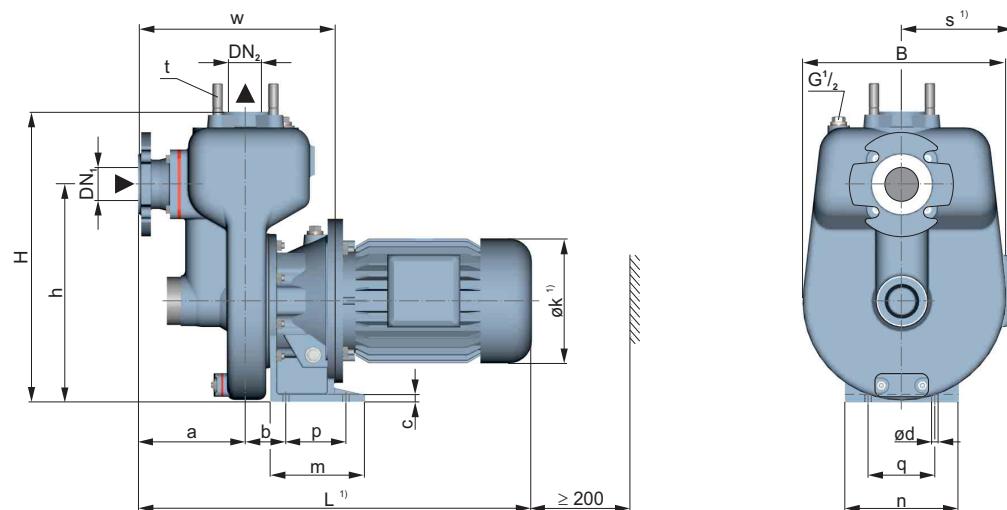


## DN 25 / DN 40



Model	DN <sub>2</sub>	S <sub>1</sub> <sup>2)</sup>	S <sub>2</sub> <sup>3)</sup>	S <sub>3</sub> <sup>4)</sup>	G <sub>1</sub>	H	B	a	b	c	h	m	n	p	q	t	w
25-100/0032SH	25	G1 <sup>1/4</sup>	G1 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	295	205	116	78	10	210	110	110	-	60	4 x M12 x 35	195
25-100/0052SH	25	G1 <sup>1/4</sup>	G1 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	295	205	116	78	10	210	110	110	-	60	4 x M12 x 35	195
25-100/0072SH	25	G1 <sup>1/4</sup>	G1 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	295	205	116	78	10	210	110	110	-	60	4 x M12 x 35	195
40-120/0072SH	40	G2	G2 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	380	265	127	65	14	280	130	140	60	100	4 x M16 x 45	238
40-120/0112SH	40	G2	G2 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	380	265	127	65	14	280	130	140	60	100	4 x M16 x 45	238
40-121/0112SH	40	G2	G2 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	380	265	127	65	14	280	130	140	60	100	4 x M16 x 45	238
40-120/0152SH	40	G2	G2 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	380	265	127	65	14	280	130	140	60	100	4 x M16 x 45	238
45-130/0152SH	40	G2	G2 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	385	265	130	67	14	280	130	140	60	100	4 x M16 x 45	243
45-130/0222SH	40	G2	G2 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	385	265	130	67	14	280	130	140	60	100	4 x M16 x 45	243
45-131/0222SH	40	G2	G2 <sup>1/2</sup>	52(c)	2x G <sup>1/4</sup>	385	265	130	67	14	280	130	140	60	100	4 x M16 x 45	243

## DN 50



Model	DN <sub>1/2</sub>	H	B	a	b	c	ød	h	m	n	p	q	t	w
50-131/0152SH	50	460	325	170	77	14	15	345	150	180	80	130	4 x M16 x 45	302
50-131/0222SH	50	460	325	170	77	14	15	345	150	180	80	130	4 x M16 x 45	302
50-132/0222SH	50	460	325	170	77	14	15	345	150	180	80	130	4 x M16 x 45	302
50-131/0302SH	50	460	325	170	77	14	15	345	150	180	80	130	4 x M16 x 45	313
50-161/0552SH	50	460	325	170	77	14	15	345	150	180	80	130	4 x M16 x 45	313
50-161/0752SH	50	460	325	170	74	12	15	345	150	180	85	130	4 x M16 x 45	313
50-162/0752SH	50	460	325	170	74	12	15	345	150	180	85	130	4 x M16 x 45	313

1) See technical data

2) Internal thread (standard)

