

SPK, CRK

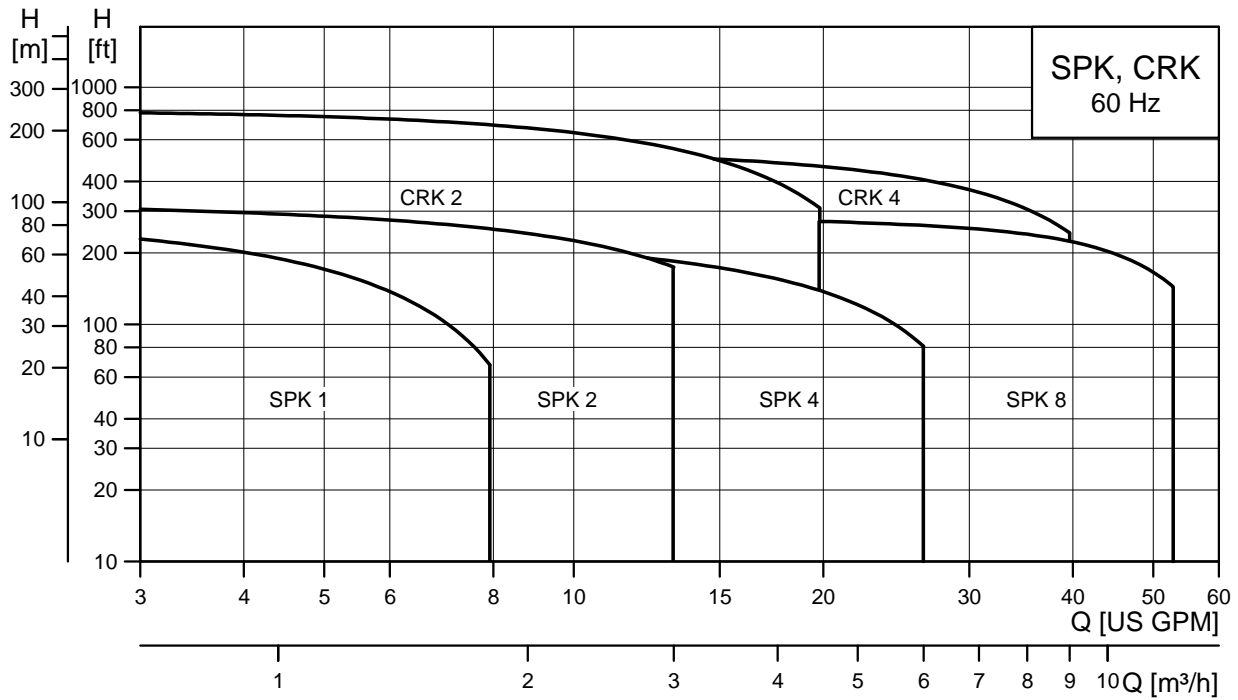
Immersible pumps
60 Hz



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1. General data

Performance range



TM03 8495 1707

Notes:

Grundfos Canada

Pumps supplied by Grundfos Canada are normally supplied with motors from other manufacturers. 575V motors meet EPAct/NRC efficiency standards. Dimensions and data will vary slightly. Contact local Grundfos company for more information.

Product data

Introduction

This product guide deals with SPK, SPKE, CRK, CRKE pumps.



TM02 8540 0404

Fig. 1 SPK and CRK pumps

SPK, CRK pumps are vertical multistage centrifugal pumps designed for pumping of cooling lubricants for machine tools, condensate transfer and similar applications.

The pumps are designed to be mounted on top of tanks with the chamber stack immersed in the pumped liquid.

SPK and CRK pumps come in various pump sizes and have various numbers of stages to provide the flow, the pressure and the installation length required.

The pumps consist of two main components: The motor and the pump unit. The motor is a heavy duty Grundfos specified motor.

The pump unit consists of optimized hydraulics, various types of connections, a motor stool, a given number of chambers and various other parts.

SPKE and CRKE- pumps with built-in variable frequency drive



TM02 8537 0408

Fig. 2 SPKE and CRKE pumps

SPKE and CRKE pumps are built on the basis of standard pumps.

The difference between the standard pumps and the SPKE and CRKE pump ranges is the motor. SPKE and CRKE pumps are fitted with an E-motor, i.e. a motor with built-in frequency control.

The motors of the SPKE and CRKE pumps are Grundfos MLE motors.

Frequency control enables continuously variable control of motor speed, which makes it possible to set the pump to operate in any duty point. Continuously variable control of the motor speed enables adjustment of the performance to a given requirement.

The pump materials are the same as those of the SPK and CRK pump ranges

Applications

Application	SPK(E)	CRK(E)
Boring	•	•
Sawing	-	-
Milling	•	•
Grinding	•	•
Spark erosion	•	•
Wire cutting	•	•
Turning	•	•
Chilling	•	•
Part washing	•	•
Filtration	•	-
Condensate systems	•	•
Wash and clean	•	•

- The pump is suitable for this application.

Machine tool applications

Grundfos' range of high-pressure pumps offers unsurpassed accuracy and stability to make sure that nothing interferes with the delicate machining process. Equally important, high efficiency ensures a remarkably low heat input into the cooling lubricant. Integrated variable frequency drives can be optionally supplied for increased system efficiency and flexibility. Pumps suitable for machine tool applications are the immersible SPK and CRK offering a tank mounted design.

Machine tool sub applications

Boring

Grundfos is capable of providing the exact pressure and flow required for different materials, bore diameters and tool speeds in both through boring and blind boring. Our flexible range includes pumps supplying a pressure of up to 345 PSI.

Milling/turning

The Grundfos range easily meets the individual cooling requirements of different materials in milling and turning – from low flow and low pressure to high flow and high pressure. The pumps are available in different lengths and customized to fit specific tank sizes. In fact, the modular construction of our pumps allows for more than 1,000,000 individual configurable variants.

Wire cutting

In wire cutting it is essential that the media are clean. This results in a more accurate process and extends the life of the filter. As a steady temperature is required for wire cutting operation, the process will benefit from a Grundfos E-solution.

Part washing

The Grundfos range includes pumps suitable for corrosive media and media with a high content of particles. Our variable frequency drive operated pumps with high-efficiency motors ensure that systems operate under the best possible conditions with low-energy consumption. Pumps suitable for this application are all immersible pumps.

Chilling

The reliable and thoroughly-tested range of pumps for chillers offers a particularly diverse application spectrum. It covers cooling water circuits, washing plants, industrial circulation systems as well as general pressure boosting applications. All pumps are available with an E-motor to increase efficiency and perfectly control any process. Pumps suitable for this application are all immersible pumps.

Condensate systems

As condensate is normally pumped from a tank, an immersible pump will be a perfect choice. Compact solution as half the pump will be in the tank. Optimum suction as no pipes or valves are needed in front of inlet. For temperatures above 194°F, a 248°F version is available.

Wash & clean

As for condensate systems, wash and clean applications are typically based around a tank. So also here the immersible pumps can save space and secure optimum suction. A version in all stainless steel is available for aggressive media.

Product range



TM05 3480 1412



TM05 3481 1412

Description	SPK 1	SPK 2	SPK 4	SPK 8	CRK 2	CRK 4
Range 60 Hz						
Nominal flow [gpm]	5	11	18	40	13	28
Flow range [gpm]	0.5 - 8	1.1 - 13.2	1.8 - 26.5	4 - 56	1.3 - 20	2.8 - 40
Maximum head [ft]	287	331	250	312	805	560
Maximum power [hp]	0.75	1.50	1.50	5.00	5.00	5.00
Liquid temperature range [°F]	+14 to +194 °F (-10 to +90 °C)					
Maximum efficiency [%]	41	54	51	59	44	59
Material variants						
Motor stool/pump head: Cast iron, ASTM 25B	•	•	•	•	•	•
Motor stool / pump head: Stainless Steel: AISI 316LN	•*	•*	•*	•*	•*	•*
Pipe connection						
1.25" NPT	•	•	•	•	•	•
Installation dimension [in]						
	A	5.56	5.56	5.56	5.56	5.56
	B Max.	39.63**	39.63**	39.63**	39.63**	39.63
Shaft seal						
AUUV	•	•	•	•	•	•
*Available on request						
Variable speed motor (<=10 hp)	•*	•*	•*	•*	•*	•*

**With extension pipe

I-version

As standard the SPK/CRK pumps are available as I-version called **SPKI/CRKI**. All parts of SPKI/CRKI pumps in contact with the pumped liquid are made of stainless steel AISI 304 or AISI 316.

Extension pipe

All SPK pumps are available with an extension pipe. The extension pipe is available in various lengths enabling installation lengths up to 39.63 in. (1005 mm).

CRK 2 and CRK 4 pumps can be extended by means of empty chambers enabling installation lengths up to 39.63 in. (1005 mm).

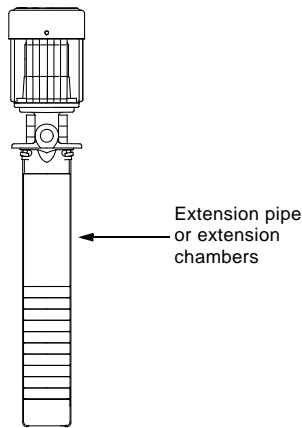


Fig. 3 Extension pipe

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Installation

SPK, CRK 2/4

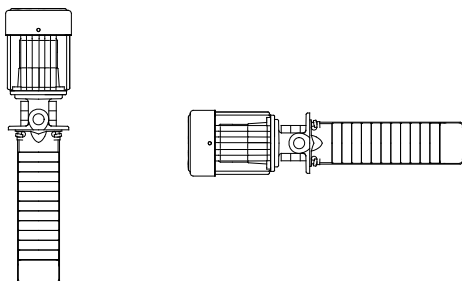
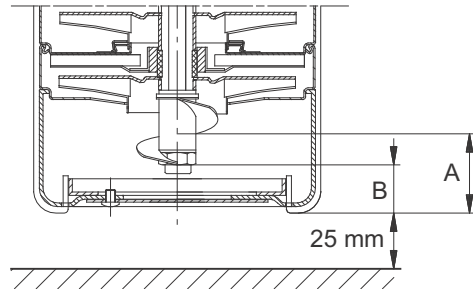


Fig. 4 SPK, CRK 2/4

If the SPK pump is installed horizontally, the motor stool drain hole must be closed

TM00 1922 3297

SPK and CRK 2/4



TM01 7810 3801

Fig. 5 SPK and CRK 2/4

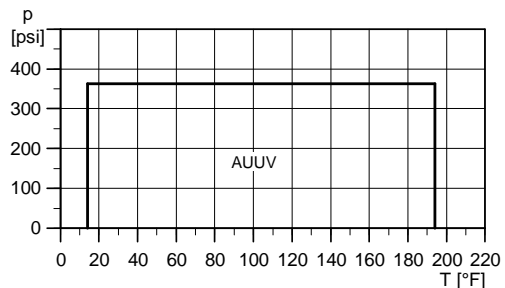
The pumps are designed to provide full performance down to a level of A in. above the bottom of the strainer.

At a liquid level between A and B in. above the bottom of the strainer, the built-in priming screw will protect the pump against dry running.

Pump type	A [in]	B [in]
SPK and CRK 2/4	1.63	1.00

Shaft seal

Max. operating pressure and liquid temperature



TM03 4271 2006

Shaft seal	Description	Temperature range [°F]
AUUV	O-ring seal with fixed seal driver, tungsten carbide/tungsten carbide, FKM	+14 °F to 194 °F

Motor

Grundfos standard motors - ML and Baldor® motors

SPK and CRK pumps are fitted with a Grundfos specified motor. The motors are all heavy-duty 2-pole, NEMA C-face motors.

Variable frequency drive motors - MLE motors

SPKE and CRKE pumps are fitted with a totally enclosed, fan-cooled, 2-pole motor with integrated variable frequency drive.

From 0.5 Hp to 1.5 Hp Grundfos offers SPKE and CRKE pumps fitted with single-phase MLE motors (1 x 208-230 V). From 1.0 Hp to 30 Hp Grundfos offers the

SPKE and CRKE pumps fitted with three-phase MLE motors (3 x 460-480 V). From 1.5 Hp to 7.5 Hp Grundfos offers the SPKE and CRKE pumps fitted with three-phase MLE motors (3 x 208-230 V).

Electrical data

Mounting designation	NEMA
Insulation class	F & B
Efficiency class*	Energy efficient Premium efficiency - on request for 15 Hp and above
Enclosure class	TEFC - Totally Enclosed Fan Cooled (Grundfos standard) ODP - Open Drip Proof - on request
60 Hz Standard voltages	1 x 115/208-230 V 3 x 208-230/460 V 3 x 575 V

The motors are rated for:

	Baldor	ML/MLE	MLE
Approvals			

* 1 - 10 Hp ML motors are premium efficiency as standard

Operating conditions

Liquid temperature: +14 °F to +194 °F (-10 °C to +90 °C).

Motor protection

Single-phase Grundfos specified motors up to 7.5 hp have a built-in thermal overload switch.

Three-phase motors **must** be connected to a motor starter in accordance with local regulations.

Sound pressure level

Motor [hp]	dB(A)
0.33 to 1.5	<70
2.0 to 5.0	71
7.5	78
10.0	78
15.0	84
20.0	77

Optional motors

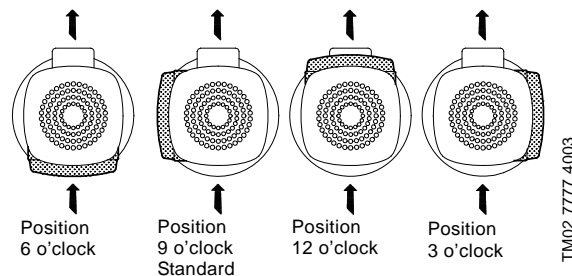
The Grundfos standard range of motors covers a wide variety of application demands. However, for special applications or operating conditions, custom-built motor solutions can be provided.

For special applications or operating conditions, Grundfos offers custom-built motors such as:

- explosion proof motors,
- motors with anti-condensation heating unit,
- low-noise motors,
- premium efficiency motors,

Terminal box positions

As standard SPK and CRK pumps built in North America have their terminal box mounted in position 9 o'clock of the pump; however other positions are possible.



Ambient temperature

Ambient temperature: Maximum +104 °F.

If the ambient temperature exceeds +104 °F or if the motor is located 3280 feet above sea level or higher, the motor output (P₂) must be reduced due to the low cooling effect of the air. In such cases, it may be necessary to use a motor with a higher output.

Overheating may result from excessive ambient temperatures or the low density and consequently low cooling effect of the air at high altitudes. In such cases, it may be necessary to use a motor with a higher rated output (P₂).

