

# 2-5CR 60-80-100

## Multi-stage centrifugal pumps

 Clean water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m<sup>3</sup>/h)
- Head up to **67 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **7 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their quietness these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure tanks, and for the irrigation of gardens and orchards, etc.

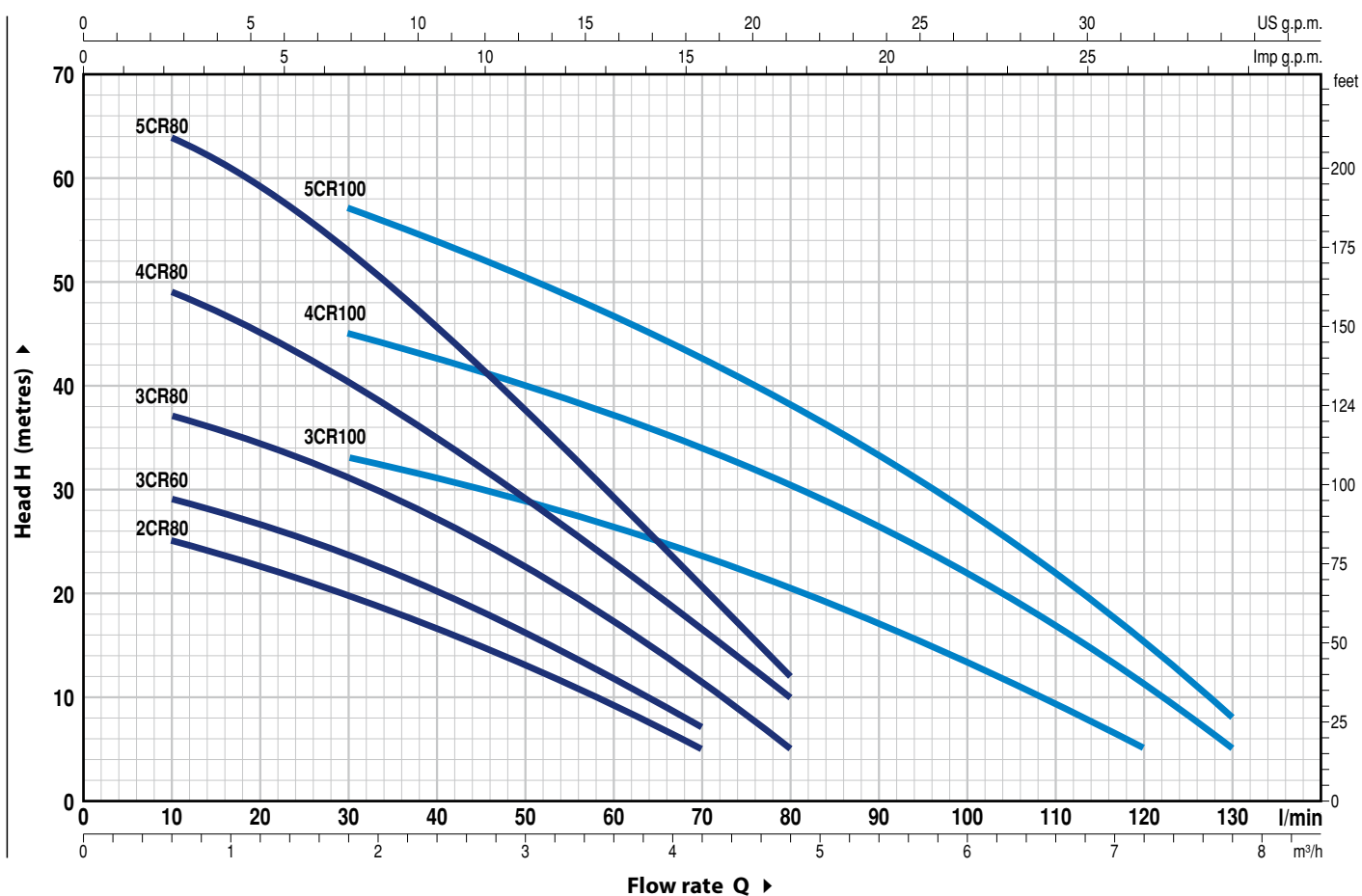
Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8
Single-phase	Three-phase	kW	HP	▲			l/min	0	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120
2CRm 80	2CR 80	0.37	0.50	IE2	H metres	27	26	25	24	22.5	21	20	16.5	13	9	5							
3CRm 60	3CR 60	0.37	0.50			31	30	29	28	26.5	25	23.5	20	16	11.5	7							
3CRm 80	3CR 80	0.45	0.60			40	38	37	36	34.5	33	31	27	22.5	17	11	5						
4CRm 80	4CR 80	0.55	0.75			52	50	49	47	44.5	42	40	34	28.5	22.5	16	10						
5CRm 80	5CR 80	0.75	1	IE3		67	66	64	62	59	56	53	45.5	37.5	29.5	20.5	12						
3CRm 100	3CR 100	0.55	0.75	IE2		38	37	36	35	34.5	33.5	33	31	28	26	23	20	17	13.5	10	5		
4CRm 100	4CR 100	0.75	1	IE3		50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5	
5CRm 100	5CR 100	1.1	1.5			63	62	61.5	60.5	59.5	58	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8	