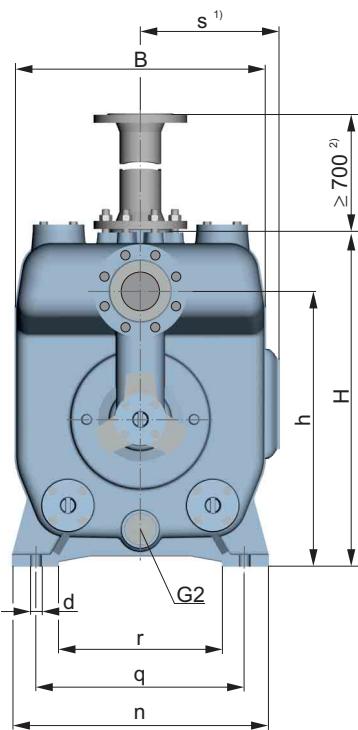
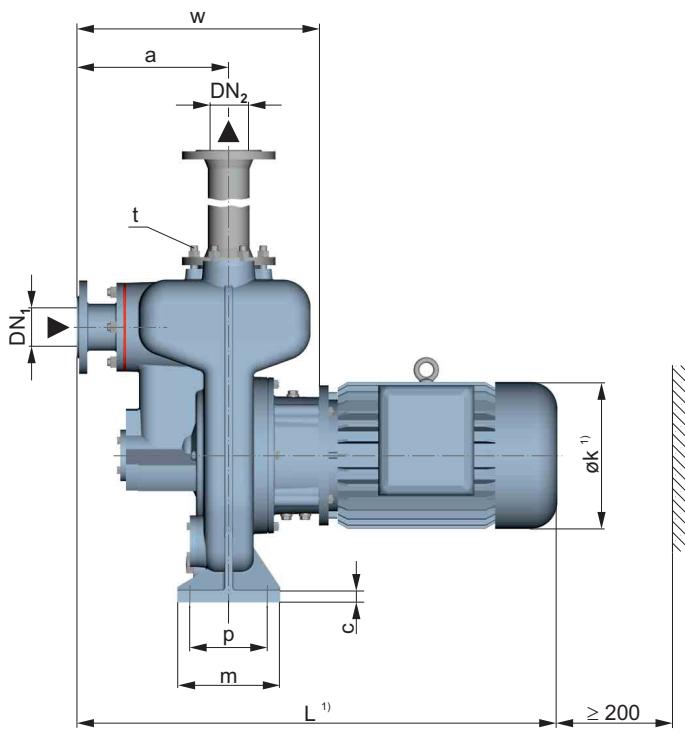
3) External thread

4) Size of coupling, "STORZ" system

Flange connection dimensions according to DIN 2501 PN 10

Customised solutions may differ from these standard data.

## DN 80/ DN 100/ DN 150 (installation with base plate (standard))



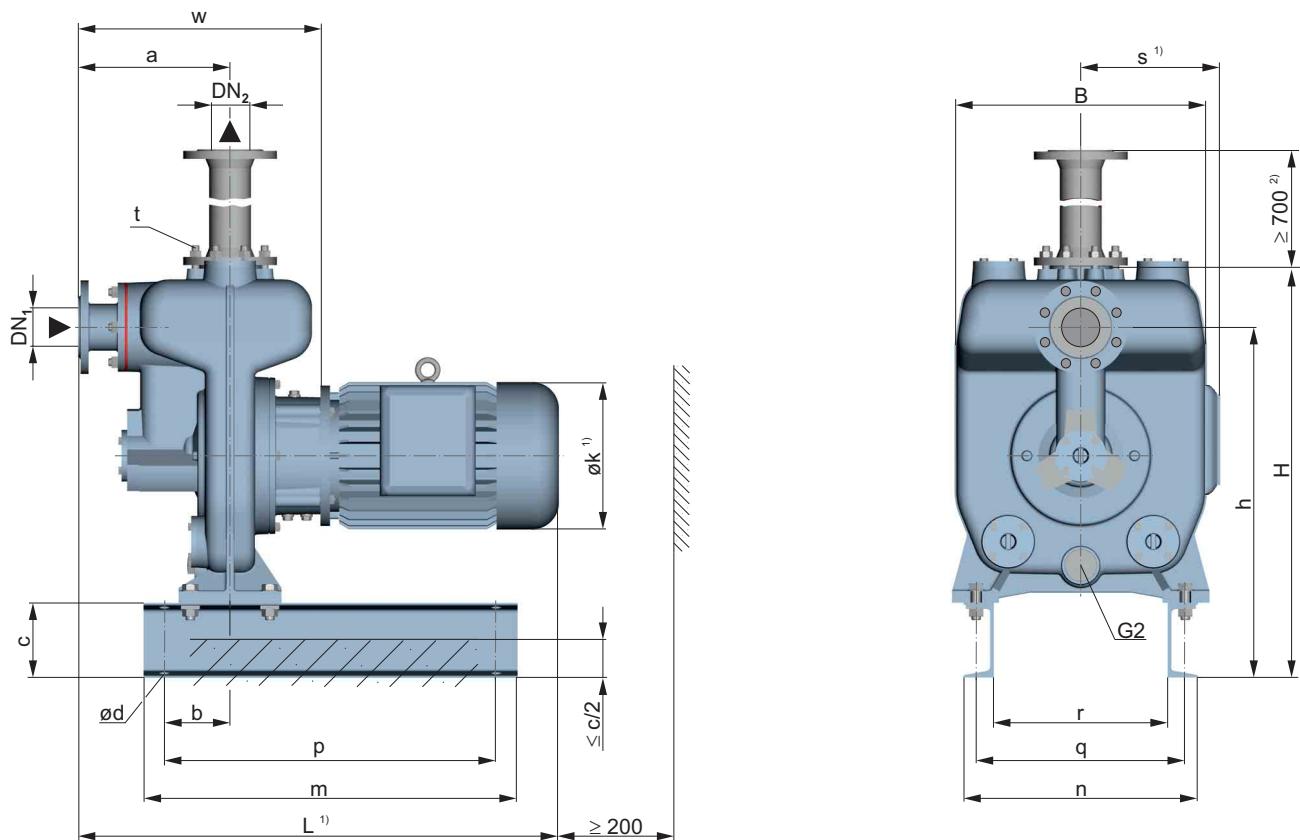
Model	DN <sub>1/2</sub>	H	B	a	c	d	h	m	n	p	q	r	t	w
SAQRH/80	80	645	455	325	20	20	515	220	470	170	380	270	8 x M16 x 45	474
SAQR/80	80	720	540	325	25	23	590	220	550	170	450	350	8 x M16 x 45	519
SAQRX/80	80	653	455	325	24	20	521	220	470	170	380	270	8 x M16 x 45	535
SAQRH/100	100	740	540	365	23	23	600	230	550	180	450	350	8 x M16 x 45	569
SAQR/100	100	840	590	365	25	23	700	230	570	180	470	370	8 x M16 x 45	591
SAQRH/150	150	885	650	391	25	23	710	250	620	200	520	380	8 x M16 x 45	627