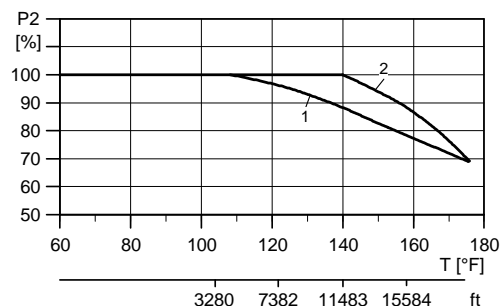
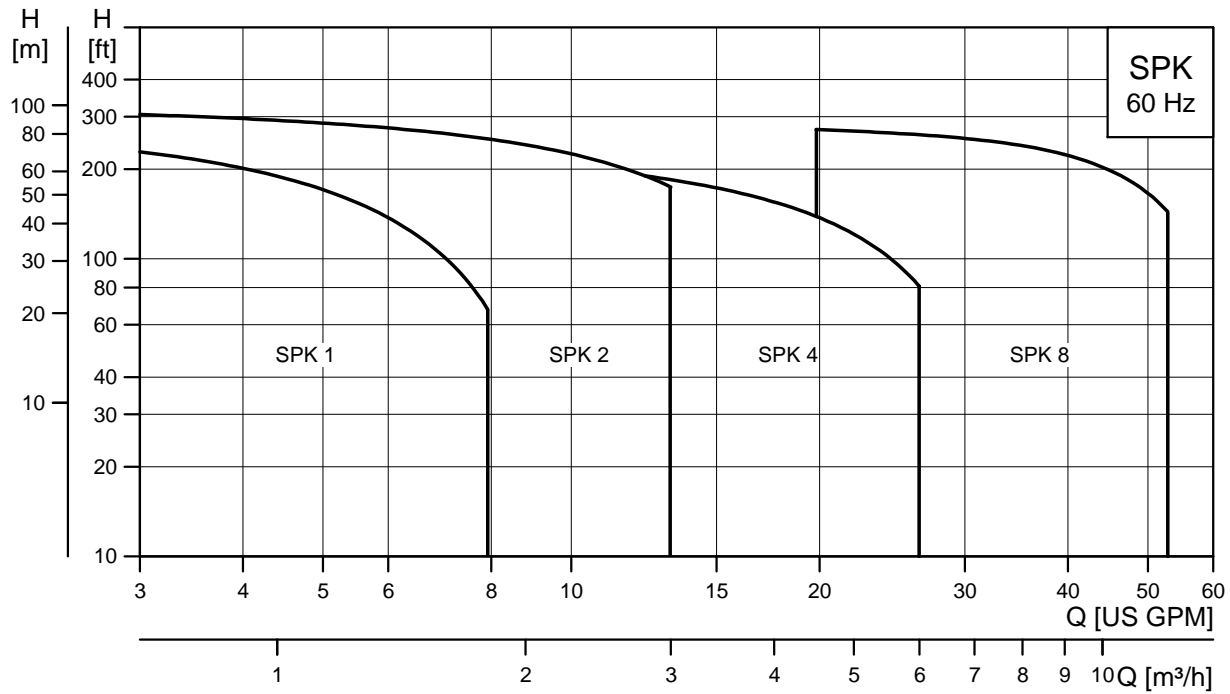


Fig. 6 Relationship between motor output (P₂) and ambient temperature/altitude

Legend

Pos.	Description
1	NEMA energy efficient motors (EPAct)
2	NEMA Premium efficiency motors

2. SPK performance range



TM05 3356 1212

Product range

SPK 1

Example: SPK 1-8/8	Number of impellers						B [in]
	1	3	5	8	11	15	
	1	•					5.63
	3	•	•				7.25
	5	•	•	•			8.88
	8	•	•	•	•		11.38
	11	•	•	•	•	•	13.88
	15	•	•	•	•	•	17.13
	19	•	•	•	•	•	20.50
	23	•	•	•	•	•	23.75
23*	•	•	•	•	•	39.63	
Motor [hp]	0.33	0.33	0.33	0.33	0.50	0.75	

* with extension pipe.

SPK 2

Example: SPK 2-8/8	Number of impellers					B [in]	
	1	3	5	8	11		15
	1	•					5.63
	3	•	•				7.25
	5	•	•	•			8.88
	8	•	•	•	•		11.38
	11	•	•	•	•	•	13.88
	15	•	•	•	•	•	17.13
	19	•	•	•	•	•	20.50
	23	•	•	•	•	•	23.75
23*	•	•	•	•	•	39.63	
Motor [hp]	0.33	0.33	0.50	0.75	1.00	1.50	

* with extension pipe.

SPK 4

Example: SPK 4-8/8	Number of impellers					B [in]	
	1	3	5	8	10		
	1	•					5.63
	3	•	•				7.25
	5	•	•	•			8.88
	8	•	•	•	•		11.38
	11	•	•	•	•	•	13.88
	15	•	•	•	•	•	17.13
	19	•	•	•	•	•	20.50
	19*	•	•	•	•	•	39.63
Motor [hp]	0.33	0.50	0.75	1.50	1.50		

* with extension pipe.

SPK 8

Example: SPK 8-7/7	Number of impellers						B [in]	
	1	2	3	5	7	8		12
	1	•						7.25
	2	•	•					8.88
	3	•	•	•				11.38
	5	•	•	•	•			13.88
	7	•	•	•	•	•		17.13
	9	•	•	•	•	•	•	20.50
	12	•	•	•	•	•	•	25.38
	15	•	•	•	•	•	•	30.38
	15*	•	•	•	•	•	•	39.63
	Motor [hp]	0.50	0.75	1.50	2.00	3.00	3.00	5.00

* with extension pipe.

3. SPK construction

Materials, SPK

Pos.	Description	Materials	DIN W.-Nr.	ASTM/AISI
2	Motor stool	Cast iron	0.6020	ASTM 25B
		Stainless steel (I-version)	1.4408	AISI 316LN
3	Intermediate chamber	Stainless steel	1.4301	AISI 304
3a	Intermediate chamber	Stainless steel	1.4301	AISI 304
4	Intermediate chamber	Stainless steel	1.4301	AISI 304
4a	Intermediate chamber w/ bearing	Stainless steel	1.4301	AISI 304
4a	Bearing in chamber	Ceramic Al ₂ O ₃ , 95-100 % Hilox		
5a	Bottom intermediate chamber	Stainless steel	1.4301	AISI 304
7	Coupling guard	Stainless steel	1.4301	AISI 304
7a	Screw	Stainless steel		
8	Coupling	Cast iron	0.7040	ASTM 60-40-18
9	Allen screw	Steel		
10	Shaft pin	Stainless steel	1.4301	AISI 304
10a	Coupling half	Cast iron	0.7040	ASTM 60-40-18
26	Strap	Stainless steel	1.4301	AISI 304
28	Motor bolt	Steel		
37	Gasket	Paper		
45	Neck ring	PPS (Polyphenylene sulfide) 40 % GF (SPK 1, 2, 4)		
		Tin/bronze (SPK 8)		
45a	Disc for neck ring	PTFE		
47a	Bearing ring	Tungsten carbide		
49(d)	Impeller	Stainless steel	1.4301	AISI 304
51	Spline shaft	Stainless steel	1.4057	AISI 431
61	Spacing pipe	Stainless steel	1.4301	AISI 304
62	Stop ring	Stainless steel	1.4436	AISI 316
64(a-c)	Spacing pipe	Stainless steel	1.4401	AISI 316
65	Retainer for neck ring	Stainless steel	1.4301	AISI 304
66(b)	Washer	Stainless steel	1.4301	AISI 304
67	Lock nut	Stainless steel	1.4401	AISI 316
69(a)	Spacing pipe	Stainless steel	1.4301	AISI 304
84/85	Strainer	0.08" holes (SPK 1, 2, 4, CRK 2)	1.4301	AISI 304
		0.16" holes (SPK 8, CRK 4)	1.4301	AISI 304
84b	Screw	Stainless steel		
105	Shaft seal	AUUV		
121	Suction interconnector	Stainless steel	1.4301	AISI 304
122	Priming screw	Stainless steel	1.4401	AISI 316

Sectional drawing

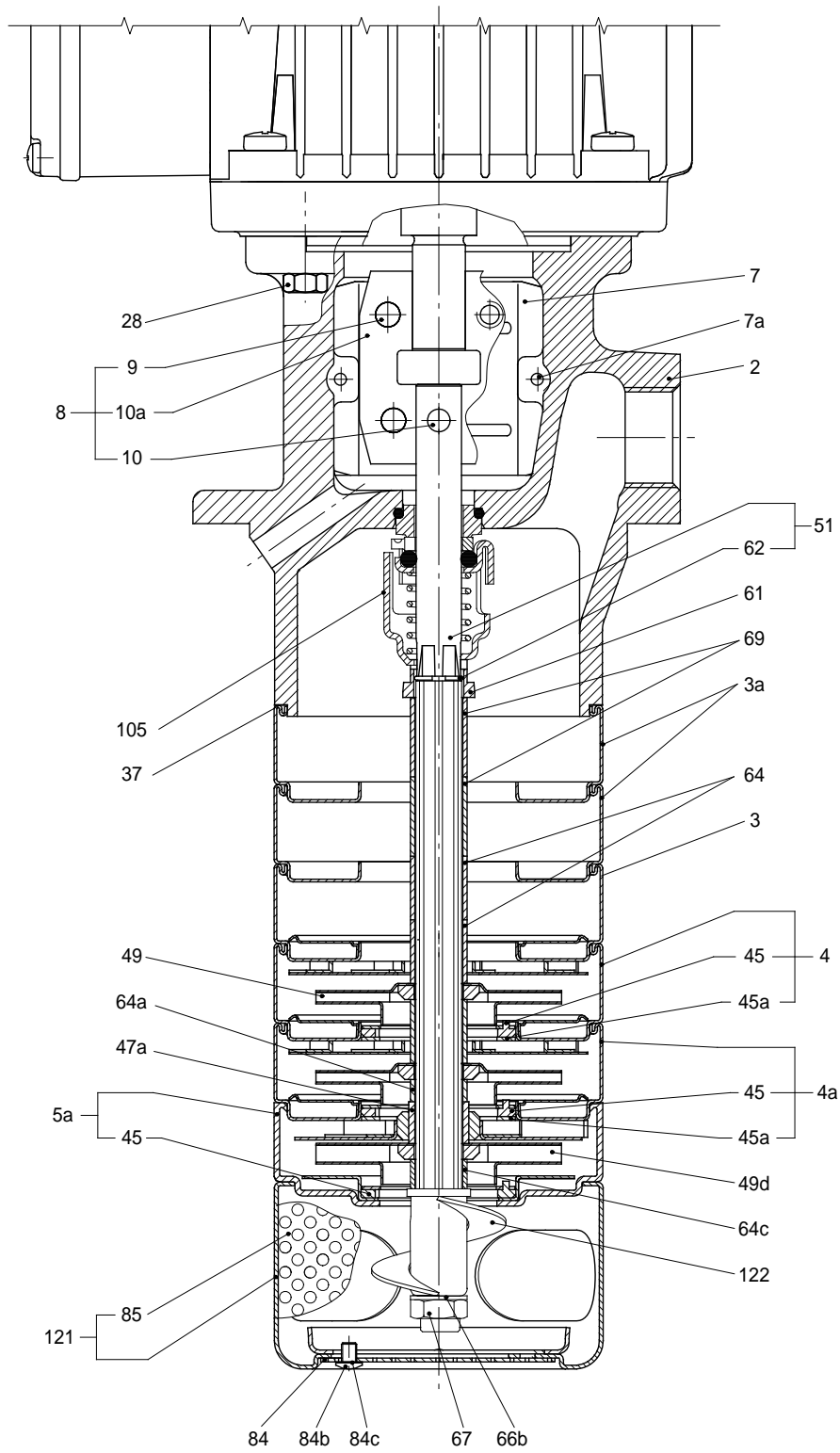


Fig. 7 SPK 1, SPK 2

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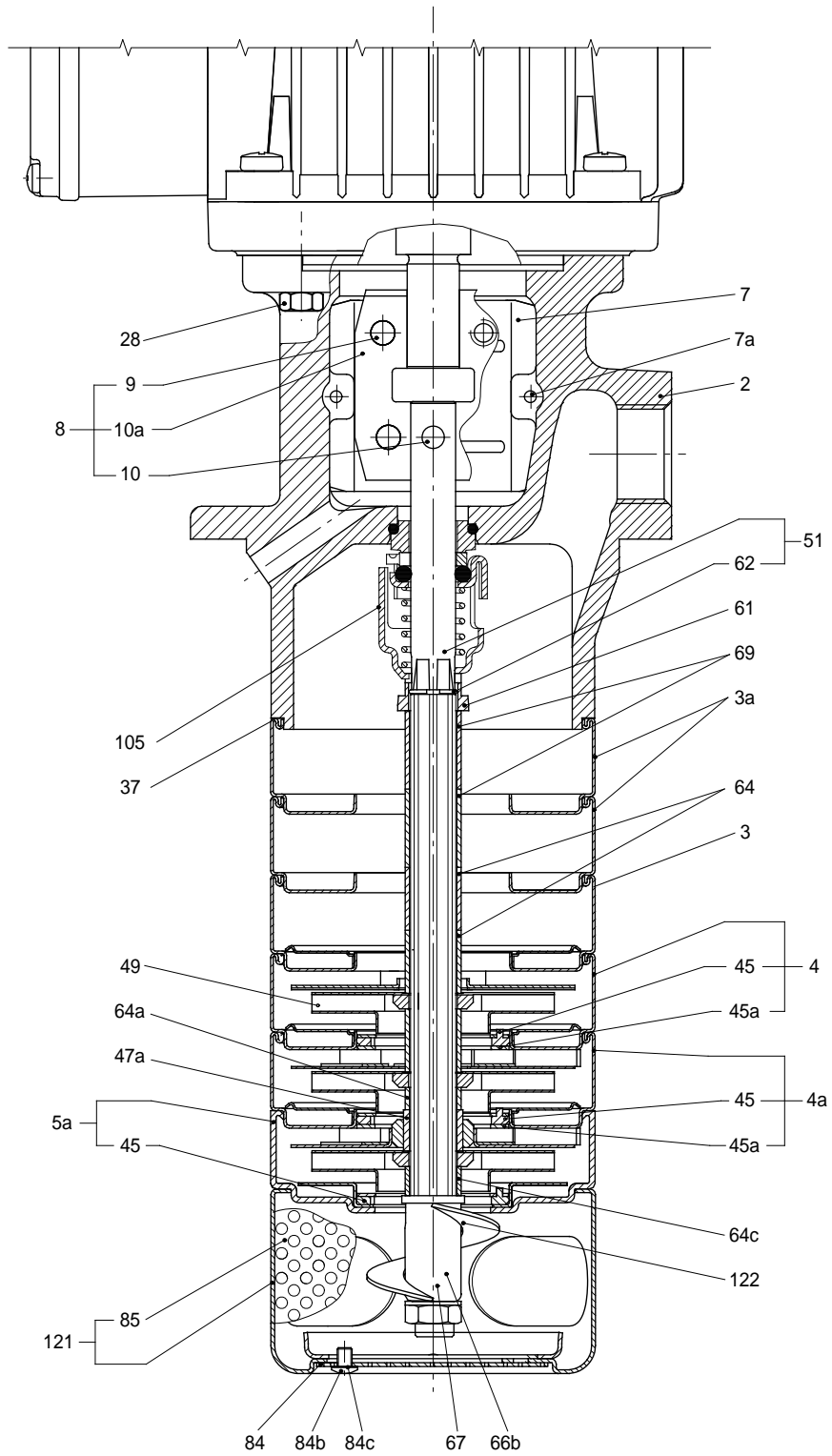