Q = Flow rate H = Total manometric head HS = Suction height

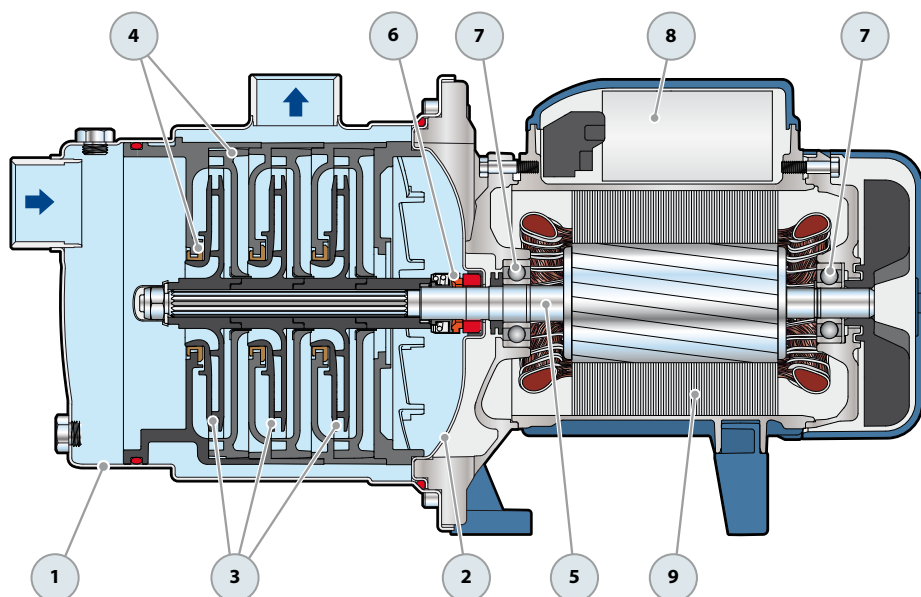
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