<sup>1)</sup> See technical data<sup>2)</sup> Installation recommendation

Flange connection dimensions according to DIN 2501 PN 10

Customised solutions may differ from these standard data.

## DN 80/ DN 100/ DN 150 (installation with track (H))



Model	DN <sub>1/2</sub>	H	B	a	b	c	ød	h	m	n	p	q	r	t	w
SAQRH/80	80	785	455	325	140	140	18	655	700	430	610	380	310	8xM16x45	474
SAQR/80	80	880	540	325	140	160	23	750	800	500	710	445	370	8xM16x45	519
SAQRX/80	80	793	455	325	140	140	18	661	700	430	610	380	310	8xM16x45	535
SAQRH/100	100	900	540	365	145	160	23	760	800	505	710	450	375	8xM16x45	569
SAQR/100	100	1000	590	365	195	160	23	860	1000	525	910	470	395	8xM16x45	591
SAQRH/150	150	1045	650	391	205	160	23	870	1000	575	910	520	445	8xM20x55	627

<sup>1)</sup> See technical data<sup>2)</sup> Installation recommendation

Flange connection dimensions according to DIN 2501 PN 10

Customised solutions may differ from these standard data.

## Ship IE1 - 50 Hz: 960 rpm (400 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
SAQRH/100	3.0	7.2	6.0	58	287	980	260	195
	4.0	9.2	5.9	58	298	1015	260	195
SAQR/100	4.0	9.2	5.9	58	354	1040	260	195
	5.5	12.7	5.6	58	360	1040	260	195
	7.5	15.2	6.9	62	408	1095	315	253
	11.0	22.0	6.8	62	419	1135	315	253
SAQRH/150	5.5	12.7	5.6	58	437	1075	260	195
	7.5	15.2	6.9	62	484	1130	315	253
	11.0	22.0	6.8	62	495	1175	315	253
	15.0	29.0	6.3	63	552	1280	350	270

## Ship IE1 - 60 Hz: 1160 rpm (460 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
SAQRH/100	4.8	9.6	7.0	62	298	1015	260	195
	6.6	13.3	6.7	62	304	1015	260	195
SAQR/100	9.0	15.9	8.2	66	408	1095	315	253
	13.2	23.0	8.1	66	419	1135	315	253
	9.0	15.9	8.2	66	484	1130	315	253
	13.2	23.0	8.1	66	495	1175	315	253
SAQRH/150	18.0	30.3	7.5	67	552	1280	350	270