Fig. 8 SPK 4

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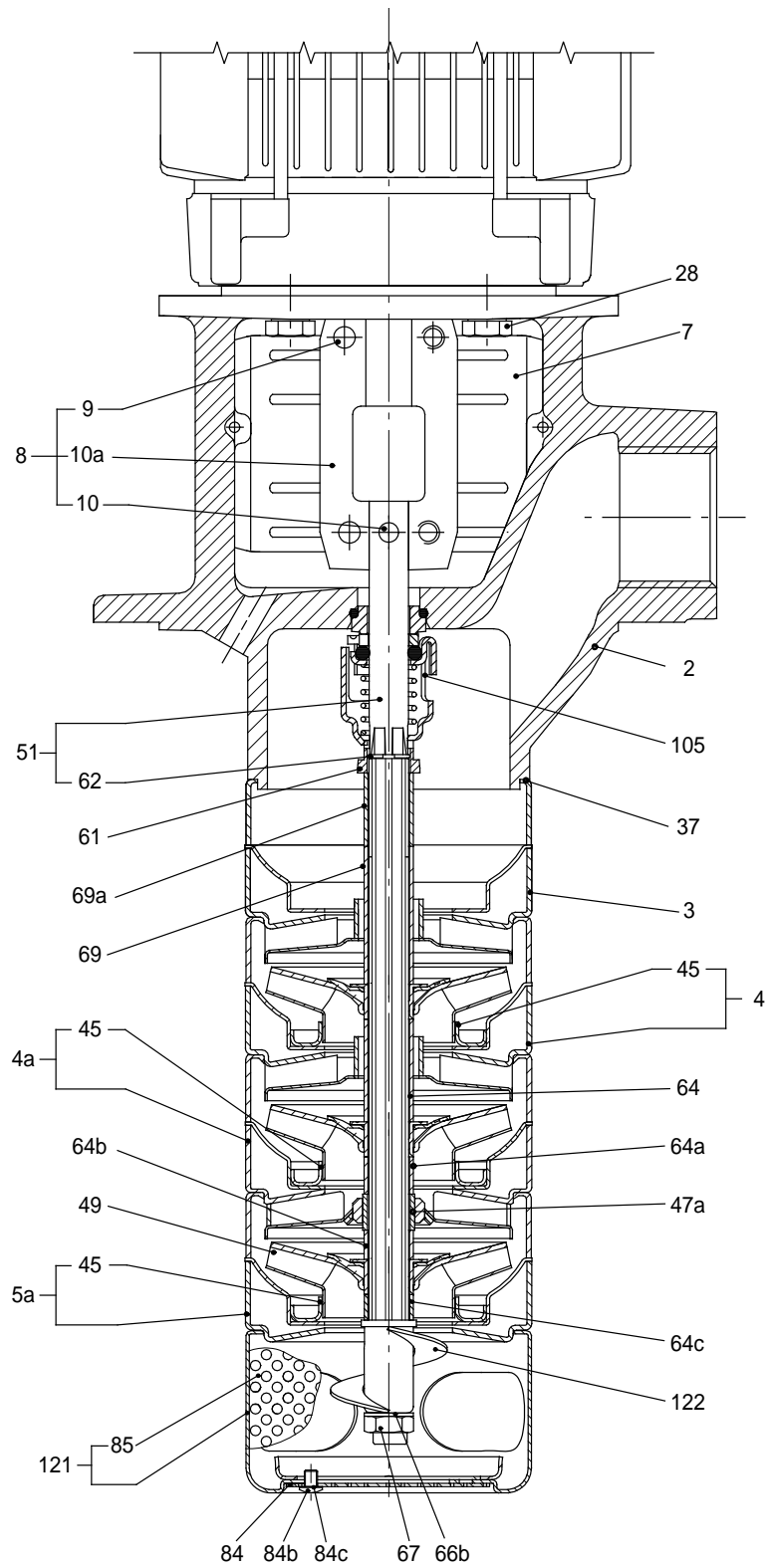
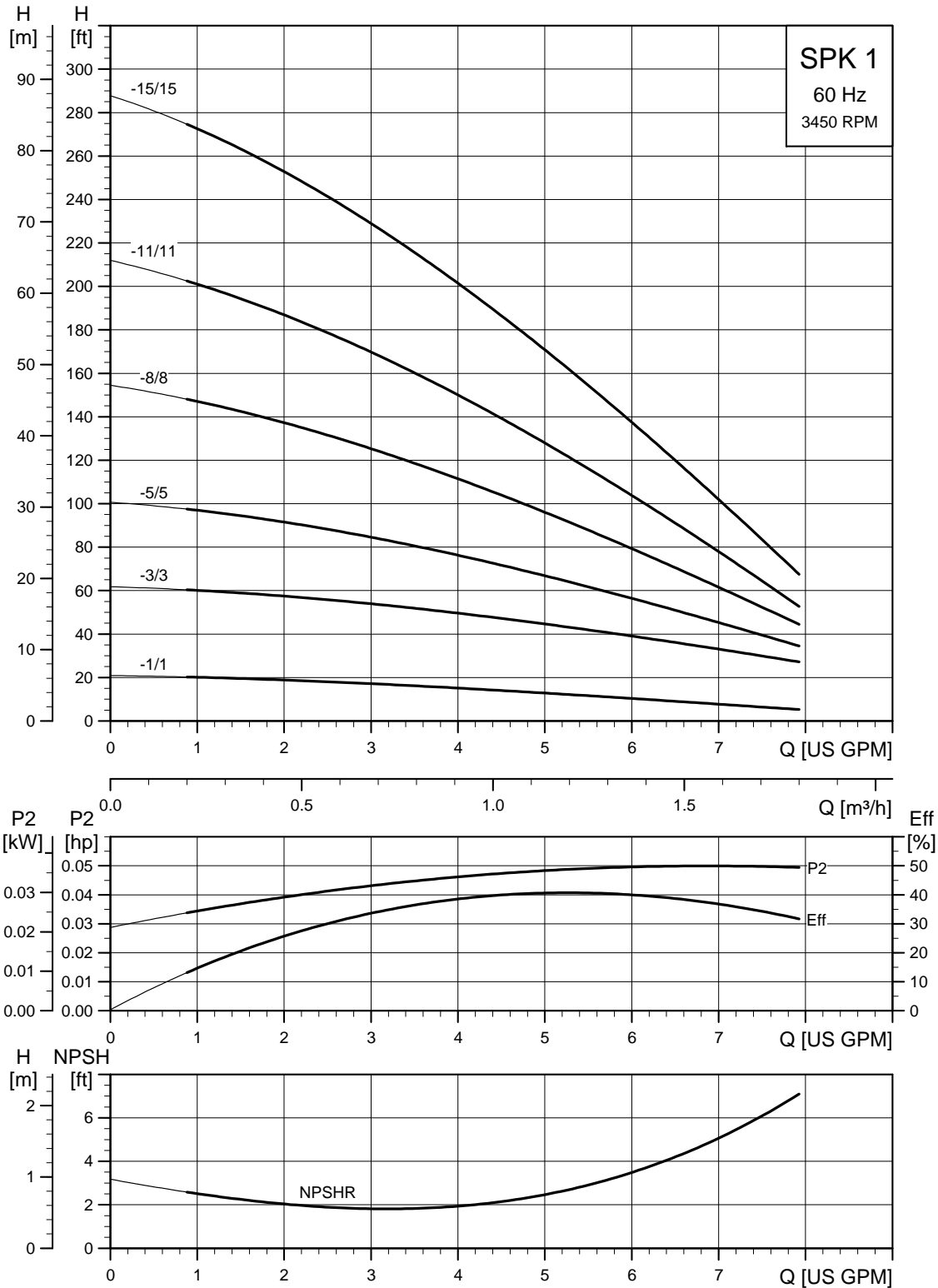


Fig. 9 SPK 8

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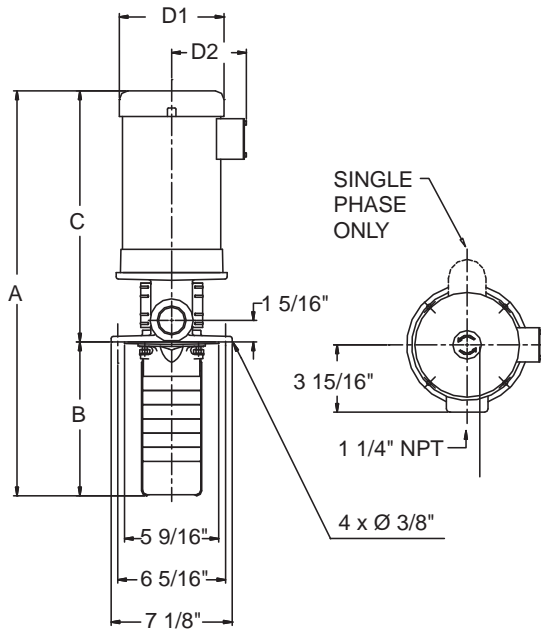
4. SPK performance curves/ technical data

SPK 1



TM03 8487 1212

Dimensional sketches



TM05 2425 1312

Dimensions and weights¹

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 1-1/1	0.33	1	19.00	5.63	9.29	6.25	5.25	35
		3	17.31	5.63	7.60	5.63	4.63	33
SPK 1-3/3	0.33	1	20.62	7.25	9.29	6.25	5.25	36
		3	18.93	7.25	7.60	5.63	4.63	34
SPK 1-5/5	0.33	1	22.25	8.88	9.29	6.25	5.25	37
		3	20.56	8.88	7.60	5.63	4.63	35
SPK 1-8/8	0.33	1	24.75	11.38	9.29	6.25	5.25	39
		3	23.06	11.38	7.60	5.63	4.63	37
SPK 1-11/11	0.50	1	27.25	13.88	9.29	6.25	5.25	50
		3	25.56	13.88	7.60	5.63	4.63	42
SPK 1-15/15	0.75	1	30.50	17.13	9.29	6.25	5.25	54
		3	28.81	17.13	7.60	5.63	4.63	49
SPK 1-19/15	0.75	1	33.87	20.50	9.29	6.25	5.25	59
		3	32.18	20.50	7.60	5.63	4.63	50
SPK 1-23/15	0.75	1	37.12	23.75	9.29	6.25	5.25	59
		3	35.43	23.75	7.60	5.63	4.63	50

* The stated weights apply to SPK only. For SPKI, add 2 lbs.

SPK with extension pipe

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 1-23/15	0.75	1	53.00	39.63	9.29	6.25	5.25	69
		3	51.31	39.63	7.60	5.63	4.63	60

* The stated weights apply to SPK only. For SPKI, add 2 lbs.