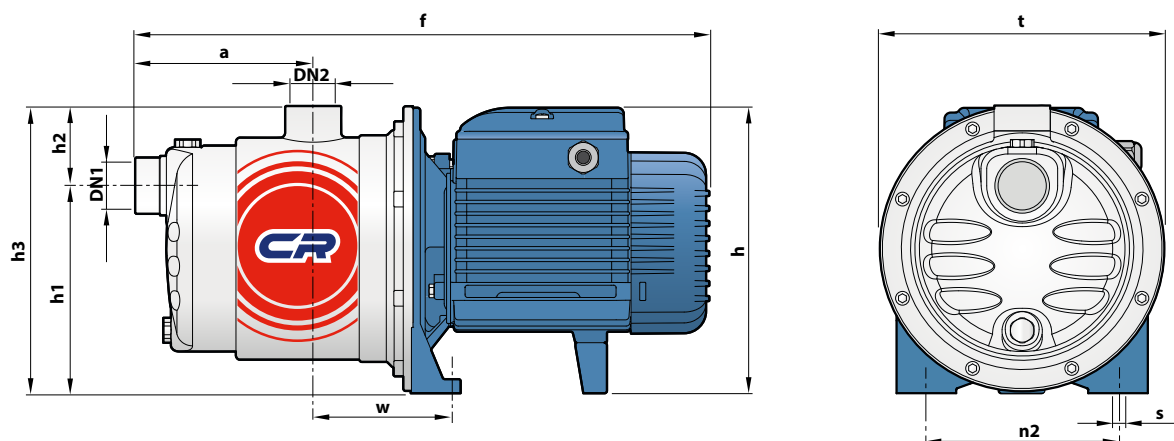
# 2-5CR 60-80-100

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1			
2	BODY BACKPLATE	Stainless steel AISI 304			
3	IMPELLERS	Noryl FE1520PW			
4	DIFFUSERS	Noryl FE1520PW complete with anti-wear ring			
5	MOTOR SHAFT	Stainless steel AISI 431			
6	MECHANICAL SEAL	<i>Seal Model</i> AR-13	<i>Shaft Diameter</i> Ø 13 mm	<i>Stationary ring</i> Ceramic	<i>Materials</i> <i>Rotational ring</i> Graphite <i>Elastomer</i> NBR
7	BEARINGS	<i>Pump</i> 2CR 80 3CR 60 3CR 80 4CR 80 3CR 100 4CR 100 5CR 80 5CR 100	<i>Model</i>  6202 ZZ - C3 / 6201 ZZ  6203 ZZ / 6203 ZZ		
8	CAPACITOR	<i>Pump</i> <i>Single-phase</i> 2CRm 80 3CRm 60 3CRm 80 4CRm 80 3CRm 100 4CRm 100 5CRm 80 5CRm 100	<i>Capacitance</i> <i>(230 V or 240 V)</i> 10 µF - 450 VL 12.5 µF - 450 VL 14 µF - 450 VL 20 µF - 450 VL 25 µF - 450 VL	<i>(110 V)</i> 25 µF - 250 VL 25 µF - 250 VL 25 µF - 250 VL 60 µF - 300 VL 60 µF - 300 VL	
9	ELECTRIC MOTOR	2-5CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. 2-5CR: three-phase 230/400 V - 50 Hz. <b>→ The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP X4			



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg								
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~							
2CRm 80	2CR 80	1"	1"	113	367	182	132	51	183	182	120	87	9	6.4	6.3							
3CRm 60	3CR 60													6.3	6.4							
3CRm 80	3CR 80													7.2	7.2							
4CRm 80	4CR 80			8.3	7.6																	
5CRm 80	5CR 80			138	392	202 *							10	11.4	10.7							
3CRm 100	3CR 100			113	367	182								9	7.9	7.2						
4CRm 100	4CR 100			138	410	202 *								10	10.7	10.6						
5CRm 100	5CR 100														11.4	10.7						

(\*) h=221 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
2CRm 80	2.2 A	2.1 A	4.4 A
3CRm 60	2.4 A	2.3 A	4.8 A
3CRm 80	3.3 A	3.3 A	6.6 A
4CRm 80	3.8 A	3.6 A	7.6 A
5CRm 80	5.5 A	5.2 A	11.0 A
3CRm 100	3.9 A	3.7 A	7.8 A
4CRm 100	6.0 A	6.0 A	12.0 A
5CRm 100	6.3 A	6.1 A	12.6 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
2CR 80	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
3CR 60	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
3CR 80	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
4CR 80	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
5CR 80	4.3 A	2.5 A	1.4 A	4.1 A	2.4 A	1.3 A
3CR 100	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
4CR 100	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A
5CR 100	4.3 A	2.5 A	1.4 A	4.2 A	2.4 A	1.4 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
2CRm 80	2CR 80	84	108
3CRm 60	3CR 60	84	108
3CRm 80	3CR 80	84	108
4CRm 80	4CR 80	72	108
5CRm 80	5CR 80	72	108
3CRm 100	3CR 100	84	108
4CRm 100	4CR 100	72	108
5CRm 100	5CR 100	72	108

# 3-7CR 90-130-200

## STAINLESS STEEL IMPELLERS

### Multi-stage centrifugal pumps

 Clean water

 Domestic use

 Civil use



#### PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m<sup>3</sup>/h)
- Head up to **111 m**

#### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

#### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



#### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



#### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their quietness these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure tanks, and for the irrigation of gardens and orchards, etc.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