## Ship IE1 - 50 Hz: 1450 rpm (400 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
SAQRH/80	3.0	6.9	6.2	59	173	805	198	157
	4.0	8.3	6.3	59	179	815	220	169
	5.5	11.4	6.6	63	206	885	260	195
SAQR/80	4.0	8.3	6.3	59	239	880	220	169
	5.5	11.4	6.6	63	266	930	260	195
	7.5	15.4	6.8	63	279	965	260	195
	11.0	22.0	6.9	65	330	1020	315	253
SAQRH/100	4.0	8.3	6.3	59	258	930	220	169
	5.5	11.4	6.6	63	285	980	260	195
	7.5	15.4	6.8	63	298	1015	260	195
	11.0	22.0	6.9	65	351	1070	315	253
SAQR/100	15.0	29.0	6.8	65	417	1135	315	253
	18.5	37.0	7.0	65	446	1205	350	270
	22.0	43.0	6.9	65	474	1240	350	270
SAQRH/150	15.0	29.0	6.8	65	493	1175	315	253
	18.5	37.0	7.0	65	523	1240	350	270
	22.0	43.0	6.9	65	551	1280	350	270

## Ship IE1 - 60 Hz: 1750 rpm (460 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
SAQRH/80	4.8	8.7	6.0	63	179	815	220	169
	6.6	11.9	6.3	67	206	885	260	195
SAQR/80	9.0	16.1	6.5	67	279	965	260	195
	13.2	23.0	6.6	69	330	1020	315	253
	6.6	11.9	6.3	67	285	980	260	195
	9.0	16.1	6.5	67	298	1015	260	195
SAQRH/100	13.2	23.0	6.6	69	351	1070	315	253
	26.4	44.9	6.6	69	474	1240	350	270
	26.4	44.9	6.6	69	551	1280	350	270

## Ship IE1 - 50 Hz: 2900 rpm (400 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
25-100/0032SH	0.37	1.0	4.6	61	26	410	138	122
25-100/0052SH	0.55	1.3	5.3	61	29	410	138	122
25-100/0072SH	0.75	1.9	5.6	63	30	435	156	135
40-120/0072SH	0.75	1.9	5.6	63	50	480	156	135
40-120/0112SH	1.1	2.7	6.1	63	55	480	156	135
40-120/0152SH	1.5	3.3	7.0	67	55	515	176	148
45-130/0152SH	1.5	3.3	7.0	67	53	520	176	148
45-130/0222SH	2.2	4.6	7.5	67	55	545	176	148
50-131/0152SH	1.5	3.3	7.0	67	77	580	176	148
50-131/0222SH	2.2	4.6	7.5	67	80	605	176	148
50-132/0222SH	2.2	4.6	7.5	67	80	605	176	148
50-131/0302SH	3.0	6.5	6.5	72	89	625	198	157
50-161/0552SH	5.5	10.6	6.3	74	114	725	260	195
50-161/0752SH	7.5	14.3	6.5	74	123	725	260	195
50-162/0752SH	7.5	14.3	6.5	74	123	725	260	195
SAQRX/80	11.0	20.5	6.9	75	282	1036	315	253
	15.0	27.0	7.1	75	298	1036	315	253

## Ship IE1 - 60 Hz: 3600 rpm (460 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
25-100/0032SH	0.44	1.0	4.4	65	26	410	138	122
25-100/0052SH	0.66	1.4	5.6	65	29	410	138	122
25-100/0072SH	0.9	1.8	6.1	67	30	435	156	135
40-120/0112SH	1.3	2.8	6.3	67	55	480	156	135
40-121/0112SH	1.3	2.8	6.3	67	55	480	156	135
40-120/0152SH	1.8	3.4	6.7	71	55	515	176	148
45-130/0222SH	2.6	4.8	6.6	71	55	545	176	148
45-131/0222SH	2.6	4.8	6.6	71	55	545	176	148
50-131/0222SH	2.6	4.8	6.6	71	80	605	176	148
50-132/0222SH	2.6	4.8	6.6	71	80	605	176	148
50-131/0302SH	3.6	6.7	6.2	76	89	625	198	157
50-131/0402SH	4.8	8.7	8.1	78	98	690	220	169
50-161/0752SH	9.0	14.9	6.2	78	123	725	260	195
50-162/0752SH	9.0	14.9	6.2	78	123	725	260	195
SAQRX/80	18.0	28.2	6.8	79	298	1040	315	253
	26.4	41.7	7.5	79	335	1150	350	253

<sup>1)</sup> Total weight of the pump

Values for explosion protection versions on request

Customised solutions may differ from these standard data.