Electrical data¹

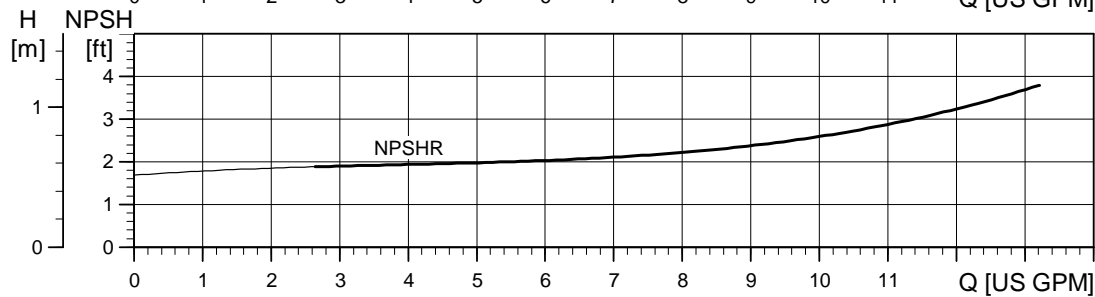
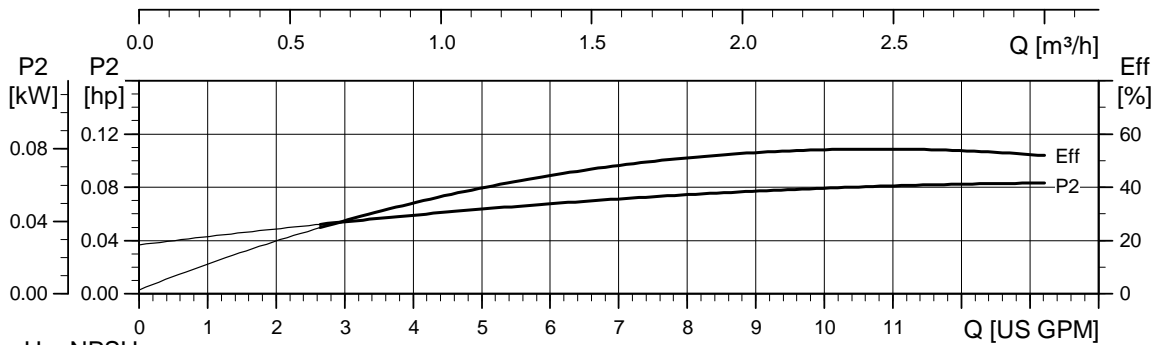
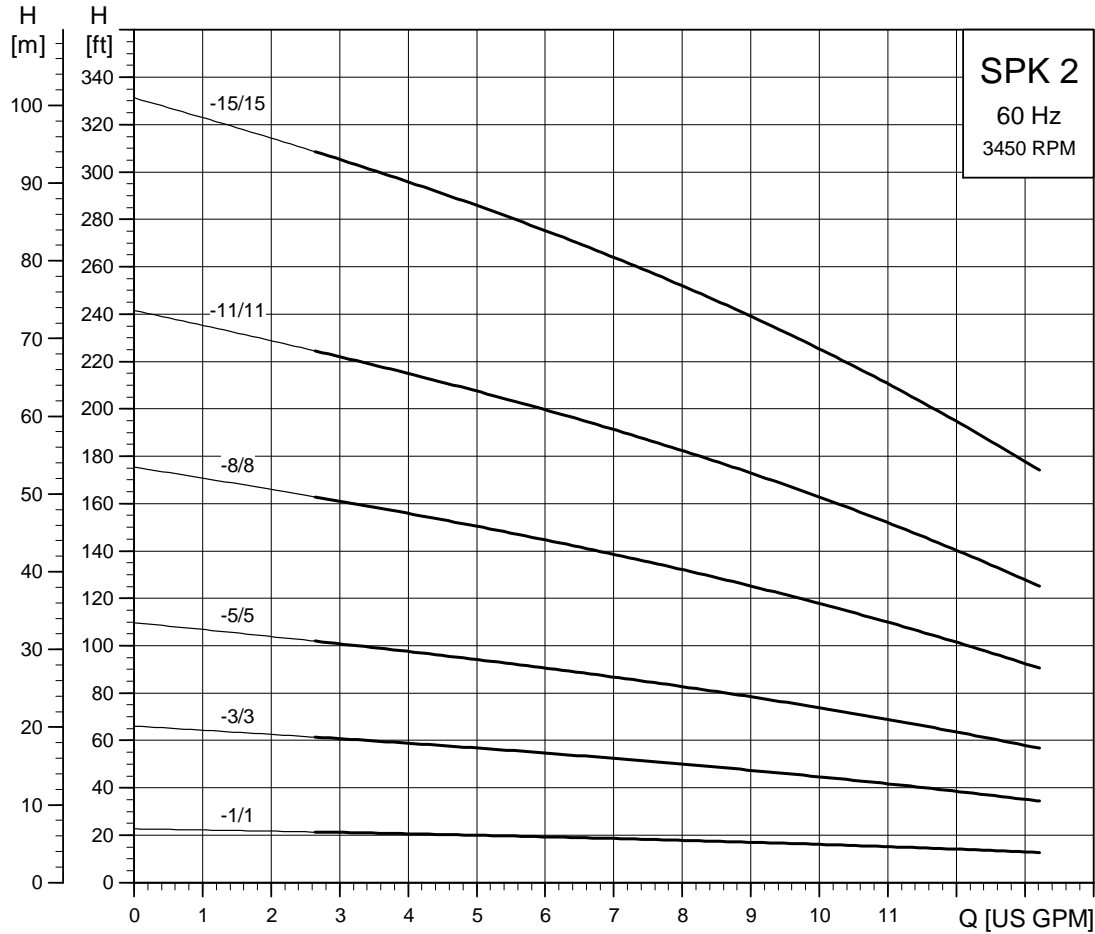
Hp	Ph	NEMA frame	Service factor	Voltage	Motor eff. [%]	Insul. class	KVA code	Full load current [A]	Service factor current [A]	Start current [A]	Motor type
0.33	1	56C	1.35	115/230	55	B	K	6.0/3.0	7.6/3.8	28/14	Baldor
	3	56C	1.35	208-230/460	78.5/80	F	L	1.12-1.1/0.55	1.5-1.45/0.75	7.1-10.2/3.9	ML
0.50	1	56C	1.6	115/208-230	62	B	K	7.4/4.1-3.7	9.8/5.2-4.9	39/21.6-19.5	Baldor
	3	56C	1.25	208-230/460	78/79.5	F	K	1.64-1.55/ 0.78	2.0-1.9/0.95	9.7-10.1/5.1	ML
0.75	1	56C	1.25	115/208-230	66	B	K	9.6/5.3-4.8	11.4/6.0-5.7	56/31-28	Baldor
	3	56C	1.25	208-230/460	79/80	F	K	2.4-2.3/1.2	2.9-2.75/1.4	14.2-15/7.8	ML

¹All specifications are for TEFC motors. ODP motors are available on request. For pumps supplied from Grundfos Canada see Notes on page 3.

Flange to strainer length options

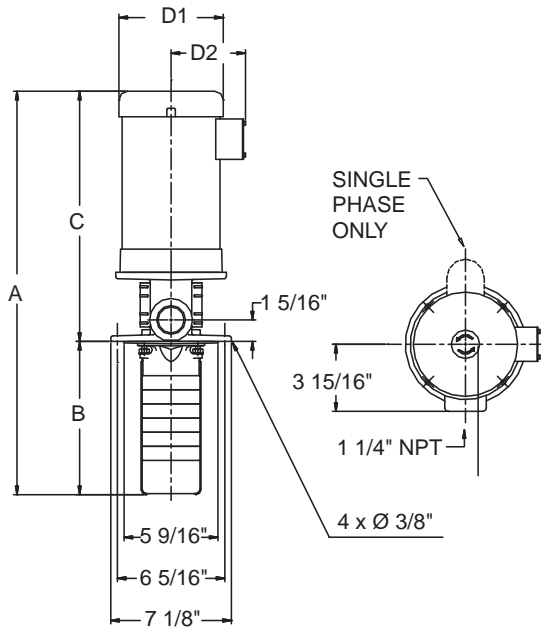
Flange to strainer length options (dimension B)											
Pump type	No. of impellers	Hp	Inches								All SPK models with extension pipe
			5.63	7.25	8.88	11.38	13.88	17.13	20.5	23.75	
Stages / Impellers											
SPK 1	1	0.33	-1/1	-3/1	-5/1	-8/1	-11/1	-15/1	-19/1	-23/1	
SPK 1	3	0.33	-	-3/3	-5/3	-8/3	-11/3	-15/3	-19/3	-23/3	
SPK 1	5	0.33	-	-	-5/5	-8/5	-11/5	-15/5	-19/5	-23/5	
SPK 1	8	0.33	-	-	-	-8/8	-11/8	-15/8	-19/8	-23/8	
SPK 1	11	0.50	-	-	-	-	-11/11	-15/11	-19/11	-23/11	
SPK 1	15	0.75	-	-	-	-	-	-15/15	-19/15	-23/15	

SPK 2



TM03 8488 1707

Dimensional sketches



TM05 2425 1312

Dimensions and weights¹

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 2-1/1	0.33	1	19.00	5.63	9.29	6.25	5.25	35
		3	17.31	5.63	7.60	5.63	4.63	33
SPK 2-3/3	0.33	1	20.62	7.25	9.29	6.25	5.25	36
		3	18.93	7.25	7.60	5.63	4.63	36
SPK 2-5/5	0.50	1	22.25	8.88	9.29	6.25	5.25	38
		3	20.56	8.88	7.60	5.63	4.63	38
SPK 2-8/8	0.75	1	24.75	11.38	9.29	6.25	5.25	48
		3	18.98	11.38	7.60	5.63	4.63	41
SPK 2-11/11	1.00	1	25.07	13.88	11.19	7.25	5.75	62
		3	21.48	13.88	7.60	5.63	4.63	48
SPK 2-15/15	1.50	1	28.81	17.13	11.68	7.25	5.75	70
		3	25.91	17.13	8.78	5.63	4.63	57
SPK 2-19/15	1.50	1	32.18	20.50	11.68	7.25	5.75	75
		3	29.28	20.50	8.78	5.63	4.63	63
SPK 2-23/15	1.50	1	35.43	23.75	11.68	7.25	5.75	76
		3	32.53	23.75	8.78	5.63	4.63	64

* The stated weights apply to SPK only. For SPK1, add 2 lbs.

SPK with extension pipe

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 2-23/15	1.50	1	55.39	39.63	11.68	7.25	5.75	86
		3	52.48	39.63	8.78	5.63	4.63	74

* The stated weights apply to SPK only. For SPK1, add 2 lbs.

Electrical data

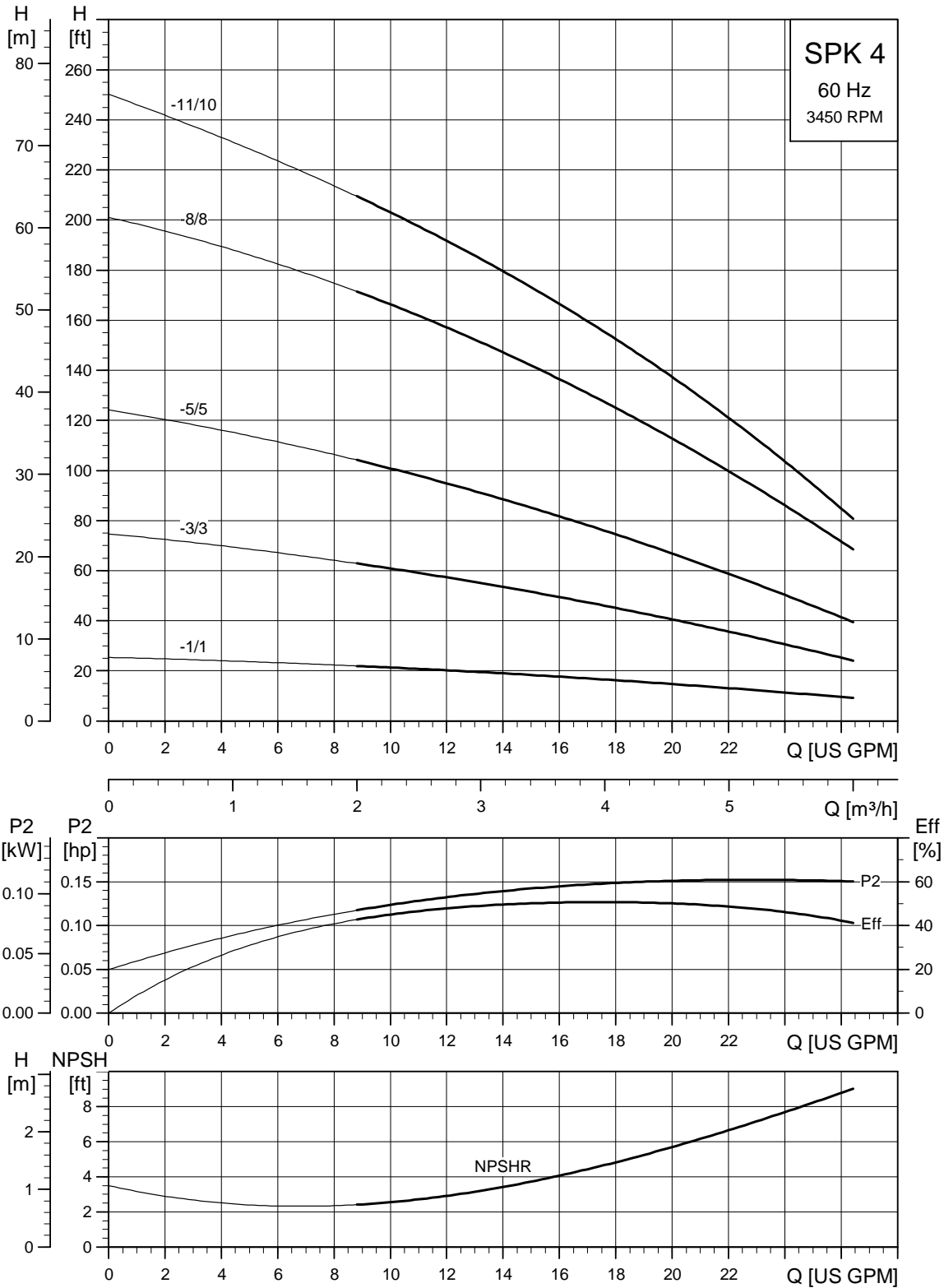
Hp	Ph	NEMA frame	Service factor	Voltage	Motor eff. [%]	Insul. class	KVA code	Full load current [A]	Service factor current [A]	Start current [A]	Motor type
0.33	1	56C	1.35	115/230	55	B	K	6.0/3.0	7.6/3.8	28/14	Baldor
	3	56C	1.35	208-230/460	78.5/80	F	L	1.12-1.1/0.55	1.5-1.45/0.75	7.1-10.2/3.9	ML
0.50	1	56C	1.6	115/208-230	62	B	K	7.4/4.1-3.7	9.8/5.2-4.9	39/21.6-19.5	Baldor
	3	56C	1.25	208-230/460	78/79.5	F	K	1.64-1.55/ 0.78	2.0-1.9/0.95	9.7-10.1/5.1	ML
0.75	1	56C	1.25	115/208-230	66	B	K	9.6/5.3-4.8	11.4/6.0-5.7	56/31-28	Baldor
	3	56C	1.25	208-230/460	79/80	F	K	2.4-2.3/1.2	2.9-2.75/1.4	14.2-15/7.8	ML
1.00	1	56C	1.25	115/230	66	B	K	12/6.0	14.4/7.2	77/38.5	Baldor
	3	56C	1.25	208-230/460	81/81	F	J	3.25-3.35/ 1.68	4.0-3.9/1.95	19.2-21.8/ 10.9	ML
1.50	1	56C	1.30	115/208-230	71	B	K	17/9.5-8.6	20.4/11.3-10.2	106/58.6-53	Baldor
	3	56C	1.15	208-230/460	83/84	F	M	4.7-4.6/2.3	5.2-5.1/2.55	33.8-36.8/18.4	ML

¹All specifications are for TEFC motors. ODP motors are available on request. For pumps supplied from Grundfos Canada see Notes on page 3.