#### PATENTS - TRADE MARKS - MODELS

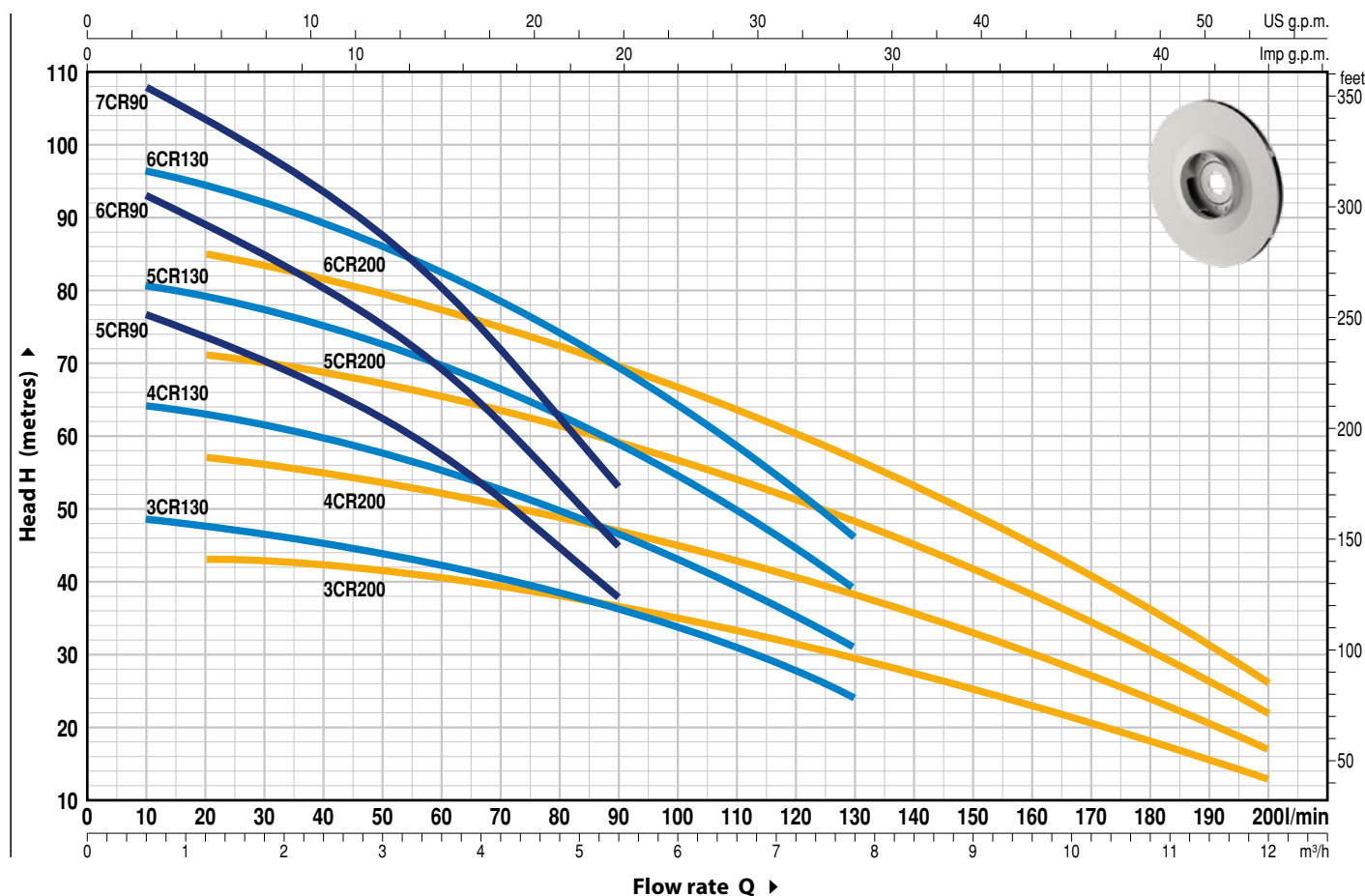
- Patent n. EP14755156.8

#### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IPX5 class protection

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	m³/h															
Single-phase	Three-phase	kW	HP	▲		l/min	0	0.3	0.6	1.2	2.4	3.6	4.8	5.4	6.0	7.8	8.4	9.6	10.8	12.0	
						0	5	10	20	40	60	80	90	100	130	140	160	180	200		
5CRm 90	5CR 90	1.1	1.5	IE3	H metres	80	78	77	74	67	57	45	38								
6CRm 90	6CR 90	1.5	2			96	94	92	88	80	69	53	45								
7CRm 90	7CR 90	1.8	2.5			111	110	108	103	93	80	63	53								
3CRm 130	3CR 130	1.1	1.5			49	49	48.5	47.5	45	42.5	38.5	36	33.5	24						
4CRm 130	4CR 130	1.5	2			65	65	64	63	60	56	50	47	43	31						
5CRm 130	5CR 130	1.8	2.5			81	81	80.5	79	75	70	62.5	59	54	39						
–	6CR 130	2.2	3			97	97	96.5	94.5	90	83	74.5	69	64	46						
3CRm 200	3CR 200	1.1	1.5			44	43.5	43.5	43	42	40.5	38	36.5	35	29	27.5	23	18	13		
4CRm 200	4CR 200	1.5	2			58	57.5	57.5	57	55	52.5	49.5	47	45	38	35.5	30	24	17		
5CRm 200	5CR 200	1.8	2.5			73	72	71.5	71	69	65.5	62	59	56.5	48	44.5	38	30	22		
–	6CR 200	2.2	3			87	86	85.5	85	82	78	73	69	67	57	53	45	36	26		