## IE3 - 50 Hz: 960 rpm (400 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
<b>SAQRH/100</b>	3.0	6.8	6.5	58	75	1015	260	195
	4.0	8.9	6.3	58	75	1015	260	195
<b>SAQR/100</b>	4.0	8.9	6.3	58	75	1040	260	195
	5.5	12.0	6.2	58	90	1090	260	195
	7.5	15.0	7.0	62	130	1095	315	253
	11.0	21.0	7.1	62	155	1135	315	253
<b>SAQRH/150</b>	5.5	12.0	6.2	58	90	1125	260	195
	7.5	15.0	7.0	62	130	1130	315	253
	11.0	21.0	7.1	62	155	1175	315	253
	15.0	29.0	7.0	63	195	1280	350	270

## IE3 - 60 Hz: 1160 rpm (460 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
<b>SAQRH/100</b>	4.8	8.1	6.8	65	417	1190	350	270
	6.6	12.0	6.7	65	431	1190	350	270
<b>SAQR/100</b>	9.0	15.3	6.8	65	488	1195	350	270
	13.2	22.0	6.8	68	538	1275	388	307
	9.0	15.3	6.8	65	564	1235	350	270
	13.2	22.0	6.8	68	614	1310	388	307
<b>SAQRH/150</b>	18.0	30.0	6.9	69	725	1345	433	328

## IE3 - 50 Hz: 1450 rpm (400 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
<b>SAQRH/80</b>	3.0	6.3	6.4	59	183	865	198	157
	4.0	7.9	6.9	59	195	870	220	169
	5.5	11.0	7.0	63	224	920	260	195
<b>SAQR/80</b>	4.0	7.9	6.9	59	261	945	220	169
	5.5	11.0	7.0	63	284	965	260	195
	7.5	14.8	6.9	63	302	1015	260	195
	11.0	21.7	6.9	65	330	1020	315	253
<b>SAQRH/100</b>	4.0	7.9	6.9	59	280	995	220	169
	5.5	11.0	7.0	63	303	1015	260	195
	7.5	14.8	6.9	63	321	1065	260	195
	11.0	21.7	6.9	65	351	1070	315	253
<b>SAQR/100</b>	15.0	29.0	6.8	65	428	1135	315	253
	18.5	36.0	7.0	65	451	1205	350	270
	22.0	42.0	6.9	65	474	1240	350	270
<b>SAQRH/150</b>	15.0	29.0	6.8	65	504	1175	315	253
	18.5	36.0	7.0	65	528	1240	350	270
	22.0	42.0	6.9	65	551	1280	350	270

## IE3 - 60 Hz: 1750 rpm (460 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
<b>SAQRH/80</b>	4.8	8.2	7.1	67	242	970	260	195
	6.6	11.5	7.1	67	270	975	315	253
<b>SAQR/80</b>	9.0	15.3	7.0	68	330	1020	315	253
	13.2	22.0	7.1	68	396	1140	350	270
	6.6	11.5	7.1	68	349	1070	315	253
	9.0	15.3	7.0	68	349	1070	315	253
<b>SAQRH/100</b>	13.2	22.0	7.1	68	417	1190	350	270
	26.4	41.0	7.0	72	647	1310	433	328
	26.4	41.0	7.0	72	724	1345	433	328

## IE3/IE2 - 50 Hz: 2900 rpm (400 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
<b>25-100/0032SH</b>	0.37 2)	1.1	7.1	64	27	435	139	122
<b>25-100/0052SH</b>	0.55 2)	1.4	7.4	66	28	435	156	134
<b>25-100/0072SH</b>	0.75 2)	1.7	7.7	66	35	460	157	134
<b>40-120/0072SH</b>	0.75 2)	1.7	7.7	66	54	500	157	134
<b>40-120/0112SH</b>	1.1 2)	2.5	7.8	66	57	525	157	134
<b>40-120/0152SH</b>	1.5 2)	3.0	9.0	70	65	550	177	147
<b>45-130/0152SH</b>	1.5 2)	3.0	9.0	70	63	555	177	147
<b>45-130/0222SH</b>	2.2 2)	4.5	8.0	70	63	555	177	128
<b>50-131/0152SH</b>	1.5 2)	3.0	9.0	70	87	615	177	147
<b>50-131/0222SH</b>	2.2 2)	4.5	8.0	70	87	615	177	128
<b>50-132/0222SH</b>	2.2 2)	4.5	8.0	70	87	615	177	128
<b>50-131/0302SH</b>	3.0 2)	6.6	8.5	73	96	655	198	157
<b>50-161/0552SH</b>	5.5	9.9	6.8	74	130	760	260	195
<b>50-161/0752SH</b>	7.5	13.4	7.4	74	153	810	260	195
<b>50-162/0752SH</b>	7.5	13.4	7.4	74	153	810	260	195
<b>SAQRX/80</b>	11.0	19.8	7.0	75	319	1080	315	253
	15.0	26.2	7.1	75	327	1080	315	253