Flange to strainer length options

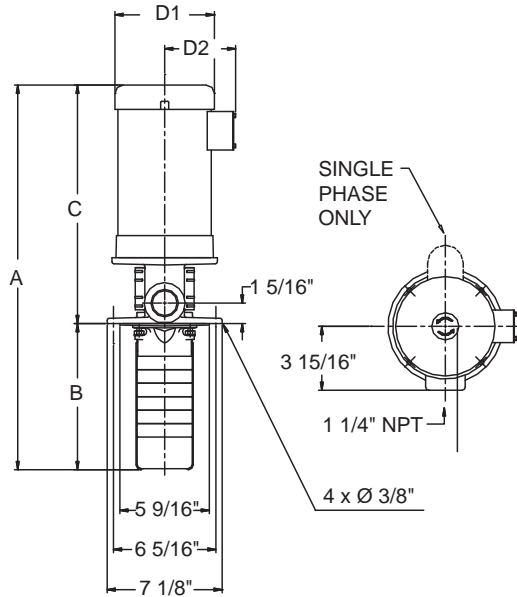
Flange to strainer length options (dimension B)											
Pump type	No. of impellers	Hp	Inches								
			5.63	7.25	8.88	11.38	13.88	17.13	20.50	23.75	39.63
Stages / Impellers											
SPK 2	1	0.33	-1/1	-3/1	-5/1	-8/1	-11/1	-15/1	-19/1	-23/1	All SPK models with extension pipe
SPK 2	3	0.33	-	-3/3	-5/3	-8/3	-11/3	-15/3	-19/3	-23/3	
SPK 2	5	0.50	-	-	-5/5	-8/5	-11/5	-15/5	-19/5	-23/5	
SPK 2	8	0.75	-	-	-	-8/8	-11/8	-15/8	-19/8	-23/8	
SPK 2	11	1.00	-	-	-	-	-11/11	-15/11	-19/11	-23/11	
SPK 2	15	1.50	-	-	-	-	-	-15/15	-19/15	-23/15	

SPK 4



TM03 8489 1707

Dimensional sketches



TM05 3482 1412

Dimensions and weights¹

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 4-1/1	0.33	1	14.92	5.63	9.29	6.25	5.25	35
		3	13.22	5.63	7.60	5.63	4.63	33
SPK 4-3/3	0.50	1	16.54	7.25	9.29	6.25	5.25	37
		3	14.85	7.25	7.60	5.63	4.63	35
SPK 4-5/5	0.75	1	18.17	8.88	9.29	6.25	5.25	54
		3	16.47	8.88	7.60	5.63	4.63	40
SPK 4-8/8	1.50	1	23.06	11.38	11.68	7.25	5.75	67
		3	20.15	11.38	8.78	5.63	4.63	50
SPK 4-11/10	1.50	1	25.56	13.88	11.68	7.25	5.75	69
		3	22.65	13.88	8.78	5.63	4.63	57
SPK 4-15/10	1.50	1	28.81	17.13	11.68	7.25	5.75	72
		3	25.90	17.13	8.78	5.63	4.63	60
SPK 4-19/10	1.50	1	32.18	20.50	11.68	7.25	5.75	74
		3	29.28	20.50	8.78	5.63	4.63	62

* The stated weights apply to SPK only. For SPKI, add 2 lbs.

SPK with extension pipe

Pump Type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 4-19/10	1.50	1	55.38	39.63	11.68	7.25	5.75	86
		3	52.48	39.63	8.78	5.63	4.63	74

* The stated weights apply to SPK only. For SPKI, add 2 lbs.

Electrical data¹

Hp	Ph	NEMA frame	Service factor	Voltage	Motor eff. [%]	Insul. class	KVA code	Full load current [A]	Service factor current [A]	Start current [A]	Motor type
0.33	1	56C	1.35	115/230	55	B	K	6.0/3.0	7.6/3.8	28/14	Baldor
	3	56C	1.35	208-230/460	78.5/80	F	L	1.12-1.1/0.55	1.5-1.45/0.75	7.1-10.2/3.9	ML
0.50	1	56C	1.60	115/208-230	62	B	K	7.4/4.1-3.7	9.8/5.2-4.9	39/21.6-19.5	Baldor
	3	56C	1.25	208-230/460	78/79.5	F	K	1.64-1.55/ 0.78	2.0-1.9/0.95	9.7-10.1/5.1	ML
0.75	1	56C	1.25	115/208-230	66	B	K	9.6/5.3-4.8	11.4/6.0-5.7	56/31-28	Baldor
	3	56C	1.25	208-230/460	79/80	F	K	2.4-2.3/1.2	2.9-2.75/1.4	14.2-15/7.8	ML
1.00	1	56C	1.25	115/230	66	B	K	12/6.0	14.4/7.2	77/38.5	Baldor
	3	56C	1.25	208-230/460	81/81	F	J	3.25-3.35/ 1.68	4.0-3.9/1.95	19.2-21.8/ 10.9	ML
1.50	1	56C	1.30	115/230	71	B	K	17/9.5-8.6	20.4/11.3-10.2	106/58.6-53	Baldor
	3	56C	1.15	208-230/460	83/84	F	M	4.7-4.6/2.3	5.2-5.1/2.55	33.8-36.8/18.4	ML

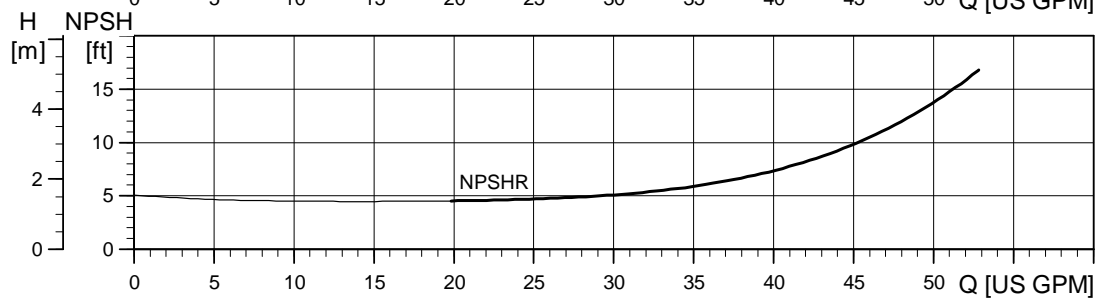
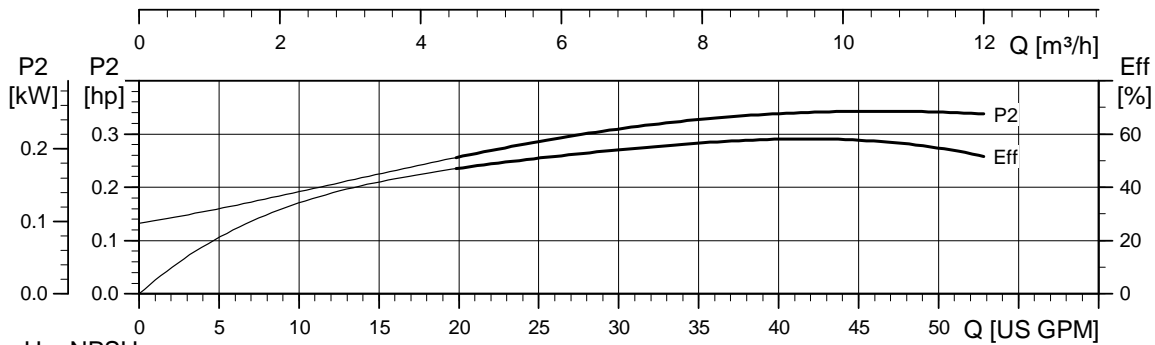
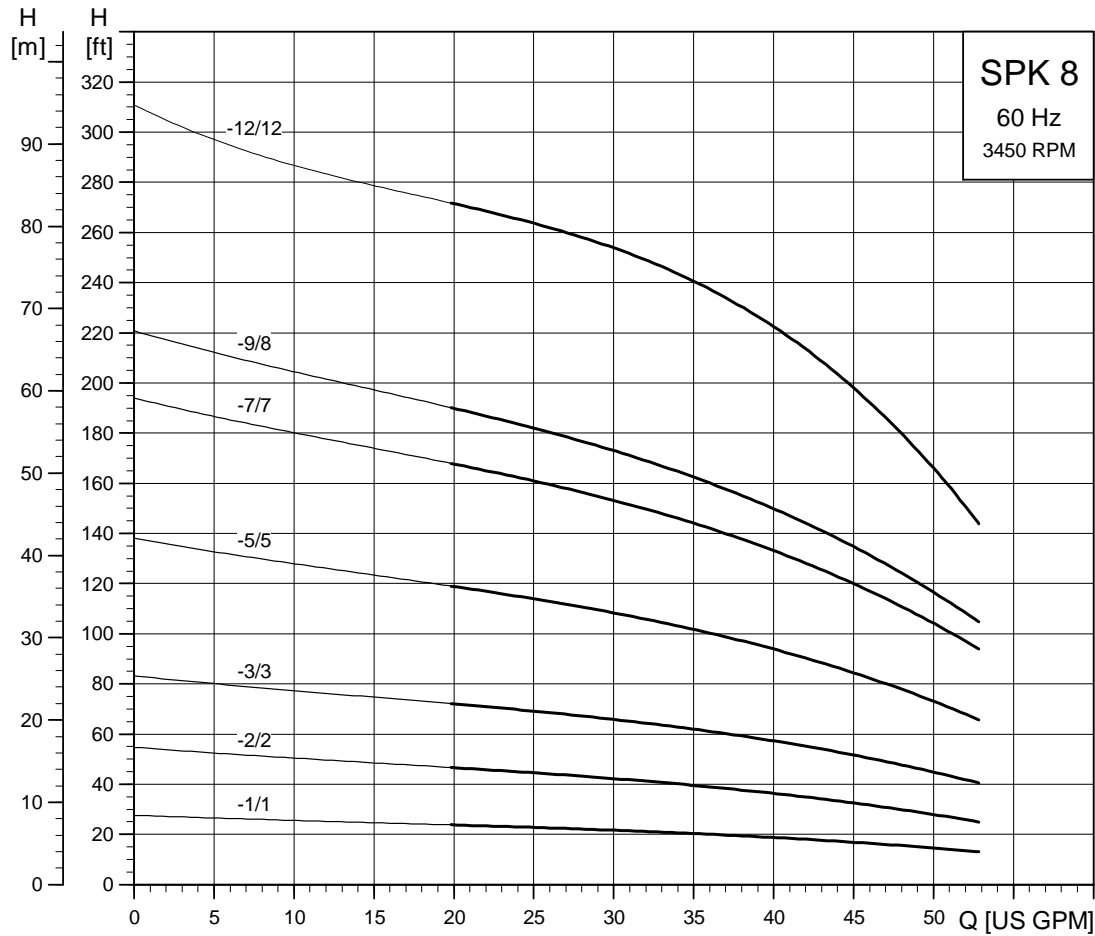
¹ All specifications are for TEFC motors. ODP motors are available on request. For pumps supplied from Grundfos Canada see Notes on page 3.

Flange to strainer length options

Flange to strainer length options (dimension B)											
Pump type	No. of impellers	Hp	Inches								
			5.63	7.25	8.88	11.38	13.88	17.13	20.50		39.63
Stages / Impellers											
SPK 4	1	0.33	-1/1	-3/1	-5/1	-8/1	-11/1	-15/1	-19/1		
SPK 4	3	0.50	-	-3/3	-5/3	-8/3	-11/3	-15/3	-19/3		
SPK 4	5	0.75	-	-	-5/5	-8/5	-11/5	-15/5	-19/5		
SPK 4	8	1.50	-	-	-	-8/8	-11/8	-15/8	-19/8		
SPK 4	10	1.50	-	-	-	-	-11/10	-15/10	-19/10		

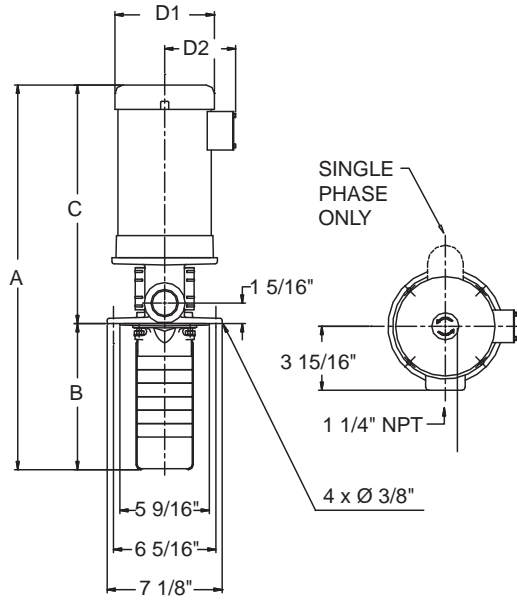
All SPK models with extension pipe

SPK 8



TM03 8490 1707

Dimensional sketches



TM05 3482 1412

Dimensions and weights¹

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 8-1/1	0.50	1	16.54	7.25	9.29	6.25	5.25	42
		3	14.85	7.25	7.60	5.63	4.63	40
SPK 8-2/2	0.75	1	18.17	8.88	9.29	6.25	5.25	59
		3	16.47	8.88	7.60	5.63	4.63	50
SPK 8-3/3	1.50	1	22.18	10.50	11.68	7.25	5.75	71
		3	19.28	10.50	8.78	5.63	4.63	47
SPK 8-5/5	2.00	1	26.44	13.88	12.56	7.25	5.75	73
		3	25.25	13.88	11.38	7.13	4.38	63
SPK 8-7/7	3.00	1	35.88	17.13	18.75	8.63	6.88	87
		3	33.13	17.13	16.00	7.13	4.38	80
SPK 8-9/8	3.00	1	35.15	20.50	14.65	8.63	6.88	89
		3	33.73	20.50	13.23	7.13	4.38	78
SPK 8-12/12	5.00	1	40.65	25.38	15.27	10.63	7.50	162
		3	40.89	25.38	15.51	7.13	4.38	120
SPK 8-15/12	5.00	1	45.65	30.38	15.27	10.63	7.50	165
		3	45.89	30.38	15.51	7.13	4.38	123

* The stated weights apply to SPK only. For SPKI, add 2 lbs.

SPK with extension pipe

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]*
SPK 8-15/12	5.00	1	58.98	39.63	15.27	10.63	7.50	172
		3	59.22	39.63	15.51	7.13	4.38	130

* The stated weights apply to SPK only. For SPKI, add 2 lbs.