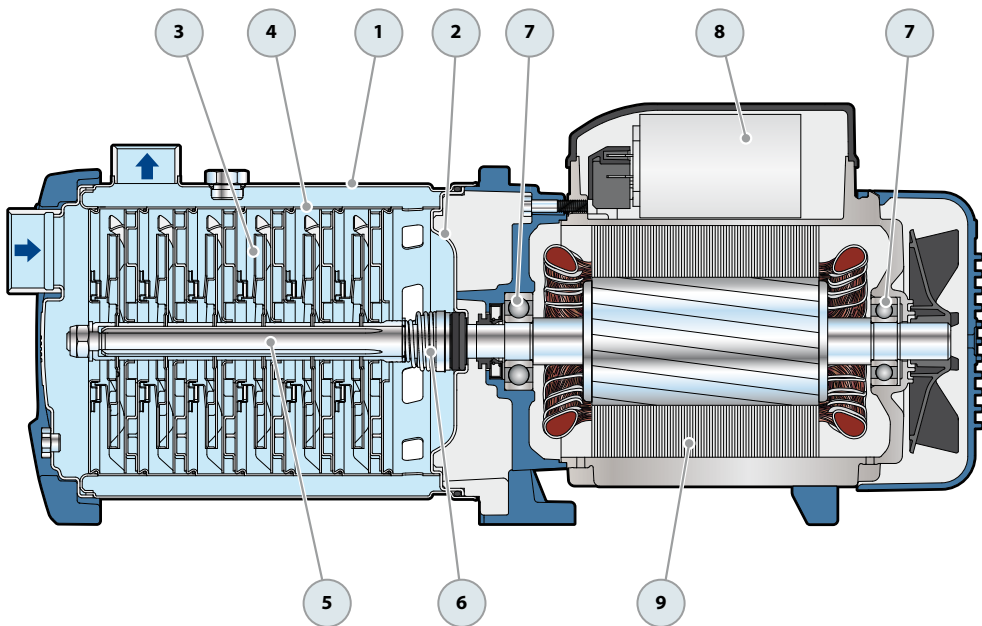
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

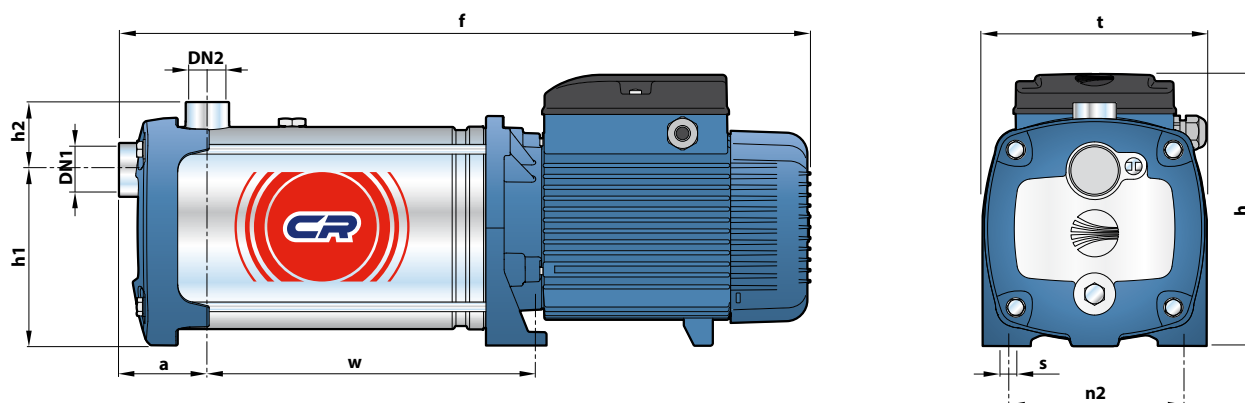
# 3-7CR 90-130-200

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	IMPELLERS	Stainless steel AISI 304				
4	DIFFUSERS	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		FN-18	Ø 18 mm	Graphite	Silicon carbide	EPDM
7	BEARINGS	6304 2RS - C3 / 6204 ZZ - C3E				
8	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		5CRm 90	31.5 µF - 450 VL	60 µF - 250 VL		
		3CRm 130				
		3CRm 200				
		6CRm 90	45 µF - 450 VL	80 µF - 250 VL		
		4CRm 130				
		4CRm 200				
7CRm 90	50 µF - 450 VL	–				
5CRm 130						
5CRm 200						
9	ELECTRIC MOTOR	3-7CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.				
		3-7CR: three-phase 230/400 V - 50 Hz.				
		▶ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)				
		– Insulation: class F				
		– Protection: IP X4				





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	t	n2	w	s	1~	3~
5CRm 90	5CR 90	1 1/4"	1"	73	497	228	145	56	185	145	193	11	20.3	19.8
6CRm 90	6CR 90				523						219		21.0	21.9
7CRm 90	7CR 90				569						245		26.0	26.0
3CRm 130	3CR 130				445						141		18.1	18.1
4CRm 130	4CR 130				471						167		20.0	20.1
5CRm 130	5CR 130				517						193		23.7	23.8
-	6CR 130				543						219		-	24.8
3CRm 200	3CR 200				445						141		18.1	18.1
4CRm 200	4CR 200				471						167		20.0	20.1
5CRm 200	5CR 200				518						193		23.7	23.6
-	6CR 200				543						219		-	24.4