## IE3/IE2 - 60 Hz: 3600 rpm (460 V)

Model	P <sub>2</sub> [kW]	I[A]	I <sub>A</sub> /I <sub>N</sub>	dB(A)	m[kg] <sup>1)</sup>	L	øk	s
<b>25-100/0032SH</b>	0.44 2)	1.1	7.3	71	27	435	139	122
<b>25-100/0052SH</b>	0.66 2)	1.5	7.8	74	28	435	156	134
<b>25-100/0072SH</b>	0.9 2)	1.8	7.3	74	35	460	157	134
<b>40-120/0112SH</b>	1.3 2)	2.3	8.0	78	57	550	176	128
<b>40-121/0112SH</b>	1.3 2)	2.3	8.0	78	57	550	176	128
<b>40-120/0152SH</b>	1.8 2)	3.1	8.1	78	65	590	177	128
<b>45-130/0222SH</b>	2.6 2)	4.7	7.2	82	63	565	218	169
<b>45-131/0222SH</b>	2.6 2)	4.7	7.2	82	63	565	218	169
<b>50-131/0222SH</b>	2.6 2)	4.7	7.2	82	87	625	218	169
<b>50-132/0222SH</b>	2.6 2)	4.7	7.2	82	87	625	218	169
<b>50-131/0302SH</b>	3.6 2)	6.5	7.5	82	96	655	218	169
<b>50-131/0402SH</b>	4.8 2)	7.9	7.1	82	120	760	196	195
<b>50-161/0752SH</b>	9.0	14.0	7.2	77	218	860	315	253
<b>50-162/0752SH</b>	9.0	14.0	7.2	77	218	860	315	253
<b>SAQRX/80</b>	18.0	27.0	7.3	77	342	1150	350	270
	26.4	40.0	7.8	79	427	1220	388	307

## Legend:

- P<sub>2</sub>: Rated power  
I: Rated current  
I<sub>A</sub>/I<sub>N</sub>: Locked-rotor current related to rated current  
dB(A): Sound pressure level of the complete pump. Tolerance +/- 3 dB(A)  
m: Total weight of the pump (for standard installation)  
L: Total length of the pump [mm]  
øk: Motor diameter [mm]  
s: maximum terminal box dimension