Electrical data¹

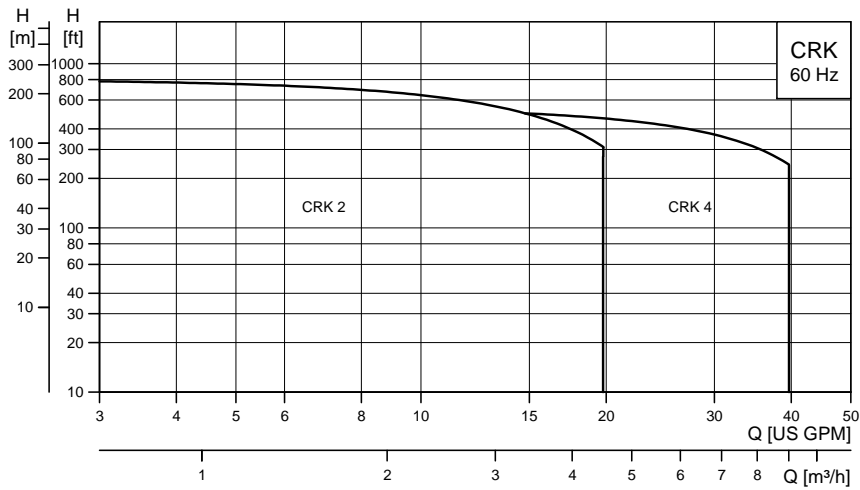
Hp	Ph	NEMA frame	Service factor	Voltage	Motor eff. [%]	Insul. class	KVA code	Full load current [A]	Service factor current [A]	Start current [A]	Motor type
0.50	1	56C	1.6	115/208-230	62	B	K	7.4/4.1-3.7	9.8/5.2-4.9	39/21.6-19.5	Baldor
	3	56C	1.25	208-230/460	78/79.5	F	K	1.64-1.55/0.78	2.0-1.9/0.95	9.7-10.1/5.1	ML
0.75	1	56C	1.25	115/208-230	66	B	K	9.6/5.3-4.8	11.4/6.0-5.7	56/31-28	Baldor
	3	56C	1.25	208-230/460	79/80	F	K	2.4-2.3/1.2	2.9-2.75/1.4	14.2-15/7.8	ML
1.50	1	56C	1.3	115/208-230	71	B	K	17/9.5-8.6	20.4/11.3-10.2	106/58.6-53	Baldor
	3	56C	1.15	208-230/460	83/84	F	M	4.7-4.6/2.3	5.2-5.1/2.55	33.8-36.8/ 18.4	ML
2.00	1	56C	1.15	115/208-230	74	F	K	23/12.7-11.5	25.4/14.1-12.7	156/86.2-78	Baldor
	3	56C	1.15	208-230/460	84.5/85.5	F	G	5.7-5.4/2.7	6.55-6.1/3.05	46.2-48.6/ 24.3	ML
3.00	1	182TC	1.15	115/208-230	75	F	H	29/16-14.5	31.8/18-15.9	170/94-85	Baldor
	3	182TC	1.15	208-230/460	82.5/84	F	K	8.9-8.5/4.25	10.4-9.5/4.75	60.5-63.8/ 31.9	ML
5.00	1	213TC	1.15	208-230	80	F	J	24-22	27-25	188-170	Baldor
	3	184TC	1.15	208-230/460	84.5/86	F	S	14.2-14/7.0	16-15.4/7.7	109-119/59.5	ML

¹ All specifications are for TEFC motors. ODP motors are available on request. For pumps supplied from Grundfos Canada see Notes on page 3.

Flange to strainer length options

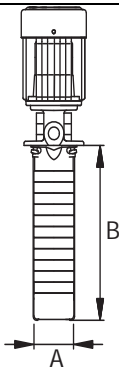
Flange to strainer length options (dimension B)												
Pump type	No. of impellers	Hp	Inches									
			7.25	8.88	10.50	13.88	17.13	20.50	25.38	30.38	39.63	
											All SPK models with extension pipe	
Stages / Impellers												
SPK 8	1	0.50	-1/1	-2/1	-3/1	-5/1	-7/1	-9/1	-12/1	-15/1		
SPK 8	2	0.75	-	-2/2	-3/2	-5/2	-7/2	-9/2	-12/2	-15/2		
SPK 8	3	1.50	-	-	-3/3	-5/3	-7/3	-9/3	-12/3	-15/3		
SPK 8	5	2.00	-	-	-	-5/5	-7/5	-9/5	-12/5	-15/5		
SPK 8	7	3.00	-	-	-	-	-7/7	-9/7	-12/7	-15/7		
SPK 8	8	3.00	-	-	-	-	-	-9/8	-12/8	-15/8		
SPK 8	12	5.00	-	-	-	-	-	-	-12/12	-15/12		

5. CRK performance range



TM05 3355 1212

Example: CRK 2-60/6

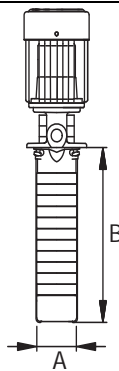


Number of chambers x 10	Number of impellers											B [in]	
	2	3	4	5	6	7	9	11	13	15	18		
20	●												6.38
30	○	●											7.13
40	○	○	●										7.75
50	○	○	○	●									8.50
60	○	○	○	○	●								9.25
70	○	○	○	○	○	●							9.88
90	○	○	○	○	○	○	●						11.38
110	○	○	○	○	○	○	○	●					12.75
130	○	○	○	○	○	○	○	○	●				14.13
150	○	○	○	○	○	○	○	○	○	●			15.63
180	○	○	○	○	○	○	○	○	○	○	●		17.75
220	○	○	○	○	○	○	○	○	○	○	○	●	20.50
260	○	○	○	○	○	○	○	○	○	○	○	○	23.38
500★	○	○	○	○	○	○	○	○	○	○	○	○	39.63
Motor [hp]	0.50	0.75	1.00	1.50	1.50	2.00	2.00	3.00	3.00	5.00	5.00		

○ available on request.

CRK 4

Example: CRK 4-60/6



Number of chambers x 10	Number of impellers										B [in]
	2	3	4	5	6	7	8	10	12		
20	●										6.75
30	○	●									7.75
40	○	○	●								8.88
50	○	○	○	●							9.88
60	○	○	○	○	●						11.00
70	○	○	○	○	○	●					12.00
80	○	○	○	○	○	○	●				13.13
100	○	○	○	○	○	○	○	●			15.25
120	○	○	○	○	○	○	○	○	●		17.38
140	○	○	○	○	○	○	○	○	○	●	19.50
160	○	○	○	○	○	○	○	○	○	○	21.63
190	○	○	○	○	○	○	○	○	○	○	24.75
220	○	○	○	○	○	○	○	○	○	○	28.00
330★	○	○	○	○	○	○	○	○	○	○	39.63
Motor [hp]	0.75	1.50	1.50	2.00	3.00	3.00	3.00	5.00	5.00		

○ available on request.

6. CRK construction

Materials, CRK

Pos.	Description	Materials	DIN W.-Nr.	ASTM/AISI
2	Motor stool	Cast iron	0.6020	ASTM 25B
		Stainless steel (I-version)	1.4408	AISI 316LN
2k	Adapter flange	Cast iron	0.6020	ASTM 25B
3	Top intermediate chamber (not in CRK 2)	Stainless steel	1.4301	AISI 304
3a	Intermediate chamber	Stainless steel	1.4301	AISI 304
4	Intermediate chamber	Stainless steel	1.4301	AISI 304
4a	Intermediate chamber w/ bearing	Stainless steel	1.4301	AISI 304
4a	Bearing in chamber	Ceramic Al ₂ O ₃ , 95-100% Hilox		
5a	Bottom intermediate chamber	Stainless steel	1.4301	AISI 304
7	Coupling guard	Stainless steel	1.4301	AISI 304
8	Coupling	Cast iron	0.7040	ASTM 60-40-18
9	Allen screw	Stainless steel		
10	Shaft pin	Stainless steel	1.4301	AISI 304
10a	Coupling half	Cast iron	0.7040	ASTM 60-40-18
26	Strap	Stainless steel	1.4301	AISI 304
28	Motor bolt	Steel	1.4301	AISI 304
36	Nut	Stainless steel	1.4301	AISI 304
37(a)	Gasket	Paper		
44	Suction chamber	Stainless steel	1.4301	AISI 304
45	Neck ring	PTFE		
47a	Bearing ring	Tungsten carbide		
49	Impeller	Stainless steel	1.4301	AISI 304
51	Spline shaft	Stainless steel	1.4057	AISI 431
61	Spacing pipe	Stainless steel	1.4401	AISI 316
62	Stop ring	Stainless steel	1.4436	AISI 316
64(a-c)	Spacing pipe	Stainless steel	1.4301	AISI 304
65	Retainer for neck ring	Stainless steel	1.4301	AISI 304
66(a-b)	Washer	Stainless steel	1.4301	AISI 304
67	Lock nut	Stainless steel	1.4301	AISI 304
69(a)	Spacing pipe	Stainless steel	1.4301	AISI 304
84/85	Strainer	0.08" holes (CRK 2)	1.4301	AISI 304
		0.16" holes (CRK 4)	1.4301	AISI 304
84b	Screw	Stainless steel		
105	Shaft seal	AUUV		
121	Suction interconnector	Stainless steel	1.4301	AISI 304
122	Priming screw	Stainless steel	1.4401	AISI 316

Sectional drawing

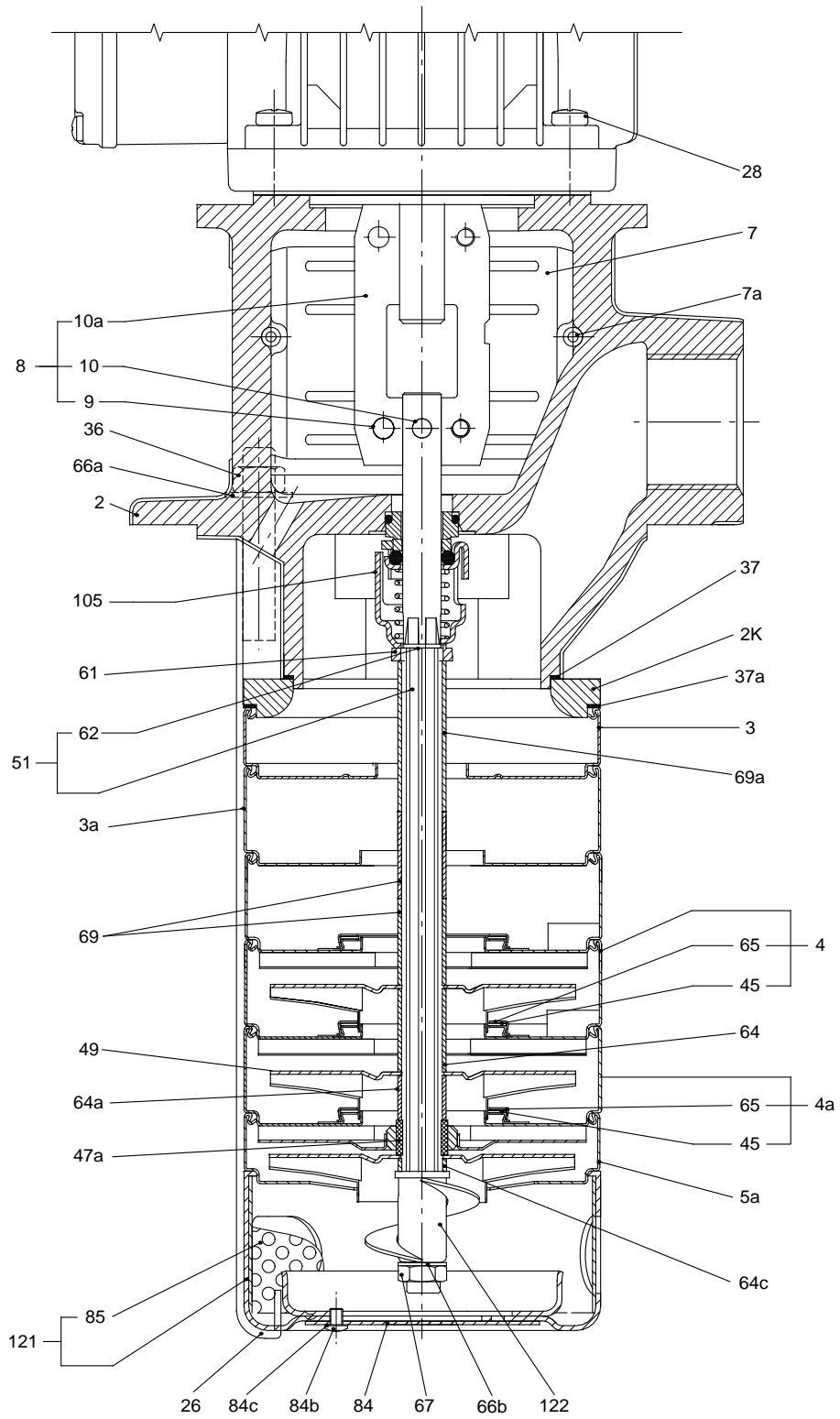
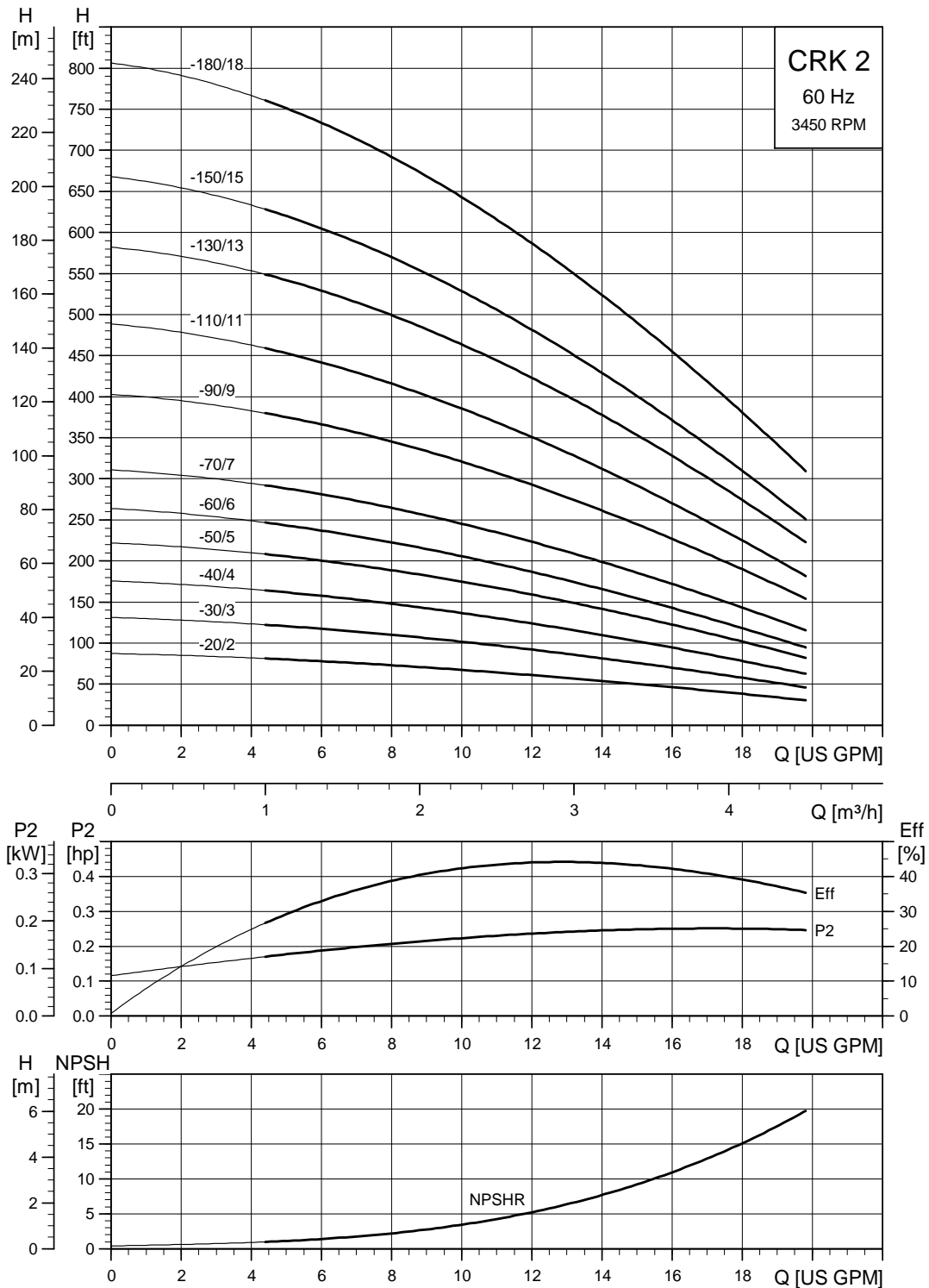