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
5CRm 90	9.0 A	8.6 A	18.0 A
6CRm 90	10.5 A	10.1 A	21.0 A
7CRm 90	12.5 A	12.0 A	-
3CRm 130	8.5 A	8.1 A	17.0 A
4CRm 130	10.3 A	9.9 A	26.0 A
5CRm 130	12.5 A	12.0 A	-
3CRm 200	8.7 A	8.3 A	17.4 A
4CRm 200	10.5 A	10.1 A	21.0 A
5CRm 200	12.5 A	12.0 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
5CR 90	6.1 A	3.5 A	2.0 A	5.9 A	3.4 A	1.9 A
6CR 90	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
7CR 90	8.3 A	4.8 A	2.8 A	8.0 A	4.6 A	2.7 A
3CR 130	5.6 A	3.2 A	1.8 A	5.4 A	3.1 A	1.8 A
4CR 130	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
5CR 130	8.7 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A
6CR 130	9.0 A	5.2 A	3.0 A	8.6 A	5.0 A	2.9 A
3CR 200	5.9 A	3.4 A	2.0 A	5.7 A	3.3 A	1.9 A
4CR 200	7.3 A	4.2 A	2.4 A	6.9 A	4.0 A	2.3 A
5CR 200	8.7 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A
6CR 200	9.5 A	5.5 A	3.2 A	9.2 A	5.3 A	3.0 A



# 3-6CR 90X-130X-200X

## TECHNOPOLYMER IMPELLERS

### Multi-stage centrifugal pumps

 Clean water

 Domestic use

 Civil use



#### PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m<sup>3</sup>/h)
- Head up to **97 m**

#### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

#### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



#### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



#### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their quietness these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure tanks, and for the irrigation of gardens and orchards, etc.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