1) Total weight of the pump

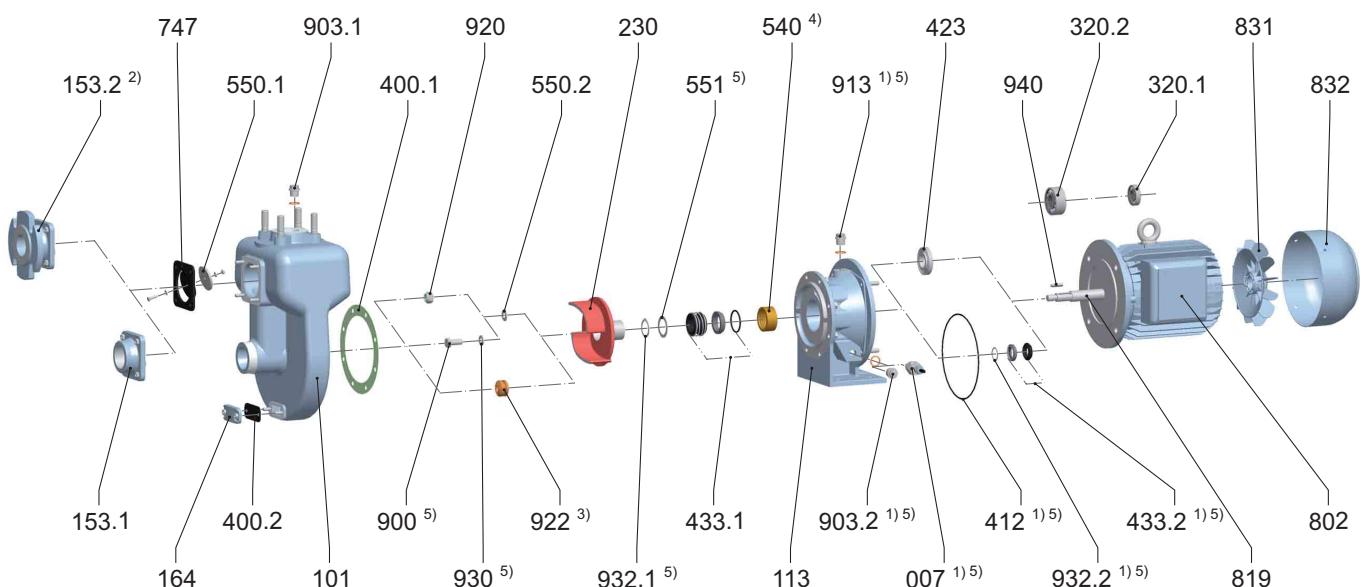
2) IE2 motor

Values for explosion protection versions on request

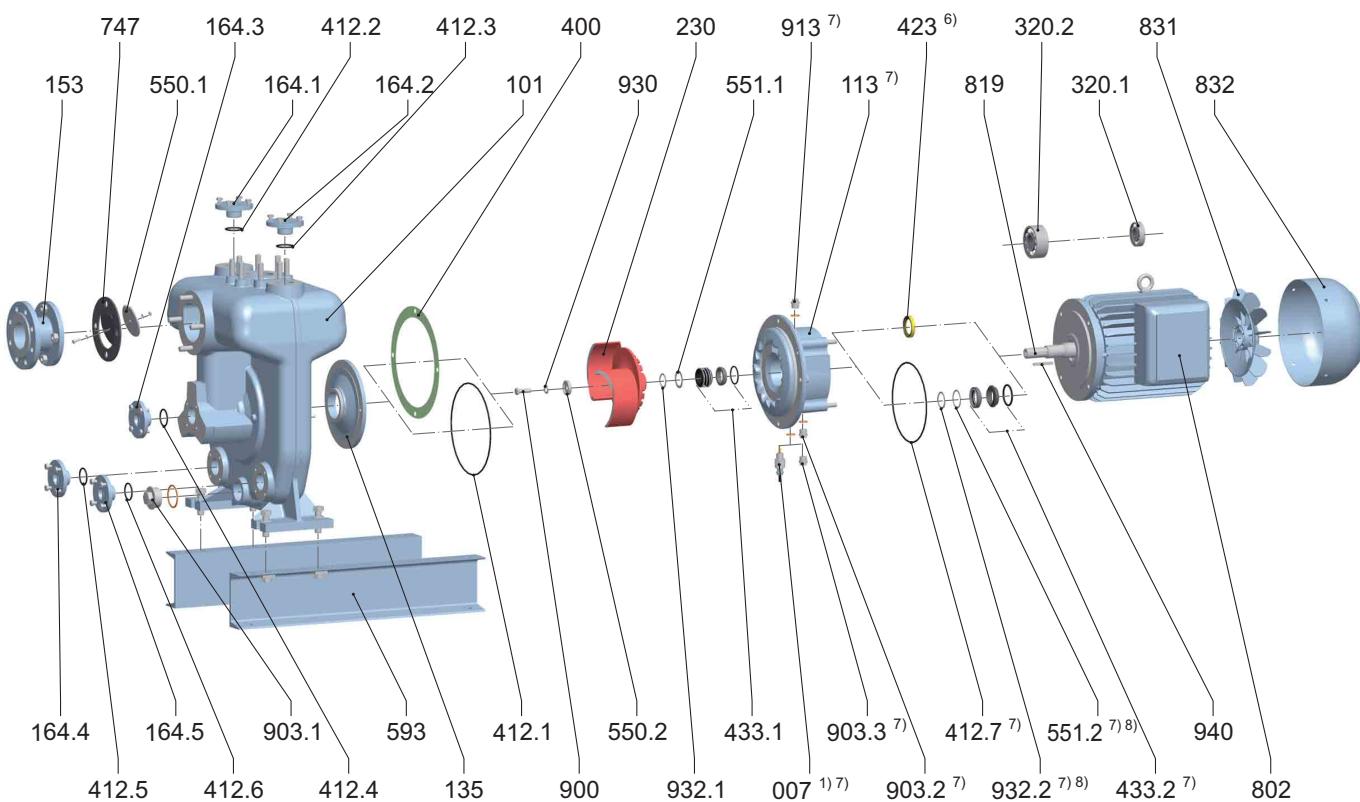
Customised solutions may differ from these standard data.

## Exploded view

### DN 25/ DN 40/ DN 50



### DN 80/ DN 100/ DN 150



<sup>1)</sup> Special design / accessories

<sup>2)</sup> only DN 50

<sup>3)</sup> only DN 50-13...

<sup>4)</sup> only DN 50 with a 1.5, 2.2 and 2.6 kW motor rating

<sup>5)</sup> only DN 50-16...