Fig. 10 CRK 2, CRK 4

TM01 9399 1901

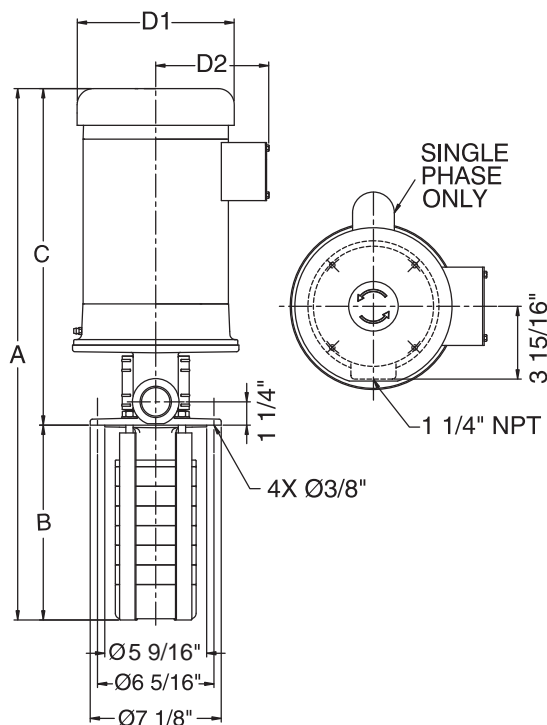
7. CRK performance curves/ technical data

CRK 2



TM03 8491

Dimensional sketches



TM05 3424 1312

Dimensions and weight

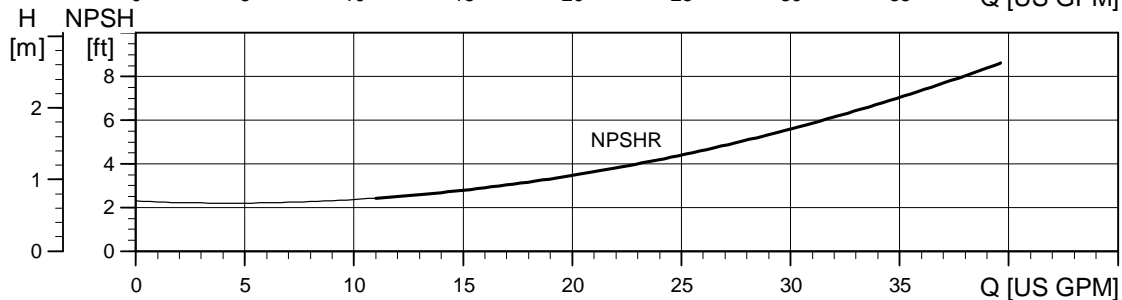
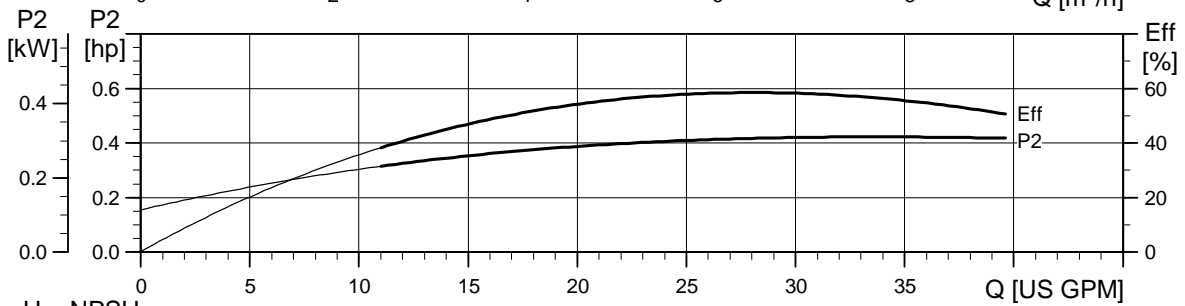
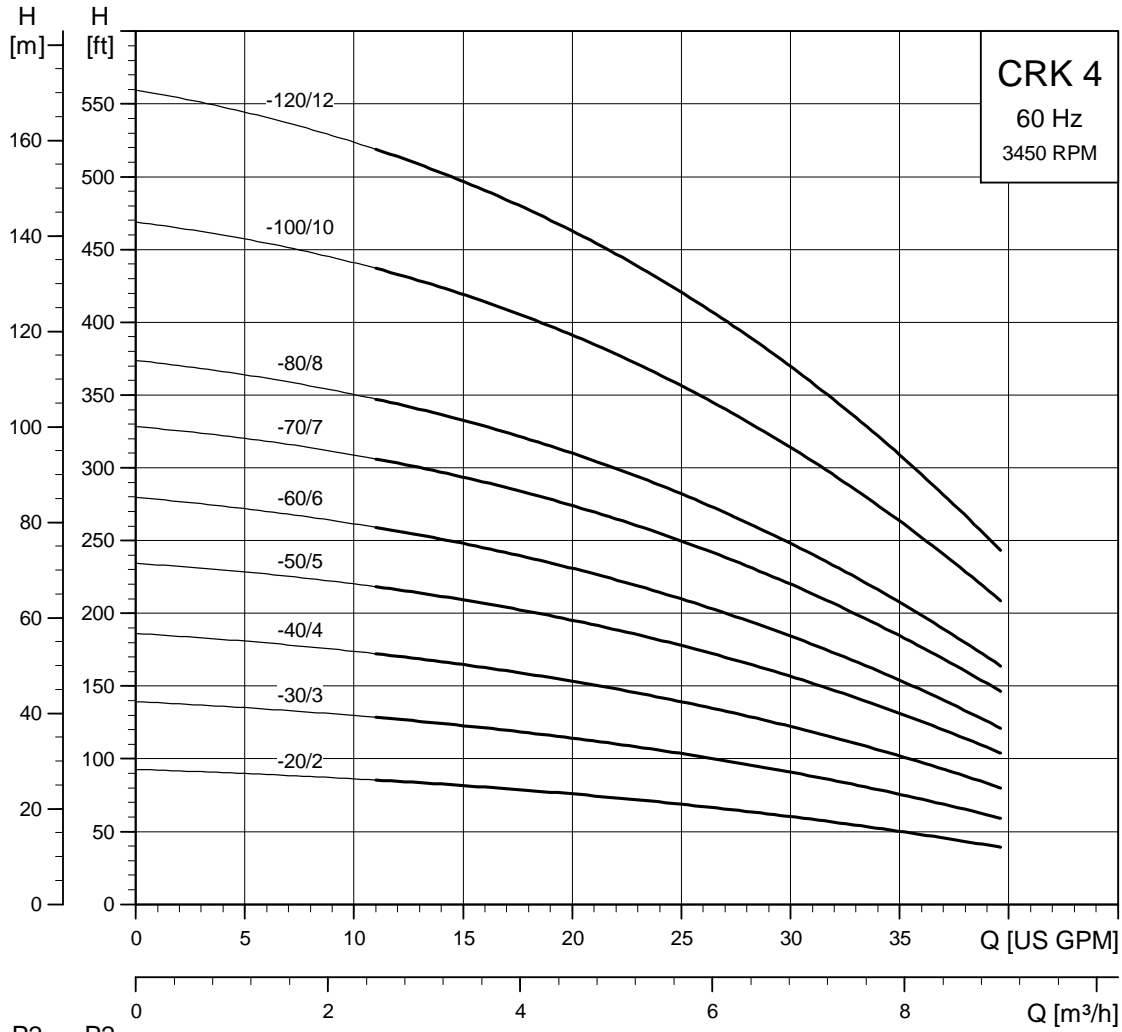
Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]
CRK 2-20/2	0.50	1	19.79	6.38	9.29	6.19	5.18	46
		3	18.10	6.38	7.60	5.55	4.63	52
CRK 2-30/3	0.75	1	20.53	7.13	9.28	6.19	4.90	63
		3	18.85	7.13	7.60	5.55	4.57	42
CRK 2-40/4	1.00	1	23.07	7.75	11.19	7.19	5.73	60
		3	19.47	7.75	7.60	5.55	4.57	44
CRK 2-50/5	1.50	1	24.31	8.50	11.68	7.19	5.73	65
		3	21.40	8.50	8.78	5.55	4.57	55
CRK 2-60/6	1.50	1	25.06	9.25	11.68	7.19	5.73	85
		3	22.15	9.25	8.78	5.55	4.57	54
CRK 2-70/7	2.00	1	26.56	9.88	12.56	7.19	5.73	110
		3	25.38	9.88	11.38	7.01	4.33	65
CRK 2-90/9	3.00	1	30.15	11.38	14.65	8.60	6.87	117
		3	28.73	11.38	13.23	7.01	4.33	62
CRK 2-110/11	3.00	1	31.53	12.75	14.65	8.60	6.87	160
		3	30.10	12.75	13.23	7.01	4.33	88
CRK 2-130/13	5.00	1	33.52	14.13	15.27	10.62	7.46	166
		3	33.76	14.13	15.51	8.66	5.28	89
CRK 2-150/15	5.00	1	35.02	15.63	15.27	10.62	7.46	212
		3	35.26	15.63	15.51	8.66	5.28	170
CRK 2-180/18	5.00	1	37.15	17.75	15.27	10.62	7.46	221
		3	37.39	17.75	15.51	8.66	5.28	179
CRK 2-220/18	5.00	1	39.90	20.50	15.27	10.62	7.46	221
		3	40.14	20.50	15.51	8.66	5.28	180
CRK 2-260/18	5.00	1	42.77	23.38	15.27	10.62	7.46	222
		3	43.01	23.38	15.51	8.66	5.28	180
CRK 2-500/18	5.00	1	59.02	39.63	15.27	10.62	7.46	236
		3	59.26	39.63	15.51	8.66	5.28	194

Electrical data¹

Hp	Ph	NEMA frame	Service factor	Voltage	Motor eff. [%]	Insul. class	KVA code	Full load current [A]	Service factor current [A]	Start current [A]	Motor type
0.50	1	56C	1.6	115/208-230	62	B	K	7.4/4.1-3.7	9.8/5.2-4.9	39/21.6-19.5	Baldor
	3	56C	1.25	208-230/460	78/79.5	F	K	1.64-1.55/ 0.78	2.0-1.9/0.95	9.7-10.1/5.1	ML
0.75	1	56C	1.25	115/208-230	66	B	K	9.6/5.3-4.8	11.4/6.0-5.7	56/31-28	Baldor
	3	56C	1.25	208-230/460	79/80	F	K	2.4-2.3/1.2	2.9-2.75/1.4	14.2-15/7.8	ML
1.00	1	56C	1.25	115/230	66	B	K	12/6.0	14.4/7.2	77/38.5	Baldor
	3	56C	1.25	208-230/460	81/81	F	J	3.25-3.35/ 1.68	4.0-3.9/1.95	19.2-21.8/ 10.9	ML
1.50	1	56C	1.3	115/208-230	71	B	K	17/9.5-8.6	20.4/11.3-10.2	106/58.6-53	Baldor
	3	56C	1.15	208-230/460	83/84	F	M	4.7-4.6/2.3	5.2-5.1/2.55	33.8-36.8/ 18.4	ML
2.00	1	56C	1.15	115/208-230	74	F	K	23/12.7-11.5	25.4/14.1-12.7	156/86.2-78	Baldor
	3	56C	1.15	208-230/460	84.5/ 85.5	F	G	5.7-5.4/2.7	6.55-6.1/3.05	46.2-48.6/ 24.3	ML
3.00	1	182TC	1.15	115/208-230	75	F	H	29/16-14.5	31.8/18-15.9	170/94-85	Baldor
	3	182TC	1.15	208-230/460	82.5/84	F	K	8.9-8.5/4.25	10.4-9.5/4.75	60.5-63.8/ 31.9	ML
5.00	1	213TC	1.15	208-230	80	F	J	24-22	27-25	188-170	Baldor
	3	184TC	1.15	208-230/460	84.5/86	F	S	14.2-14/7.0	16-15.4/7.7	109-119/59.5	ML

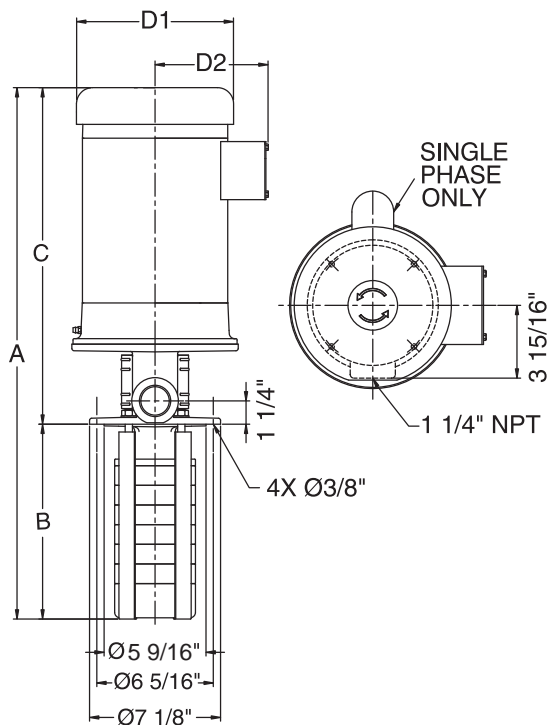
¹ All specifications are for TEFC motors. ODP motors are available on request. For pumps supplied from Grundfos Canada see Notes on 3.