#### PATENTS - TRADE MARKS - MODELS

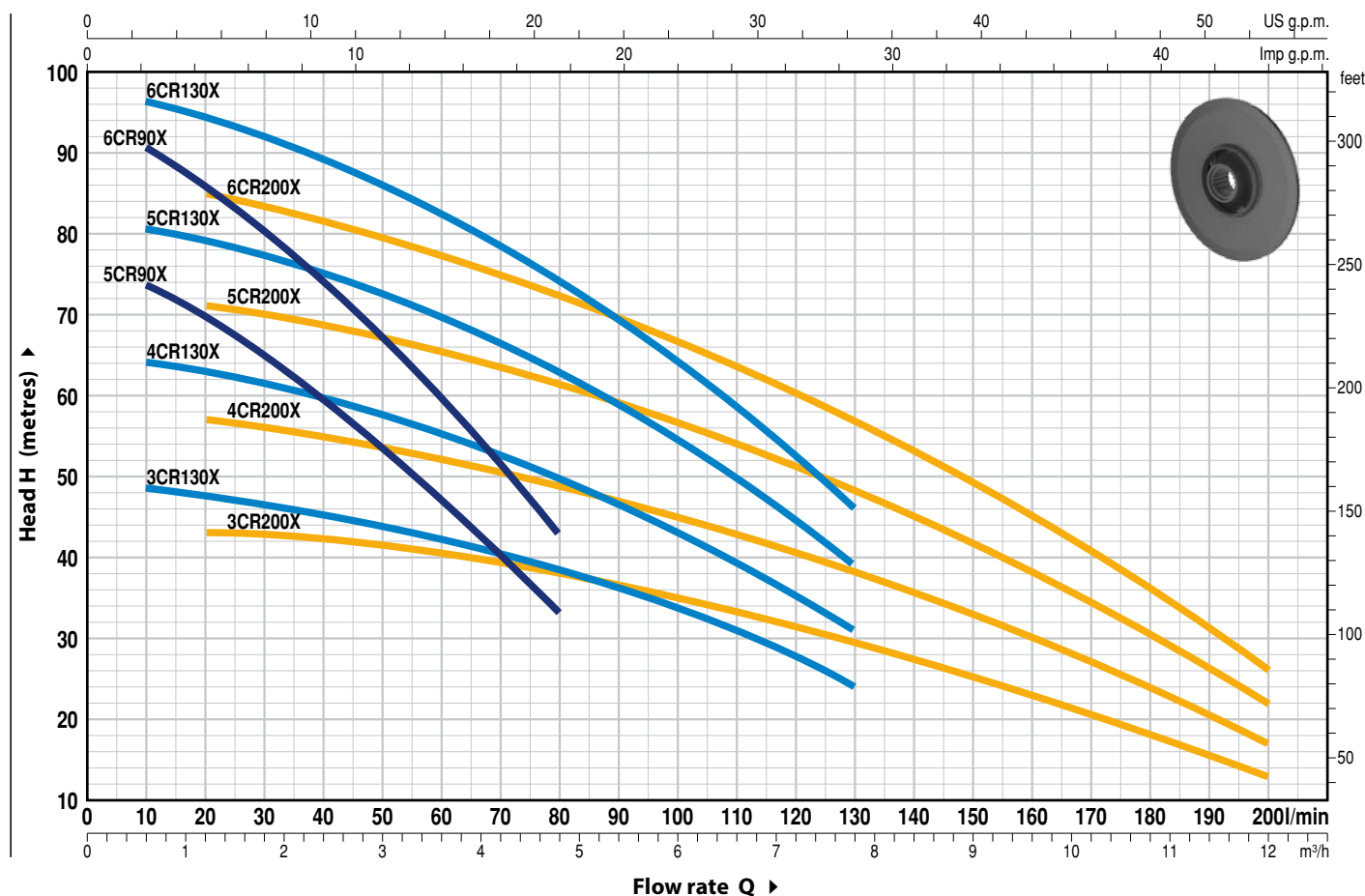
- Patent n. EP14755156.8

#### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IPX5 class protection

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	m³/h	0	0.3	0.6	1.2	2.4	3.6	4.8	6.0	7.8	8.4	9.6	10.8	12.0
Single-phase	Three-phase	kW	HP	▲		l/min	0	5	10	20	40	60	80	100	130	140	160	180	200
5CRm 90X	5CR 90X	1.1	1.5	IE3	H metres	76	76	73.5	70	60.5	47	33							
6CRm 90X	6CR 90X	1.5	2			93	93	90.5	86	74.5	59.5	43							
3CRm 130X	3CR 130X	1.1	1.5			49	49	48.5	47.5	45	42.5	38.5	33.5	24					
4CRm 130X	4CR 130X	1.5	2			65	65	64	63	60	56	50	43	31					
5CRm 130X	5CR 130X	1.8	2.5			81	81	80.5	79	75	70	62.5	54	39					
–	6CR 130X	2.2	3			97	97	96.5	94.5	90	83	74.5	64	46					
3CRm 200X	3CR 200X	1.1	1.5			44	43.5	43.5	43	42	40.5	38	35	29	27.5	23	18	13	
4CRm 200X	4CR 200X	1.5	2			58	57.5	57.5	57	55	52.5	49.5	45	38	35.5	30	24	17	
5CRm 200X	5CR 200X	1.8	2.5			73	72	71.5	71	69	65.5	62	56.5	48	44.5	38	30	22	
–	6CR 200X	2.2	3			87	86	85.5	85	82	78	73	67	57	53	45	36	26	

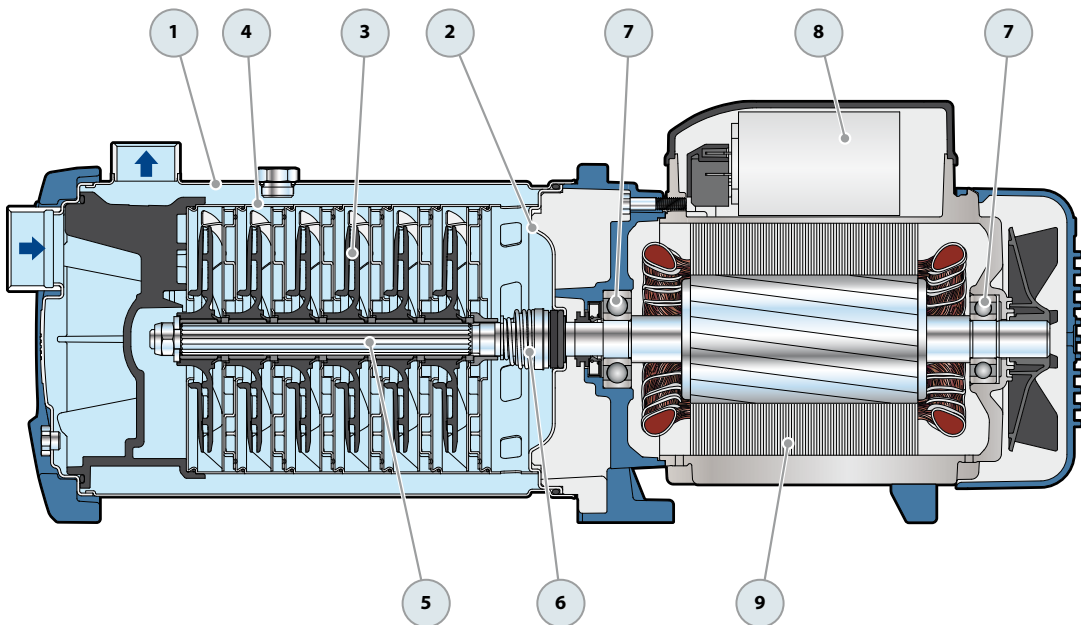
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