<sup>6)</sup> DW construction

<sup>7)</sup> Not available with DW construction

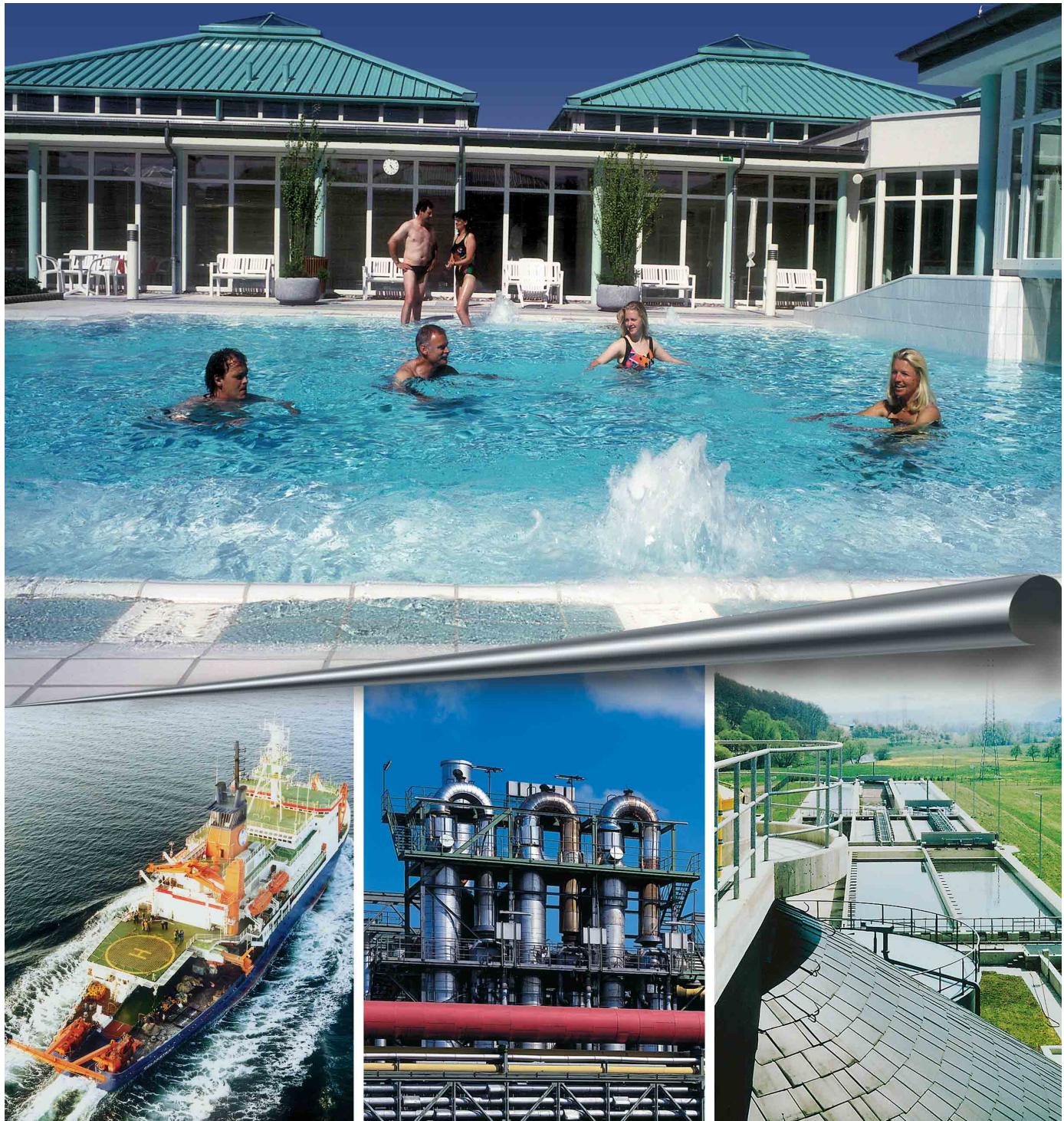
<sup>8)</sup> Not available with mechanical seal with locking screws

## Exploded view

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### Individual components

007	Seal electrode	423	Labyrinth ring
101	Pump casing	433.1	Mechanical seal
113	Intermediate casing	433.2	Mechanical seal
135	Wear plate	540	Bush
153	Suction flange	550.1	Disc
153.1	Suction flange	550.2	Disc
153.2	Suction flange	551	Spacer disc
164	Cleaning cover	551.1	Spacer disc
164.1	Cleaning cover	551.2	Spacer disc
164.2	Cleaning cover	593	Rail
164.3	Cleaning cover	747	Non-return flap valve
164.4	Cleaning cover	802	Block motor
164.5	Cleaning cover	819	Motor shaft
230	Impeller	831	Fan
320.1	Anti-friction bearing (non drive side)	832	Fan hood
320.2	Anti-friction bearing (drive side)	900	Screw
400.1	Gasket	903.1	Screwed plug
400.2	Gasket	903.2	Screwed plug
412	O-ring	903.3	Screwed plug
412.1	O-ring	913	Vent plug
412.2	O-ring	920	Nut
412.3	O-ring	922	Impeller nut
412.4	O-ring	930	Screw locking device
412.5	O-ring	932.1	Circlip
412.6	O-ring	932.1	Circlip
412.7	O-ring	940	Key



*We reserve the right to make changes in line with technical further developments!*



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