CRK 4



TM03 8492

Dimensional sketches



TM05 3424 1312

Dimensions and weights

Pump type	Hp	Ph	A	B	C	D1	D2	Ship wt. [lbs.]
CRK 4-20/2	0.75	1	20.16	6.75	9.28	6.19	4.90	50
		3	18.47	6.75	7.60	5.55	4.57	41
CRK 4-30/3	1.50	1	23.56	7.75	11.68	7.19	5.73	83
		3	20.65	7.75	8.78	5.55	4.57	54
CRK 4-40/4	2.00	1	25.56	8.88	12.56	7.19	5.73	100
		3	24.38	8.88	11.38	7.01	4.33	53
CRK 4-50/5	2.00	1	26.56	9.88	12.56	7.19	5.73	103
		3	25.38	9.88	11.38	7.01	4.33	61
CRK 4-60/6	3.00	1	29.78	11.00	14.65	8.60	6.87	143
		3	28.35	11.00	13.23	7.01	4.33	75
CRK 4-70/7	3.00	1	30.78	12.00	14.65	8.60	6.87	152
		3	29.35	12.00	13.23	7.01	4.33	94
CRK 4-80/8	5.00	1	32.52	13.13	15.27	10.62	7.46	155
		3	32.76	13.13	15.51	8.66	5.28	131
CRK 4-100/10	5.00	1	34.65	15.25	15.27	10.62	7.46	201
		3	34.89	15.25	15.51	8.66	5.28	115
CRK 4-120/12	5.00	1	36.77	17.38	15.27	10.62	7.46	207
		3	37.01	17.38	15.51	8.66	5.28	133
CRK 4-140/12	5.00	1	38.90	19.50	15.27	10.62	7.46	214
		3	39.14	19.50	15.51	8.66	5.28	172
CRK 4-160/12	5.00	1	41.02	21.63	15.27	10.62	7.46	214
		3	41.26	21.63	15.51	8.66	5.28	172
CRK 4-190/12	5.00	1	44.15	24.75	15.27	10.62	7.46	215
		3	44.39	24.75	15.51	8.66	5.28	173
CRK 4-220/12	5.00	1	47.40	28.00	15.27	10.62	7.46	216
		3	47.64	28.00	15.51	8.66	5.28	174
CRK 4-330/12	5.00	1	59.02	39.63	15.27	10.62	7.46	223
		3	59.26	39.63	15.51	8.66	5.28	181

Electrical data¹

Hp	Ph	NEMA frame	Service factor	Voltage	Motor eff. [%]	Insul. class	KVA code	Full load current [A]	Service factor current [A]	Start current [A]	Motor type
0.75	1	56C	1.25	115/208-230	66	B	K	9.6/5.3-4.8	11.4/6.0-5.7	56/31-28	Baldor
	3	56C	1.25	208-230/460	79/80	F	K	2.4-2.3/1.2	2.9-2.75/1.4	14.2-15/7.8	ML
1.50	1	56C	1.3	115/208-230	71	B	K	17/9.5-8.6	20.4/11.3-10.2	106/58.6-53	Baldor
	3	56C	1.15	208-230/460	83/84	F	M	4.7-4.6/2.3	5.2-5.1/2.55	33.8-36.8/ 18.4	ML
2.00	1	56C	1.15	115/208-230	74	F	K	23/12.7-11.5	25.4/14.1-12.7	156/86.2-78	Baldor
	3	56C	1.15	208-230/460	84.5/ 85.5	F	G	5.7-5.4/2.7	6.55-6.1/3.05	46.2-48.6/ 24.3	ML
3.00	1	182TC	1.15	115/208-230	75	F	H	29/16-14.5	31.8/18-15.9	170/94-85	Baldor
	3	182TC	1.15	208-230/460	82.5/84	F	K	8.9-8.5/4.25	10.4-9.5/4.75	60.5-63.8/ 31.9	ML
5.00	1	213TC	1.15	208-230	80	F	J	24-22	27-25	188-170	Baldor
	3	184TC	1.15	208-230/460	84.5/86	F	S	14.2-14/7.0	16-15.4/7.7	109-119/59.5	ML

¹ All specifications are for TEFC motors. ODP motors are available on request. For pumps supplied from Grundfos Canada see Notes on 3.

8. Accessories

Sensors for SPKE and CRKE

The sensors must be fitted to the pipework with suitable fittings.

DPI differential-pressure sensor kit	Pressure range		Product number
	[psi]	[bar]	
Kit includes: <ul style="list-style-type: none"> • 1 sensor incl. 3 ft (0.9 m) screened cable (7/16" connections) • 1 original DPI bracket (for wall mounting) • 1 Grundfos bracket (for mounting on motor) • 2 M4 screws for mounting of sensor on bracket • 1 M6 screw (self-cutting) for mounting on MGE 90/100 • 1 M8 screw (self-cutting) for mounting on MGE 112/132 • 3 capillary tubes (short/long) • 2 fittings (1/4" - 7/16") • 5 cable clips (black) • Installation and operating instructions (480675) • Service kit instructions 	0 - 9	0 - 0.6	96611522
	0 - 14.5	0 - 1.0	96611523
	0 - 23	0 - 1.6	96611524
	0 - 36	0 - 2.5	96611525
	0 - 58	0 - 4.0	96611526
	0 - 87	0 - 6.0	96611527
	0 - 145	0 - 10	96611550

Pressure sensor	Measuring range		Product number
	[psi]	[bar]	
Kit includes: Pressure sensor Connection: 1/4" NPT Includes a 6 ft (1.8 m) cable with removable potted plug in addition to a standard plug for remote mounting.	0 - 87	0 - 6	91136169
	0 - 145	0 - 10	91136170
	0 - 232	0 - 16	91136171
	0 - 362	0 - 25	91136172
	0 - 580	0 - 40	91136173
	0 - 200	0 - 45	91120777

R100 remote control



GrA5953

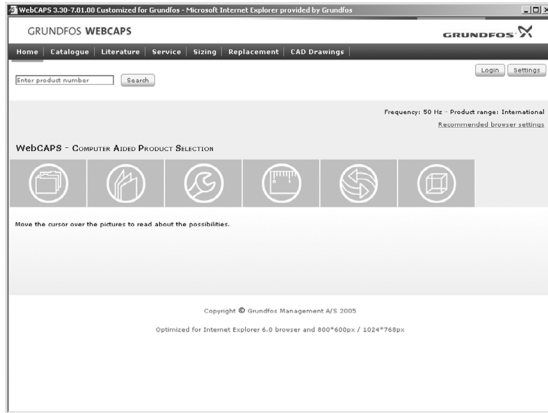
Fig. 11 R100 remote control

Use the R100 for wireless communication with the SPKE and CRKE pumps. The communication takes place by means of infrared light.

Product	Product number
R100	96615297

9. Further product documentation

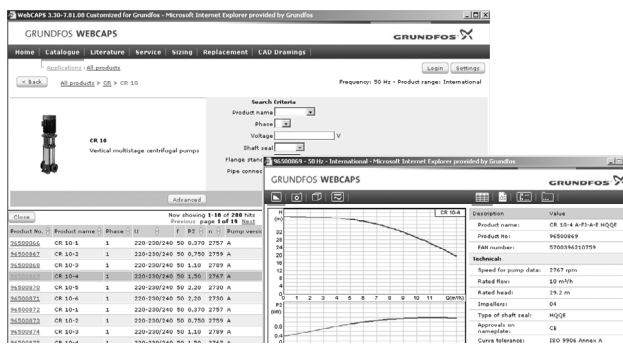
WebCAPS



WebCAPS is a **Web-based Computer Aided Product Selection** program available on www.grundfos.com. WebCAPS contains detailed information on more than 185,000 Grundfos products in more than 20 languages.

In WebCAPS, all information is divided into 6 sections:

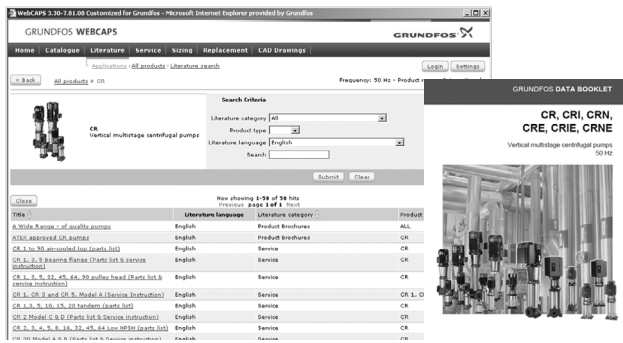
- Catalog
- Literature
- Service
- Sizing
- Replacement
- CAD drawings.



Catalog

This section is based on fields of application and pump types, and contains

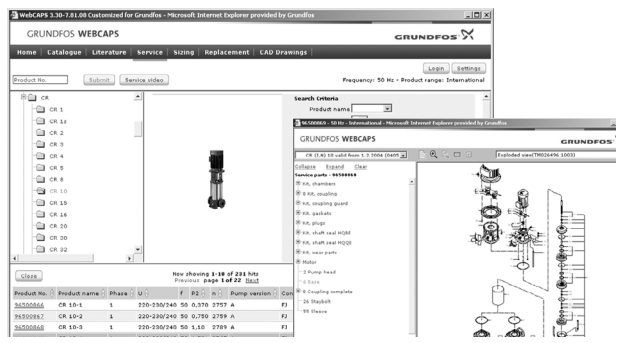
- technical data
- curves (QH, Eta, P1, P2, etc) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.



Literature

In this section you can access all the latest documents of a given pump, such as

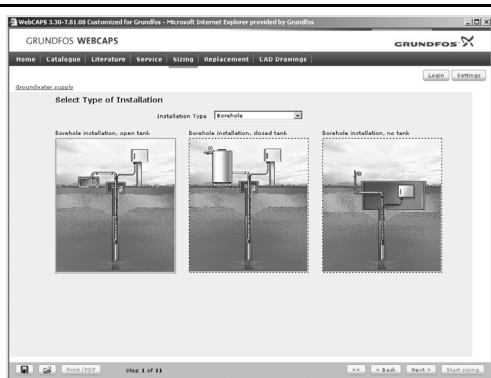
- product guides
- installation and operating instructions
- service documentation, such as Service kit catalog and Service kit instructions
- quick guides
- product brochures, etc.



Service

This section contains an easy-to-use interactive service catalog. Here you can find and identify service parts of both existing and discontinued Grundfos pumps.

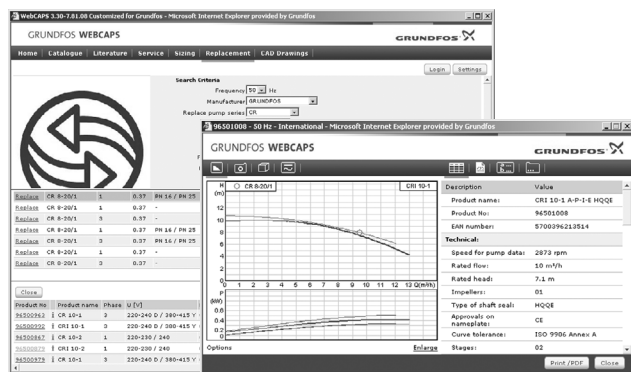
Furthermore, this section contains service videos showing you how to replace service parts.



Sizing

This section is based on different fields of application and installation examples, and gives easy step-by-step instructions in how to

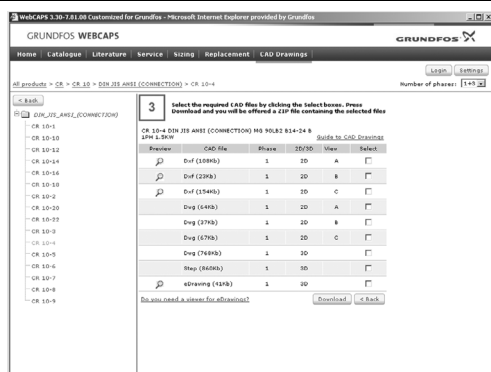
- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, life cycle costs, etc.
- analyse your selected pump via the built-in life cycle cost tool
- determine the flow velocity in wastewater applications, etc.



Replacement

In this section you find a guide to selecting and comparing replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump. The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. When you have specified the installed pump, the guide will suggest a number of Grundfos pumps which can improve both comfort and efficiency.



CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

These formats are available in WebCAPS:

2-dimensional drawings:

- .dxf, wireframe drawings
- .dwg, wireframe drawings.

3-dimensional drawings:

- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

WinCAPS



Fig. 12 WinCAPS CD-ROM

WinCAPS is a **Windows-based Computer Aided Product Selection** program containing detailed information on more than 185,000 Grundfos products in more than 20 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.

10. Submittal data sheet

Client information

Project title:	Client name:
Reference number:	Client number:
Client contact:	Client phone number: ()

Location information

For:	Unit:		
Site:	Service:		
Address:	City:	State:	Zip code:

Application information

Operating conditions			Pumped liquid					
Max.	Norm.	Min.	Liquid type:					
			Rated	Max.	Norm.			
Flow (gpm)			Liquid temperature (°F)					
Suction pressure (psig)			at designated temperature					
Discharge pressure (psig)			Specific gravity					
Differential head (ft)			Vapor pressure (psia)					
Hydraulic power (Hp) at designated capacity			Viscosity (cp)					
NPSH available (ft)			Liquid ph:	Chlorides (ppm):				
Service			Hazardous:	Corrosion/erosion				
Continuous			Flammable:	caused by:				
Intermittent (starts/day):			Other:					

Pump information

Model Information from type key and codes:	----> (Example: SPK 2-8/3 A-WB-A-AUUV)
Quantity required:	
Minimum required flow:	NPSH required at duty point:

Product guide additional information pages

Materials page number:	Performance curve page number:
Technical data page number:	Motor data page number:

Motor information

Hp:	Phases:	Voltage:	Enclosure class:
-----	---------	----------	------------------

Custom-built pump information (optional):

Additional Information

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11. Quotation text

SPK, CRK

Horizontal, non-self-priming, multistage, end suction, centrifugal pump for installation in pipe systems and mounting on a foundation.

The pump has the following characteristics:

- impellers and intermediate chambers are made of AISI _____ stainless steel
 - pump head and volute are made of _____
 - power transmission is via cast iron split coupling.
 - pipework connection is via _____
- The motor is a _____ -phase AC motor.

Technical

Rated flow: _____ gpm
 Rated head: _____ ft
 Minimum liquid temperature: _____ °F
 Maximum liquid temperature: _____ °F
 Type of shaft seal: _____

Materials

Material, pump housing: _____
 Material, shaft: AISI _____ stainless steel
 Material, impeller: AISI _____ stainless steel
 Material, sleeve: AISI _____ stainless steel
 Material, seal metal: AISI _____ stainless steel

- seal face: _____
- seal face: _____
- seal elastomer: _____

Installation

Maximum ambient temperature: _____ °F
 Max. pressure at stated temp.: _____ psi / °F
 Standard, pipe connection: _____
 Size, pipe connection: _____
 Rated pressure, pipe connection: _____ psi
 Frame size for motor: _____ NEMA

Electrical data

Motor type: _____
 Rated power (P2): _____ Hp
 Frequency: _____ Hz
 Rated voltage: _____ V
 Rated current: _____ A
 Service factor: _____
 Starting current: _____ A
 Rated speed: _____ rpm
 Full load motor efficiency: _____ %
 Insulation class: _____

Additional

Gross weight: _____ lbs.
 Shipping volume: _____ ft³
 Model: _____

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L-MT-PG-001 0512

ECM:

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