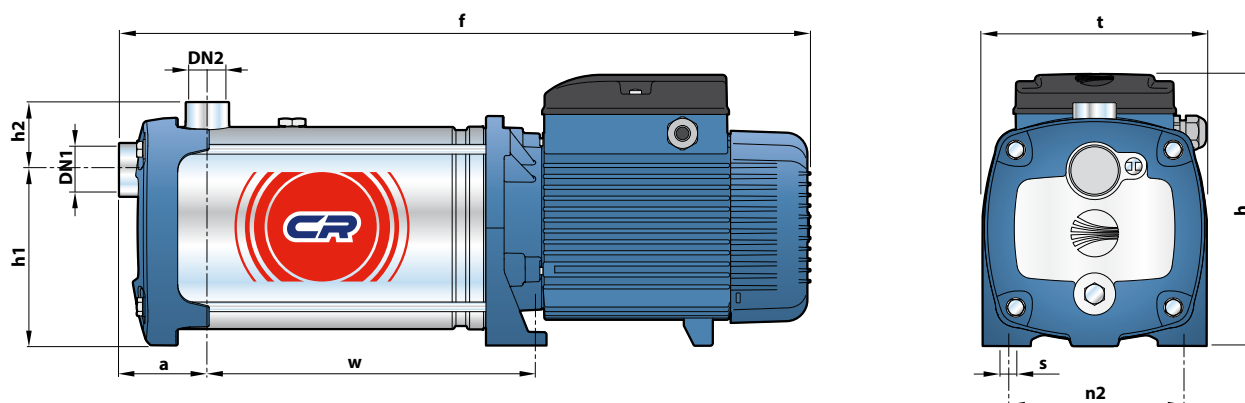
▲ Three-phase motor efficiency class (IEC 60034-30-1)

# 3-6CR 90X-130X-200X

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	IMPELLERS	Noryl FE1520PW				
4	DIFFUSERS	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
7	BEARINGS	6304 2RS - C3 / 6204 ZZ - C3E				
8	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		5CRm 90X 3CRm 130X 3CRm 200X	31.5 µF - 450 VL	60 µF - 250 VL		
		6CRm 90X 4CRm 130X 4CRm 200X	45 µF - 450 VL	80 µF - 250 VL		
		5CRm 130X 5CRm 200X	50 µF - 450 VL	–		
9	ELECTRIC MOTOR	3-6CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. 3-6CR: three-phase 230/400 V - 50 Hz. ➡ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1) – Insulation: class F – Protection: IP X4				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	t	n2	w	s	1~	3~
5CRm 90X	5CR 90X	1 1/4"	1"	73	549	228	145	56	185	145	245	11	19.5	19.5
6CRm 90X	6CR 90X				575						271		21.4	20.2
3CRm 130X	3CR 130X				497						193		17.9	18.0
4CRm 130X	4CR 130X				523						219		19.8	19.8
5CRm 130X	5CR 130X				570						245		23.1	23.7
-	6CR 130X				595						271		-	24.0
3CRm 200X	3CR 200X				497						193		17.9	18.0
4CRm 200X	4CR 200X				523						219		19.9	19.8
5CRm 200X	5CR 200X				569						245		23.2	23.7
-	6CR 200X				595						271		-	24.0

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
5CRm 90X	9.3 A	9.0 A	18.6 A
6CRm 90X	11.0 A	10.8 A	22.0 A
3CRm 130X	8.5 A	8.3 A	17.0 A
4CRm 130X	10.3 A	9.9 A	20.6 A
5CRm 130X	12.5 A	12.0 A	-
3CRm 200X	8.7 A	8.0 A	17.4 A
4CRm 200X	10.5 A	10.1 A	21.0 A
5CRm 200X	12.5 A	12.0 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
5CR 90X	6.1 A	3.5 A	2.0 A	5.9 A	3.4 A	1.9 A
6CR 90X	7.3 A	4.2 A	2.4 A	6.9 A	4.0 A	2.3 A
3CR 130X	5.6 A	3.2 A	1.8 A	5.4 A	3.1 A	1.8 A
4CR 130X	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
5CR 130X	9.0 A	5.2 A	3.0 A	8.6 A	5.0 A	2.9 A
6CR 130X	9.9 A	5.7 A	3.3 A	9.5 A	5.5 A	3.2 A
3CR 200X	5.9 A	3.4 A	2.0 A	5.7 A	3.3 A	1.9 A
4CR 200X	7.3 A	4.2 A	2.4 A	7.0 A	4.0 A	2.3 A
5CR 200X	9.4 A	5.4 A	3.1 A	9.0 A	5.2 A	3.0 A
6CR 200X	10.2 A	5.9 A	3.4 A	9.8 A	5.7 A	3.3 A